VG Series - FAQ

Mass Interconnect Products

About VG Products

Recognizing the need for low cost mass interconnect technology solutions, TTI Testron launched the VG Series Product line in 1990. Using the GR2270 receiver platform originally developed at Augat-Pylon, the same individuals now at TTI Testron, added power and coaxial signal capability to the platform. The reliable low cost solution quickly grew as the 2270 interface was well recognized throughout the ATE industry. Dubbing the product VG for VXI and GPIB, TTI Testron continuously added technology, contact density and contact reliability to the product. Today, Everett Charles Technology is the recognized global leader in GR2270 mass interconnect technology solutions for the functional test industry.

Xcerra

VG Organizer:

In 1998, TTI Testron introduced the VG Organizer software as a GUI interface for Configuring test system interconnects. Developed by Test Engineers for Test Engineers, the VG Organizer addresses the modern needs for documentation standards. Starting with the creation of the system level configuration of the mass interconnect, the fixture image is automatically created for a specific test system and can be stored as a software image file. Hence, application specific solutions for test fixture interconnects can reside on the target test system. Ease of use and access makes the standardization of documentation easier than ever as wire lists are created for the fixture vendor as well as well as BOM's created for procurement of parts.

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Products

FIBER | COAX | POWER | SIGNAL | COMBO | VAC / PNEU

Data Sheets on VG Products

Software

• VG Organizer

Contact Blocks

COAX ONLY (50Ω)

• VGRCB-4C
• VGRCB-8C-40G
• VGRCB-9C
• VGRCB-13C
• VGRCB-13C-26G
• VGRCB-13C75 (75Ω)

POWER ONLY

• VGRCB-32P

Receivers & Fixtures

• VG Receivers
• VG Fixtures

COAX/POWER COMBO

• VGRCB-13CPF
• VGRCB-15CP
• VGRCB-15CPF
• VGRCB-22CPF
• VGRCB-24CP
• VGRCB-24CPF
• VGRCB-30CPF
• VGRCB-32CP
• VGRCB-32CPF

SIGNAL ONLY

• VGRCB-136
• VGRCB-170, 110, 40

MULTI-COMBO

(Power/Signal/Coax Combinations)

• VGRCB-39CPS

VAC/AIR

• VGRCB-13PNEU
• VacPort

– RF Enclosures

Various RF enclosure solutions are available for functional test applications. Using a commercial supplier of enclosures and custom developed kits, ECT can broaden the VG product offerings to include an RF enclosure VG kit for most DUT sizes.

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Hyper – VG

Using the DEH16 Hypertronics form factor, the VG Series offerings now include a VGR-3 solution. The profile of the individual contacts can be custom configured by the user based on the contact modules available from Hypertronics for the housing style. The external form factor of the receiver is identical to the VGR-12 and the VGR12-RM1.
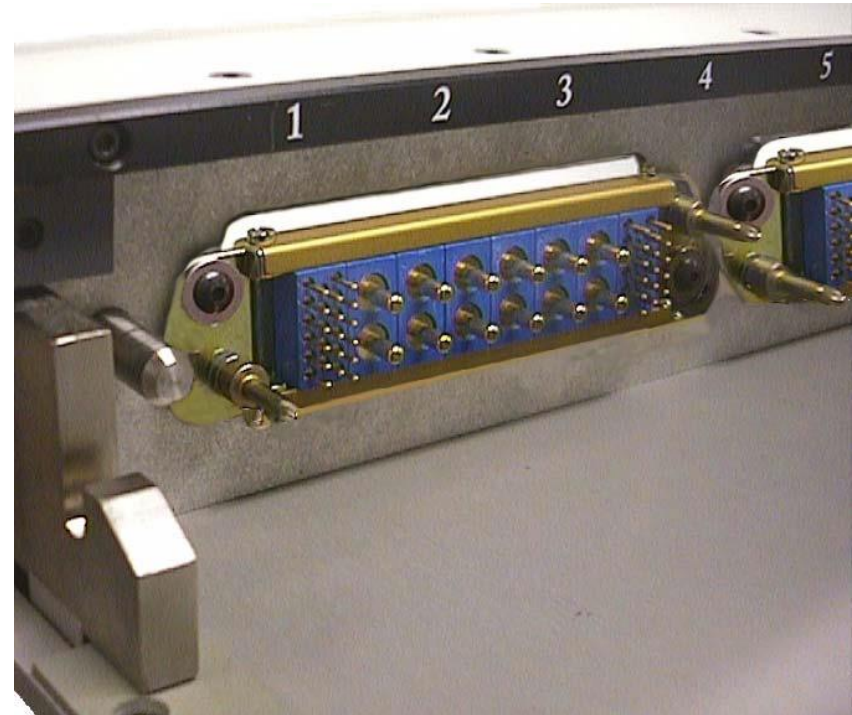
Customize your solution, based on your needs!

