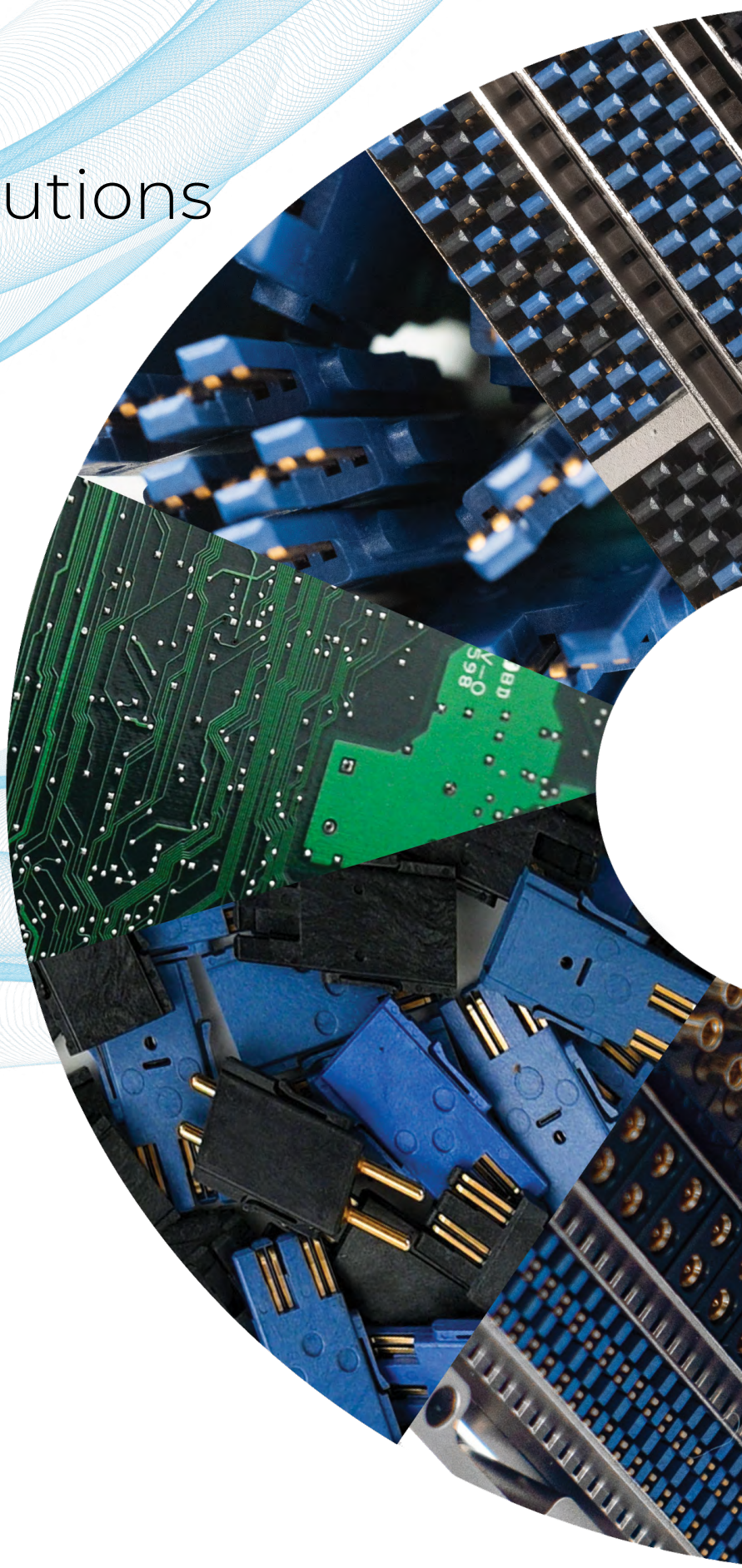
VTAC

High Speed Solutions

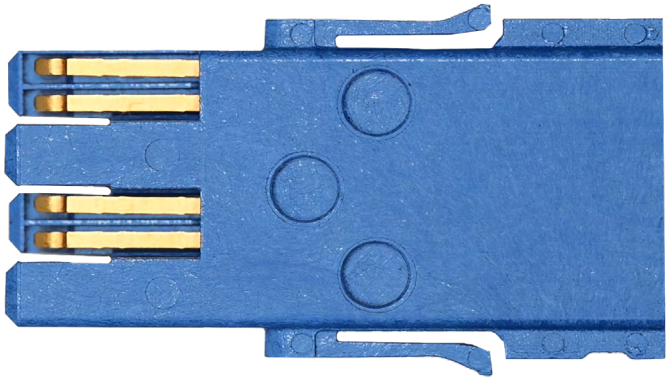


VPC

HIGH SPEED

VTAC Insert

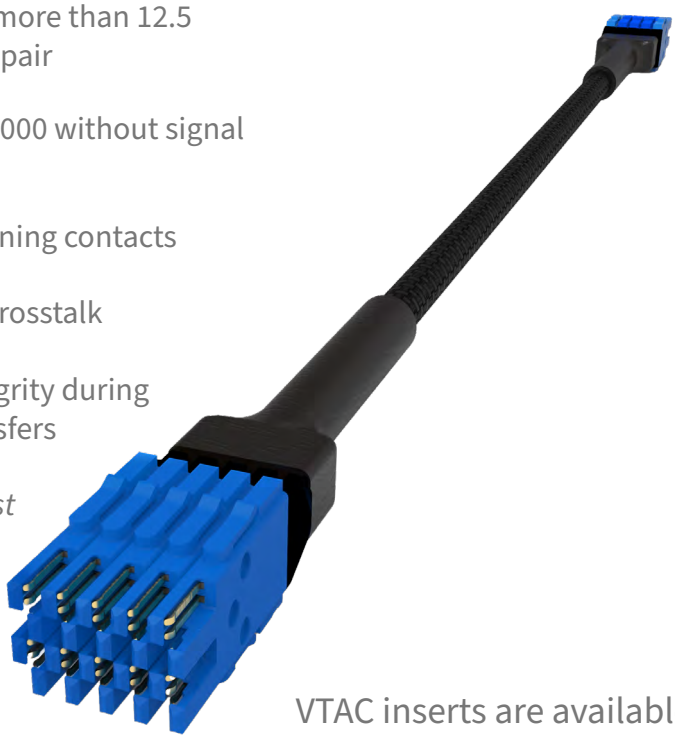
VPC set the standard for high speed testing with the introduction of the VTAC high speed data insert.



Over 150,000 Mating Cycles

- Data transfer rate of more than 12.5 Gbps per differential pair
- Cycle life of over 150,000 without signal degradation
