

# VG Series Products

## *Mass Interconnect Technologies*



### Documentation Guide

The VG Organizer was designed to ease your documentation and non-recurring-engineering requirements for developing test system interconnects and test fixture-wiring needs. The VG Organizer® has built-in features to standardize all your documentation requirements, allow on-line documentation by placing the software on the test system CPU to aid the test engineer during debug and development, provide quick visual aids to indicate available contacts on interconnect blocks for ECO's, make immediate mirror images of receiver designs for ITA (fixture) documents, develop complete wiring lists for ITA builds, Bills-of-Material for product ordering, point and click contact specifications lists and comparisons, and pictorial images of the exact image that the finished interconnect will be comprised of.

We hope your job is made easier with the use of this product.



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## INTRODUCTORY WINDOW



Products will provide the user with options for selecting the following functions: The VG Organizer Guide, VG Series Product FAQ, Operation Range of Connectors and a TTI Cable Numbering Overview, and Receivers.

The VG Organizer Guide is this document.

The VG Series Product FAQ is a document designed to answer the most frequently asked questions about the VG products. The FAQ document as provides links to view any / all VG product data sheets in the PDF format.

The Operational Range selection provides connector information for assistance in selecting the proper cable connector style for the proper frequency range of product.

The Cable Numbering Overview provides a simple example of the logical structure of part numbers of the various cable types.

The Receivers option of the introductory window will provide a visual of what each receiver / fixture combination pair. The TTI Cable Numbering Overview provides a breakdown of how to interpret the typical coax cable part number during the design and configuration stages of your project.

## INTERFACE DESIGN / SELECTION –

The Interface Design section allows the test engineer to select the receiver design of his choice for the application at hand. A new receiver (no blocks loaded – shown) can be called up or an existing design file can be loaded. A significant productivity benefit exists in that a standard template can exist for each test system, and a mirror image of the receiver interconnect can be made for the test fixture with a few simple clicks of the mouse button. Then blocks for this application can be edited for wiring – routing information or even deleted if this fixture does not require all the receiver I/O capabilities.

**Receiver Block Selection**

UG Empty	..	Unpopulated	
UG Blank	..	Blank Filler Panel	
UG Vacuum	..	Vacuum Port Connect	
UG-RCB-4C	..	4 Pin 18GHz 50 Ohm Coaxial	
UG-RCB-9C	..	9 Pin 18GHz 50 Ohm Coaxial	
UG-RCB-13C	..	13 Position 50 Ohm SMB	
UG-RCB-13C75	..	13 Position 75 Ohm Coaxial	
UG-RCB-13CP	..	13 Position 50/75 Ohm Coaxial	& 30 Amp Power
UG-RCB-15CP	..	15 Position 50/75 Ohm Coaxial	& 30 Amp Power
UG-RCB-22CP	..	22 Position 50/75 Ohm Mini Coax	& 20 Amp Power
UG-RCB-24CP	..	24 Position 50/75 Ohm Mini Coax	& 20 Amp Power
UG-RCB-30CP	..	30 Position 50/75 Ohm Mini Coax	& 20 Amp Power
UG-RCB-32CP	..	32 Position 50/75 Ohm Mini Coax	& 20 Amp Power
UG-RCB-32P	..	32 Pin 20 Amp Power Block	
UG-RCB-40-AH	..	40 Signal & 130 Gnds Wire Wrap	[170 block]
UG-RCB-40-AH-R	..	40 Signal & 130 Gnds Crimp Contacts	[170 block]
UG-RCB-110-IDC	..	110 Signal & 60 Gnds Wire Wrap	[170 block]
UG-RCB-110-IDC-R	..	110 Signal & 60 Gnds Crimp Contacts	[170 block]
UG-RCB-170H	..	170 Signal Wire Wrap	[170 block]

By clicking on a given block type, such as the 32P shown above, the respective block appears on the right side of the selection window. Simply 'Drag and Drop' the block to the location you want it. Then 'double-click' on the slot you just added the block to, and you can begin configuring your block.

Note, YOU MUST DOUBLE CLICK ON THE BLOCK FOR THE SYSTEM TO FULLY RECOGNIZE THE ADDITION TO THE ITR / ITA BLOCK SETS.

Next, add specific project information/data to the respective fields.

Now, the specific block information appears and you simply click on what you want in the selection window, in this case a 20-Amp Pin, and then click on the block contact locations you want added. It is that simple. Note, once a block location is loaded, the Pos# / Part# location on the screen changes to indicate the actual TTI part number that must be ordered for the application you just selected. It is all that easy!! As an example, if this is a power contact block, move the mouse to the

SLOT 5 identity at the top of the Window next to 'Slot User Name' and type in POWER. Once you do that, when you return to the receiver screen, Slot 5 will be identified as '5' at the top of the block and as POWER at the bottom in the respective location.