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Software

– [What is the VG Organizer?](#)

– [How do I get a copy of the VG Organizer?](#)

– [How do I get help using the VG software?](#)

– [When using the VG Organizer, how do I print graphics of the fixture/receiver interface with my documents and reports?](#)

Receiver Styles

– [Is there an upgrade path for going to a 24-block configuration from a 12 block?](#)

– [Why is the VGR12 rack mount design not compatible with the VGR24?](#)

– [What is the Hyper VG configuration?](#)

– [Is there a VG receiver for PXI instruments?](#)

– [Is there a VG receiver for VXI instruments?](#)

Fixture Questions

General Interconnect Block Questions
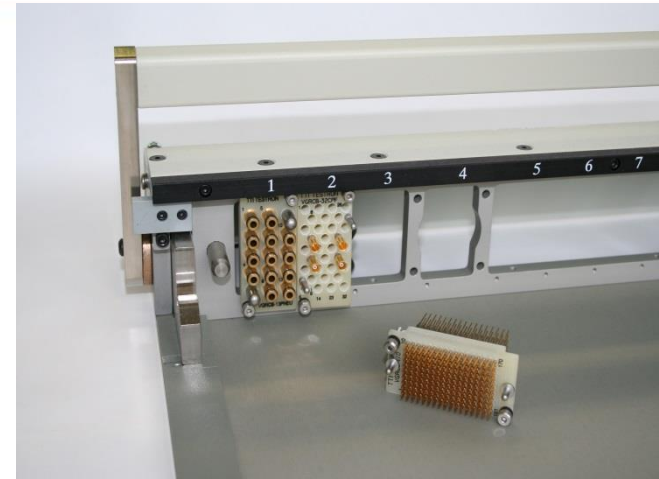
Power Questions

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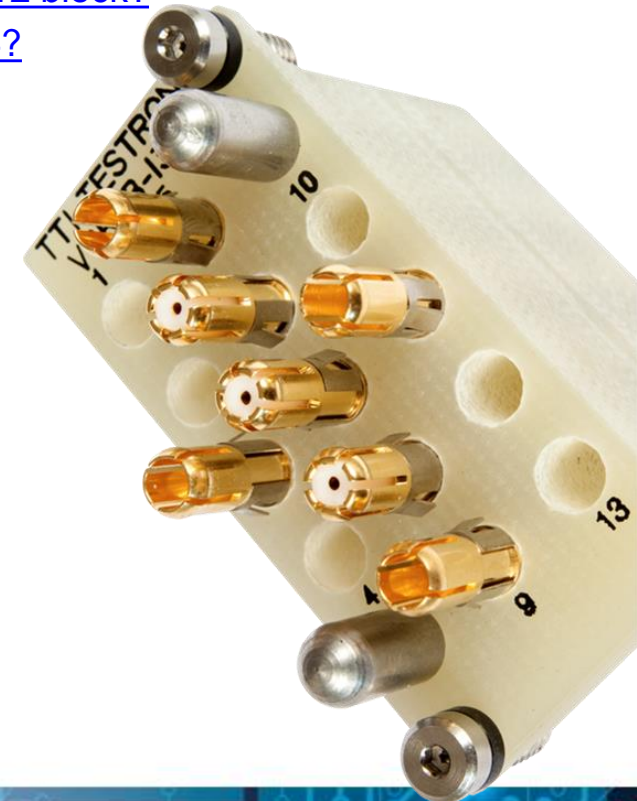
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Fixture Questions

– How do I assemble the contacts in the CP blocks?