- Gold-plated, self-aligning contacts
- Designed to reduce crosstalk
- Maintains signal integrity during high speed data transfers

**See back cover for full list of specifications*



VTAC inserts are available as patchcords (see next page) either double-ended or terminated to multiple protocols.

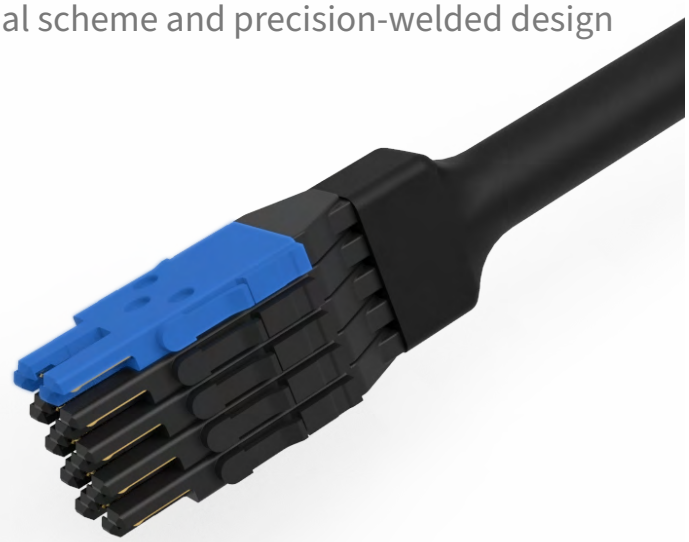
Also compatible with VPC's SIM module, i2 MX, and Infinity Connector products.