– Which block is the receiver block? Fixture block?

– What fixture kit sizes are available?

General Interconnect Block Questions

– How do I understand the numbering system on the blocks?

– What benefit do I get using the ground planes on the 170 pin block?

– Which block is the best general-purpose block?

– What are the clear Lexan plates for on my Coax/Power blocks?

– Does ECT design custom blocks for special applications?

– Can I upgrade my 'CP' blocks from the older styles to the newer ones that float?

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General Interconnect Block Questions

- [How can I remove the power or coax block contacts if I need to?](#)

- [What can I do about alignment issues of blocks?](#)

- [Why are there round tail and squaretail contacts on the 170 style blocks?](#)

Power Questions

- [Which interconnect blocks should I use for power?](#)

- [How do I get more voltage or current if I need more than the specification allows?](#)
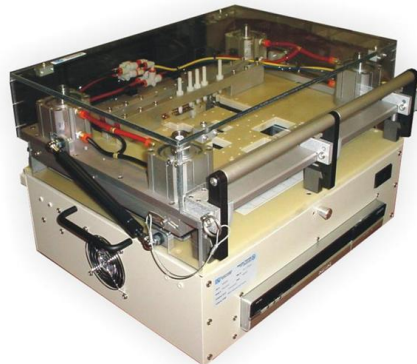
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What is the VG Organizer?

The VG Organizer is a Visual Basic GUI interface for configuring test system interconnects. Developed by Test Engineers for Test Engineers, the VG Organizer addresses the modern needs for documentation standards. Starting with the creation of the system level configuration of the mass interconnect, the fixture image is then automatically created for a specific test system and can be stored as a software image file. Wirelists and BOM's are automatically created for the user.
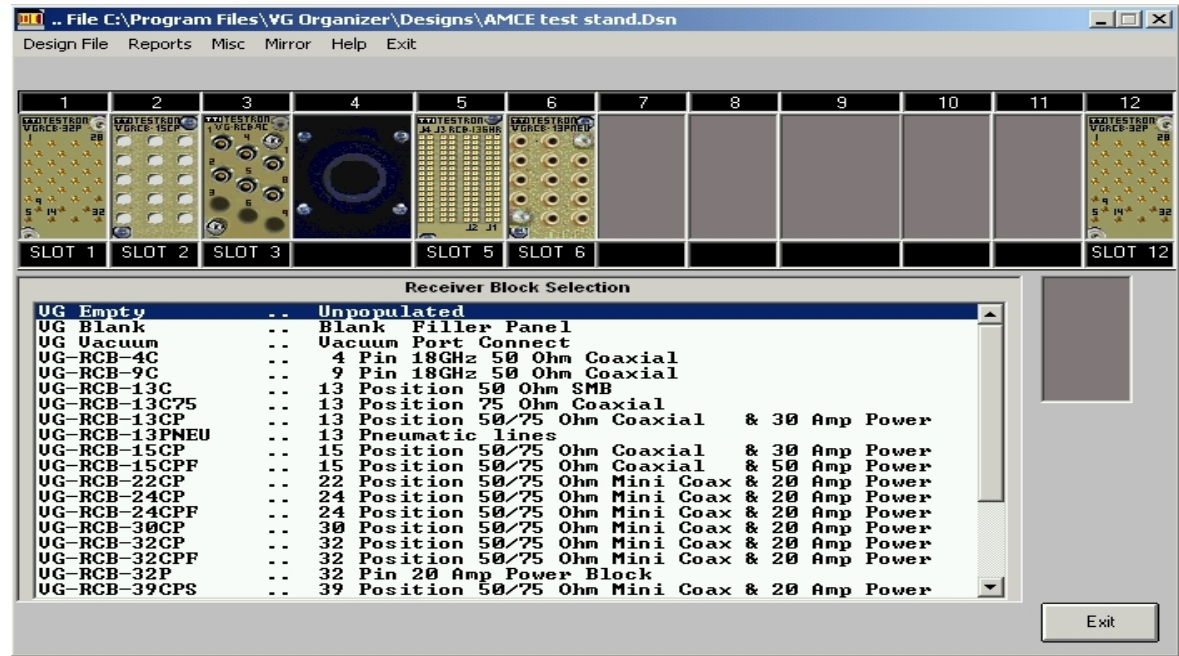
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Getting the VG Organizer

Get your own copy of the VG Organizer by contacting your local ECT Account Manager. A CD will be sent to you.
The VG Organizer requires approximately 22M of disk space and an SVGA monitor with screen resolution settings of 800x600 minimum. A Pentium 150 or greater is recommended (or equivalent processor). If you order the CD, your CD player should be 16x or greater. Future plans will make this available through ECT's FTP site.

Which blocks are for Power?

The interconnect blocks to be used for power connections are anything with a 'P' in the block description, such as VGFCB-32P, VGFCB-30CP or VGFCB-32CPF. Select the one that has the current specification required OR use a combinational block to pass Power and Coax contacts or Power/Coax and Signal contacts, e.g., VGFCB-32CPF and VGFCB-39CPS.

Can I Upgrade from VGR12 to VGR24?

The upgrade path allows for using VGF12 fixtures on VGR24 receivers. For this to be accomplished, the top row of the two contact assembly rows in the VGR24 should be identical to the VGR12 design. The VGF12 fixture assembly can then mate directly to the top row of the VGR24. An adapter plate is available to place on the VGR24 assembly to allow VGF12 fixtures to mate to the top row of the VGR24. See the VG Receivers data sheet for further information.

The fixture may be mated to the bottom row of the VGR24, but access restrictions to the fixture / kit may apply. Care must be taken not to damage VGR contact blocks mounted in the top row of the receiver when the fixture is opened.

More Voltage and Current

For higher current or voltage requirements, determine the maximum requirement for your system and select the contact that comes closest to meeting that need. Divide its specs into your requirements, then 'double up' your wiring using multiple parallel contacts in the receiver and fixture.

The maximum voltage and current specifications are derived from the vendor of the contacts not from the block design.
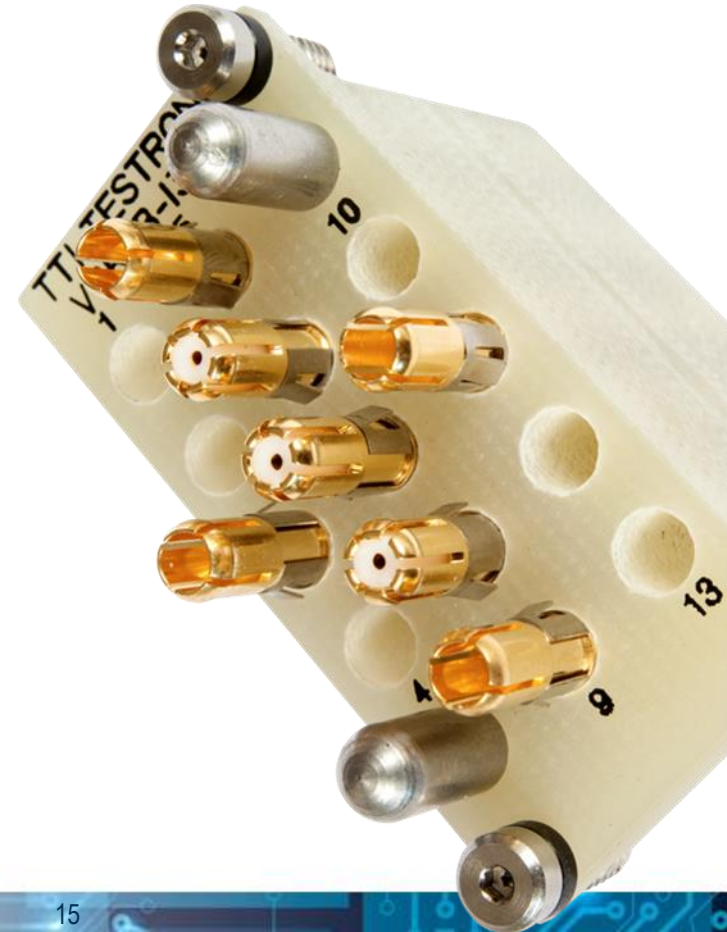
When looking for the insular capabilities, refer to G10's specifications to determine if the voltage you are using is too great for the distance between contacts.
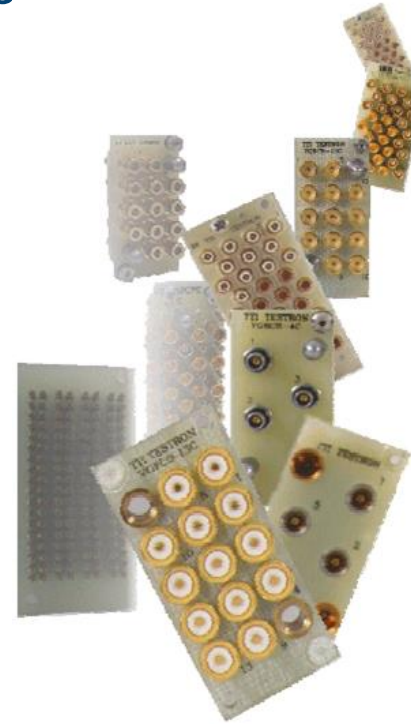
Clear Lexan Plates