Scan or click here to learn more at vpc.com

WIRED PRODUCTS

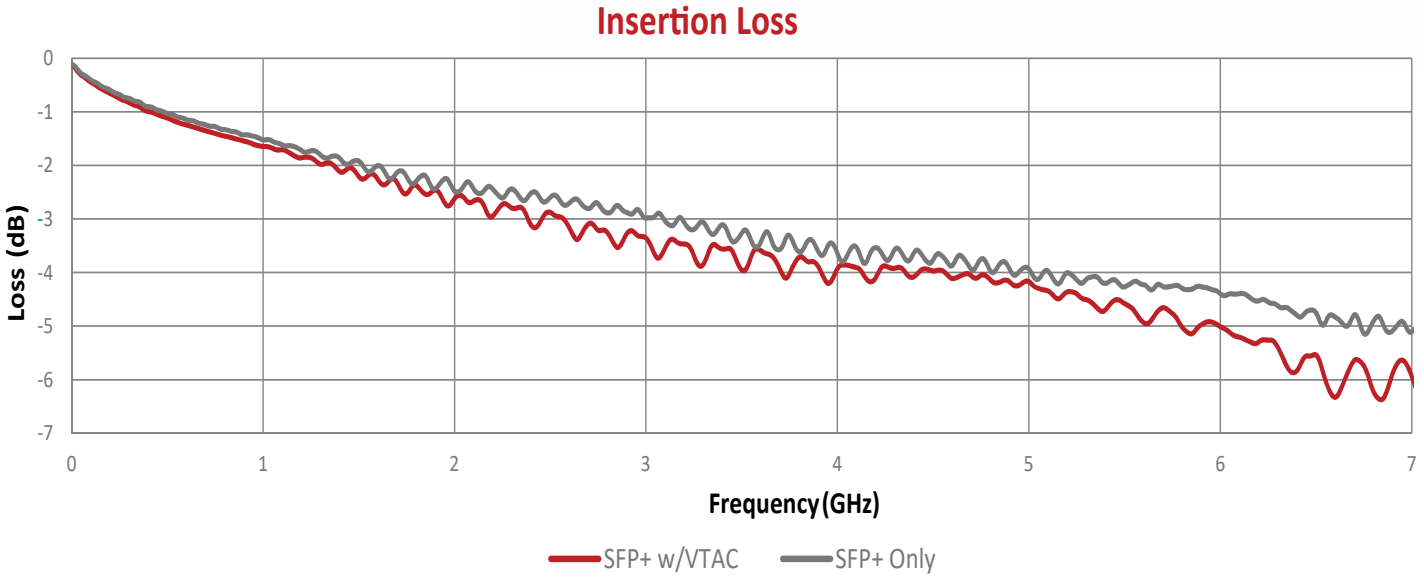
VTAC Patchcords

VPC prides itself on providing customers with a complete interface solution, including wired products. VPC's wiring division provides complete design and assembly services for patchcords, cable assemblies, and wired ITA products. VTAC patchcords are renowned for signal integrity and speed. VTAC's ground-signal scheme and precision-welded design helps reduce signal degradation.