The Lexan plates assist in providing pre-alignment of the coax / power contacts prior to full engagement of the fixture to the receiver.

Which is Which?

When assembling contacts and blocks, remember the male side of the contacts are the receiver side - to prevent damage that may occur when moving fixtures to and from the test system and storage areas. Hence, alignment pins appear on the receiver side blocks. When assembling coax and power contacts, place the retainer clip around the contact itself. This should be done so that the spread clips are open towards the cable side of the contact assembly. Insert the contact from the backside of the block and continue inserting until the retainer clips engage. Check contact assemblies prior to insertion to ensure the proper contact style (fixture/receiver) is being inserted into the proper block (receiver/fixture). If the contact extends beyond the surface of the VGF style blocks, you've likely engaged receiver contacts into a fixture block.

Custom Block Requests

Custom block requirements will be evaluated on an individual basis. It should be noted that virtually all block designs have come from customer needs and demand. When TTI designs a block, it retains the right to market that block to all VG users in an attempt to derive the maximum benefit from the NRE required for the development.

The Numbering System

The numbering system on the blocks is relatively simple. All block names start with 'VG' for VG Series. The next character is either a 'R' for Receiver of 'F' for Fixture. The next two characters are 'CB' for Contact Block. The next character is a number that defines the maximum number of contacts the particular block style has. Finally, the last characters are a 'C' for Coax, 'P' for Power, 'F' for Floating or 'S' (or blank) for Signal contacts. CPS blocks float, without the 'F' designator. Hence, VGFCB-32CPF is a fixture block for 32 coaxial pins and/or power signals. The block has a floating alignment mechanism.
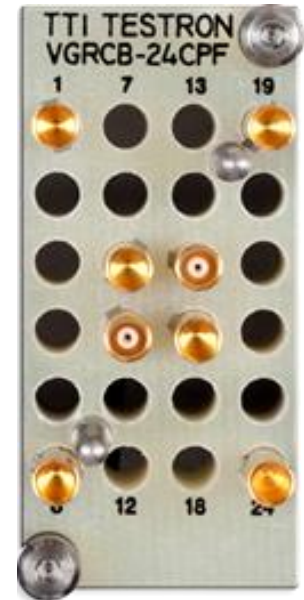
Ground Planes

The ground planes provide additional signal isolation. The 110 pin contact solution provides rows of ground planes between active signal rows of the 170-pin block. The 30-pin contact literally surrounds the active signal line with ground contacts. See the data sheets for more information.

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Best General Purpose Block

The VGR / VGFCB-39CPS provides for 20 signal lines and 19 lines of coax and/or power contacts in the same block.
Current capability of the signal lines is relatively high too at 10-15 amps depending on the AWG wire used.

Upgrading CP Blocks

Blocks cannot be upgraded but can be replaced. Ordering the appropriate CPF block AND the contact extraction tools will ensure the transition is as smooth as possible. Consult the applicable data sheets for the respective blocks.