- User-friendly features. No tools needed for assembly
- Used for high bandwidth data transmission and signal integrity testing
- High speed data capability ensures maximum data rate possible for numerous commercial high speed digital protocols
- Cycle life of over 150,000 without signal degradation

Test-Proven Quality



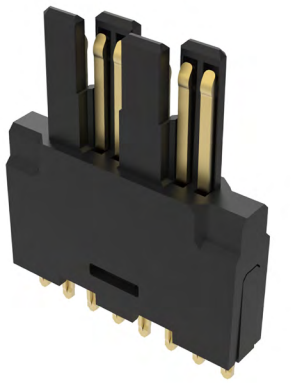
Insertion loss was tested on one-meter long patchcords with SFP+ terminations on either end. The second data line shows the same patchcord that has been bisected and terminated with VTAC connectors in its center. The results show no significant deviation from the SFP signal until approximately 6.25 GHz. Even at 6.25 GHz, there is only -1dB of difference between the two patchcords, which is approximately a 10% loss.

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PCB SOLUTIONS

Vertical Header Insert

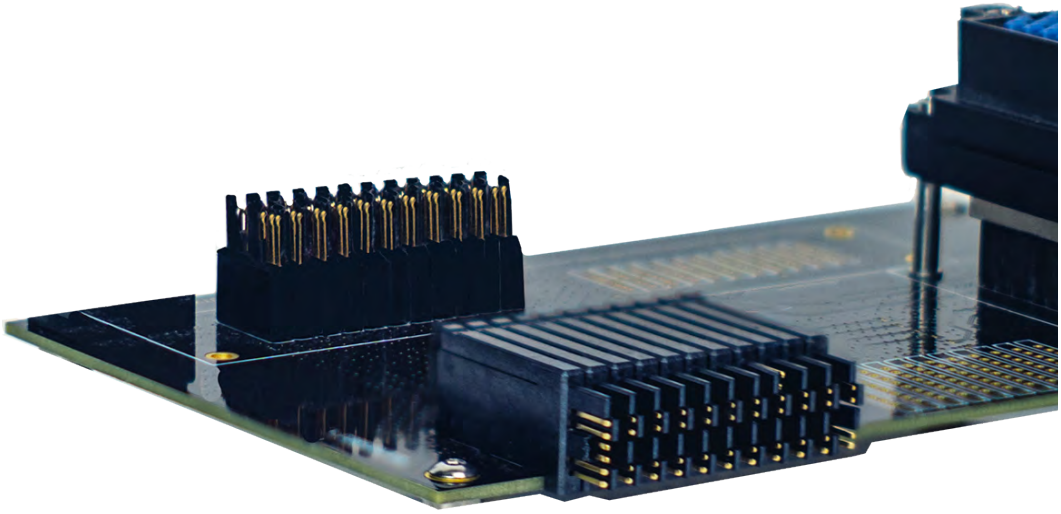
VTAC vertical and right angle header inserts are designed to mount directly to a PCB. They can be configured as a backplane connector and daughterboard connector.



Data rate 12.5 Gbps+/ differential pair

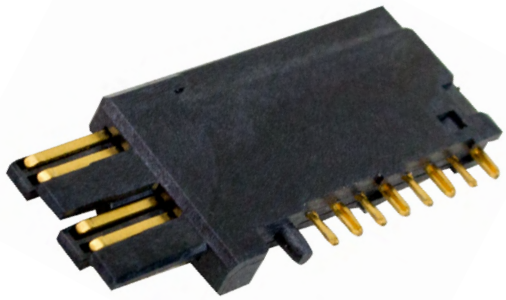
- Data transfer rate of more than 12.5 Gbps per differential pair
- Allows pass-through connection from PCB to module
- Gold-plated, self-aligning contacts
- Designed to reduce crosstalk
- Maintains signal integrity during high speed data transfers
- Replace inserts and cables instead of PCB connections





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Right Angle Insert



QUALITY/ ECONOMICAL

- Preserves signal integrity at multi-gigabit data rates
- Ideal for projects that require PCB solutions
- Transfers data at 10+ Gbps per differential pair
- COTS-ready, highly serviceable, and modular
- Makes pass-through connections easy to use

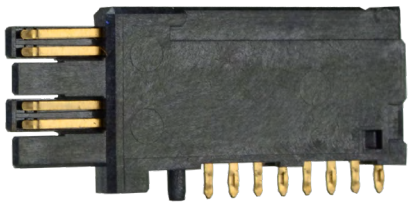
COMPATIBLE

- Easily adaptable to pre-existing VTAC applications
- Available as individual inserts or as pre-configured circuit boards
- SIM inserts compatible with 90 Series and iSeries modules
- Compatible with multiple high speed protocols

SERVICEABLE

- Easily replace PCBs without disturbing pass-through inserts
- Replace inserts and cables instead of PCBs





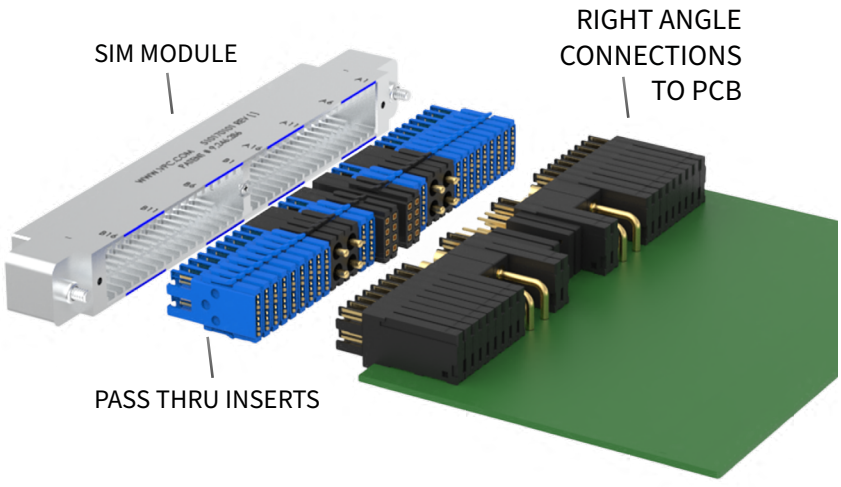
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PCB SOLUTIONS