VGR12 and VGR24 Compatibility

The design of the VGR12 accounts for the maximum combination of contact resistance forces that a VGR12/VGF12 will encounter when engaging all the contacts in the receiver to a fixture. There are a variety of contacts and their inherent insertion forces are substantial when combined into the VGR24 configuration. As the forces increase, a better mechanical advantage was needed to overcome the forces when engaging the fixture to the receiver. The VGR12 is cam/lever designs accommodate these greater forces.

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What is VPP8?

VPP-8 Compliant refers to the specification developed by the
VXI Plug & Play Alliance for mating a receiver to a VXI card
cage. Specifically, it refers to the distance from the front of
the instrument card to the back of the receiver interconnect.
Representatives of TTI Testron, Virginia Panel and Mac Panel,
to ensure all vendors were in compliance, developed VPP-8.

PXI Receiver

The PXI instrument suite is the most compact ATE system in the industry. For small I/O configurations, TTI Testron uses the VGR4/VGF4 configuration that provides for a maximum of 4 contact blocks (no vacuum) in a desktop interface design. For larger configurations, the VGR12 and 24 are available. Further information is available on the VG Receivers data sheet.

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VXI Receiver

The VGR12 and the VGR24 are both VPP-8 compliant and are suitable for use with GPIB as well as VXI test systems. For VXI solutions, the VG Series product has the added benefit of providing complete access to the VXI instrument suite without disengaging the receiver from the test system.
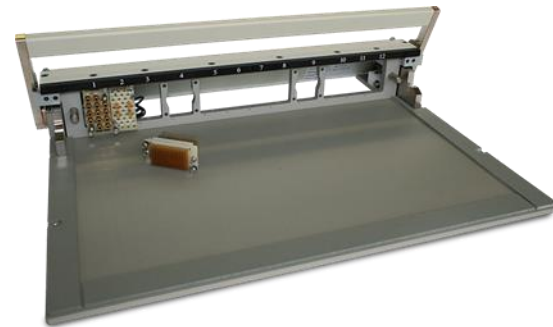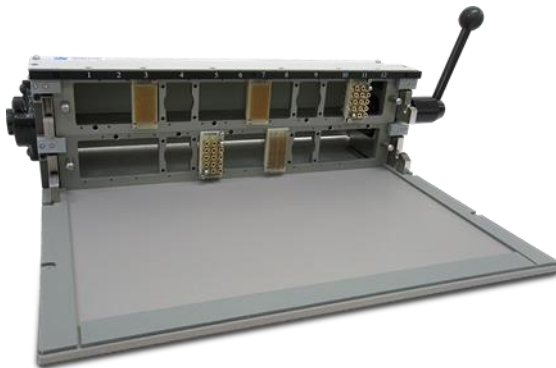
Removing CP Contacts

Refer to the current data sheets for the respective block. All
data sheets now include information regarding applicable
insertion or extraction tooling available for a given block style.

Block Alignment Concerns

Block alignment issues have typically been associated with 'CP' style blocks and contacts. The VGR/VGFCB-xxCPF series of blocks address the pre-alignment of blocks and contacts prior to full engagement. It should be noted; the blocks employ an alignment mechanism as well as using a free floating design on the receiver side to complete alignment of blocks and contacts prior to full engagement.

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Round and Square Tails on the 170 Pin Block

The squaretails are for wire-wrap solutions and the round tails were provided for plug 0n connector applications. The squaretail blocks now come with all pin / post edges aligned now so either can be used for connector applications, but the square tails remain the solution for wire-wrap.

Help with the VG Organizer Software

ECT Account Managers have had training on the VG Organizer software. If they are unable to help, email your specific question and any problem / bug you may have encountered to VG@ectinfo.com