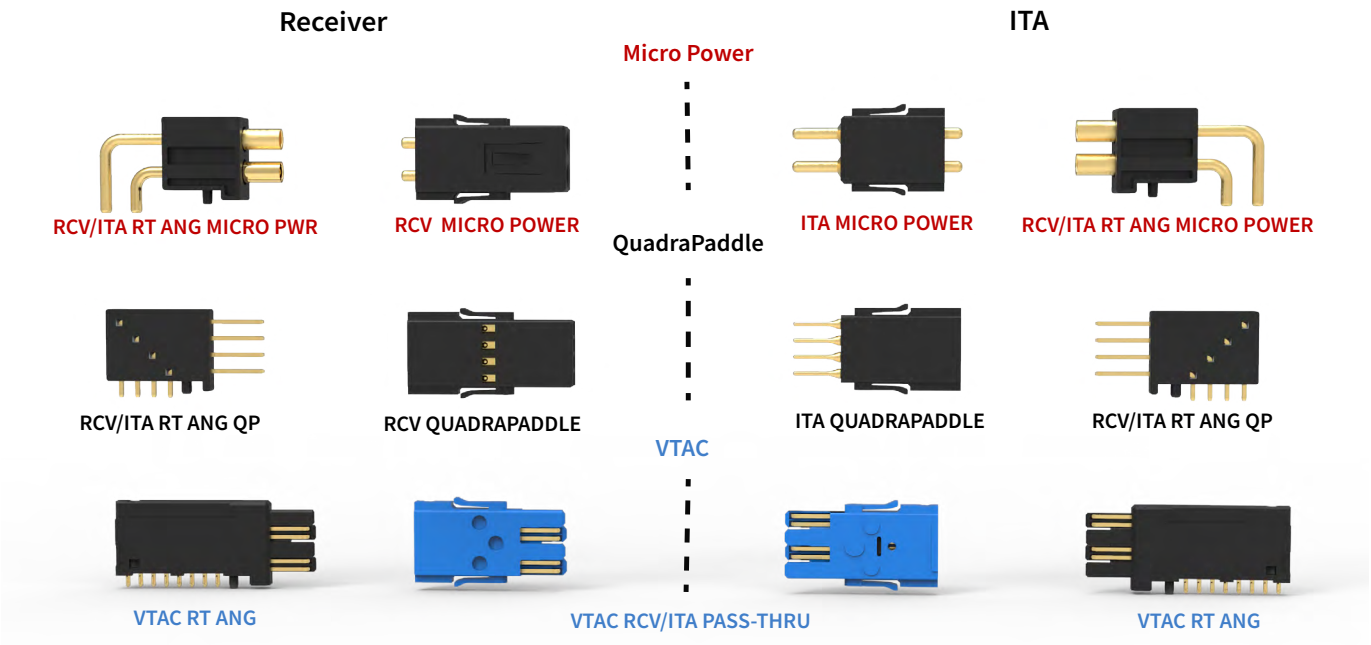
Infinity Connector

VPC's latest high speed technology allows for concerns about cycle life and lost time due to PCB re-soldering and changeout, to be a thing of the past. Experience "infinite" cycle life with this uniquely designed line of high speed connectors and pass-thru inserts, while preserving right angle connections to the PCB.

- Multi-piece design with pass-thru insert to preserve PCB connection
- Available in VTAC, QuadraPaddle, & Micro Power
- VPC's SIM module allows for mixed I/O with 34 slots and a max of 272 positions
- Controlled float design for easier engagement & disengagement



PIECE-BY-PIECE



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PCB Adapters- SIM

SIM PCB adapters provide flexibility and modularity where custom PCBs cannot. Mix and match to create a custom solution. Move PCB adapters around to optimize space, mix protocols, and match with patchcords.

- Popular high speed protocols including: USB 5 Gbps (USB 3.0, USB 3.1 Gen 1, USB 3.2 Gen 1), Cat 6, HDMI, DisplayPort, 12x InfiniBand and more
- VPC can create a single part number for ordering
- Swap boards in your SIM module solution
- Delivered fully assembled and ready-to-use



PCB Adapters- VTAC

VTAC PCB adapters make building a customized, high speed, wired ITA enclosure simple. Use in any interface that accepts VPC 90 Series modules. VPC Design Engineers can help create a high-speed VTAC solution offering the following benefits:



- Multiple protocols within the same SIM module
- A custom solution that consolidates all high speed data signals
- Easy maintenance with COTS cables
- Transfer speeds greater than 10 Gbps per differential pair
- Configurable interface with high speed alongside coax, signal, power, pneumatic, vacuum and fiber

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VTAC

Specifications & Protocols

VTAC is available in patchcords or PCB solutions. While both perform at exceptionally high rates, there is a slight difference in speed based on application.

VTAC Insert Specifications

Data Rate	12.5+ Gbps per differential pair
Crosstalk	-40 dB min., wired -30 dB min., right angle -30 dB min., vertical
Characteristic Impedance	100 +/- 10 Ω per differential pair
Contact Resistance (per mated contact)	30 mΩ max.
Insulation Resistance	1000 MΩ min.
Dielectric Withstanding Voltage	1050 VDC min.
Mating Force	12 oz. max. [0.34 kg] per insert
Insert Material	Outer shell is black or blue LCP Male contact is alloy 7025
Contact Termination	Welded
Contact Plating	50 µ" Au over 100 µ" Ni

Protocols Supported*

USB 5 Gbps (USB 3.0, USB 3.1 Gen 1, USB 3.2 Gen 1)
DisplayPort
HDMI
Cat 6
12X InfiniBand
Rosenberger HSD

**Supported protocols are frequently added and updated. For the most up-to-date list contact a Sales Engineer via the Contact Us option on vpc.com.*

Scan or click here to contact a Sales Engineer

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Last Revision: 07/19/2024