Printing Graphics from the VG Organizer

The Organizer software does not accommodate extensive graphics printing. However, as a Windows application, it does provide standard Windows Clipboard cut and paste options. To capture a specific window to print, make that particular window the active window. Press the ALT-PRT SCREEN keys concurrently and the window will be placed on the Windows clipboard. The content can then be pasted into any Windows application of choice such as Word for printing and further documentation enhancements.
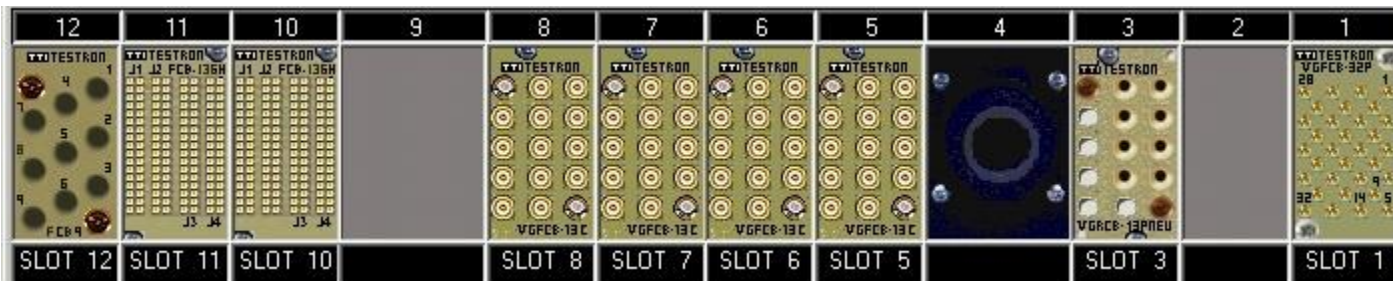
Fixture Kits

Various fixture kit sizes are available from ECT.

VGF4 – VGR4

8x8, 8x12 Adapter Boxes

VGF12 – VGR12

12x19, 12x16, 16x20, 20x24 Adapter Boxes

12x16, 16x20, 20x24,

VGF24 – VGR24

12x19, 16x20, 20x24 Adapter Boxes

16x20, 20x24,

This is a generalized and partial listing. Please refer to the

fixture kit data sheet for a complete list of available fixture kits.

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Market Compatibility Interconnect Solutions

ECT provides mass interconnect technology using the 'GR2270' interface. All contacts and blocks are designed within the framework of the original 2270 concept. ECT warrants that ECT contact blocks will work with ECT receivers and ECT fixture designs, but cannot guarantee performance of other vendors contact or fixture solutions used in conjunction with ECT provided parts.

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GPIB, VXI and PXI Platforms

The VG Series product breadth allows for low and high pin count solutions, providing for the full spectrum of ATE mass interconnect requirements.

VGR3 – Hyper VG Using Hypertronics contacts

VGR4 – 4 blocks (excluding vacuum)

Desktop Only

VGR12 – 12 Blocks, up to two vacuum ports

Desktop and Rackmount; Metric Option

VGR24 – 24 Blocks, up to four vacuum ports

Desktop and Rackmount

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The Vacuum Port module is available for all VG Receivers/Fixtures except for the Hyper-VG and the VGR-4 and VGF-4 products. Two vacuum ports per receiver are available for the VGR-12, VGR12-RM1*, VGR-24 and VGR24-RM1 assemblies.
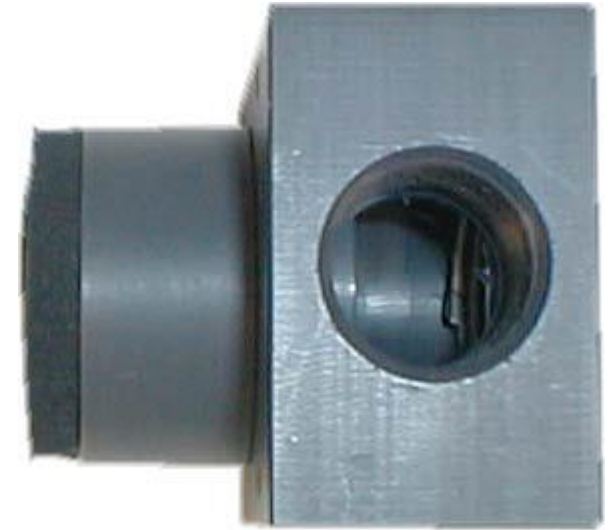
Ordering Information:

Receiver

VGRCB-VPM

Fixture

VGF-VPM

(*RM1 is the Rack Mount Version)

VGRCB-VPM