Pin Configuration Tool ... VG-RCB-32P .. 32 Pin 20 Amp Power Block

Exit

Slot User Name >> SLOT 5      Active Slot = 5

Pos#	Row / Col	Type / Desc	Part#	Pop	NaN
1	R: 1 / C: 1	20_AmpH	CR_32P_HCP	Y	
2	R: 3 / C: 1	20_AmpH	CR_32P_HCP	Y	
3	R: 5 / C: 1	20_AmpH	CR_32P_HCP	Y	
4	R: 7 / C: 1	20_AmpH	CR_32P_HCP	Y	
5	R: 9 / C: 1	RPHole		N	
6	R: 2 / C: 2	RPHole		N	
7	R: 4 / C: 2	RPHole		N	
8	R: 6 / C: 2	RPHole		N	
9	R: 8 / C: 2	RPHole		N	
10	R: 1 / C: 3	RPHole		N	
11	R: 3 / C: 3	RPHole		N	
12	R: 5 / C: 3	RPHole		N	
13	R: 7 / C: 3	RPHole		N	
14	R: 9 / C: 3	RPHole		N	
15	R: 2 / C: 4	RPHole		N	
16	R: 4 / C: 4	RPHole		N	

Done       Expand Table       Normal

Empty  
20-Amp Pin

VG-RCB  
VG-RCB-32P

1 10 19 28  
6 15 24  
2 11 20 29  
7 16 25  
3 12 21 30  
8 17 26  
4 13 22 31  
9 18 27  
5 14 23 32

## BUILD A WIRE LIST –

To build a wire list for a block, click on 'Expand Table' and under the name column, enter the signal name that will be routed through this contact.

To view more of the data entry area, simply drag on the scroll bar at the bottom. To see even more - move the mouse pointer over the vertical column heading line and when it turns into a "<->" or double ended arrow drag the column to the left and more columns come into view.

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Fill in the data entry areas to complete the wire list information. Do you have extra circuitry in the fixture between the ITA interconnect and the UUT/DUT? Add the connection points in the 'Notes' column.

Pin Configuration Tool ... VG-RCB-32P ... 32 Pin 20 Amp Power Block

Exit

Slot User Name >> POWER Active Slot = 5

Pos#	Row / Col	Name	Description	Wire Type, Color	Connection	Notes
1	R: 1 /C: 1	5 Volt, 10 Amp	20-Amp Pin	20 AWG RED	J5-1	Ground to Chassis Lug Also
2	R: 3 /C: 1	+12V, 5 Amp	20-Amp Pin	20 AWG YELLOW	J12-8	Add Noise Suppressor to line
3	R: 5 /C: 1	-12V, 5 Amp	20-Amp Pin	20 AWG BLUE	J12-4	Add Noise Suppressor to line
4	R: 7 /C: 1	GND	20-Amp Pin	18 AWG BLACK	J5-8, J12-1,2	
5	R: 9 /C: 1		Empty			
6	R: 2 /C: 2		Empty			
7	R: 4 /C: 2		Empty			
8	R: 6 /C: 2		Empty			
9	R: 8 /C: 2		Empty			
10	R: 1 /C: 3		Empty			
11	R: 3 /C: 3		Empty			
12	R: 5 /C: 3		Empty			
13	R: 7 /C: 3		Empty			
14	R: 9 /C: 3		Empty			
15	R: 2 /C: 4		Empty			
16	R: 4 /C: 4		Empty			
17	R: 6 /C: 4		Empty			

Done  Expand Table  Normal

Empty  
20-Amp Pin

Hit 'DONE' at the bottom left of the screen and you'll return to the receiver / fixture layout section.

This simple process can be followed with any block. Don't forget to save your data.

## EDITING –

- 1) Double click on a data entry you made during the data entry stage and text editing can be performed.
- 2) If you try putting a block in a prohibited location, the system will not let you.
- 3) If you try to order 'old' system technology, the system will advise you of a better alternative!
- 4) You can cut and paste blocks in the receiver. Configure one, place the mouse pointer over it and hit 'Ctrl-C' on the keyboard. Move the mouse to where you want to add the block, hit "Ctrl-V". Pasted!
- 5) If you want to delete a block from the receiver, select "Blank Filler Panel" or "Unpopulated" and drag it to the location you want to omit. The system will prompt you to ensure data is not accidentally lost.
- 6) Once saved, the files can be exported to Excel or Lotus and further manipulation can be done. All text is comma delineated. Save as TXT again, and it can be re-imported to the VG Organizer.

**ADDING THE PROJECT DESIGN INFORMATION** - The Design Information Form provides internal control documentation for the Engineering Manager, Project Engineer, Test Engineer and even the fixture vendor, as this 'header' becomes part of all files that are printed out.

Once this file is completed, printed reports will have an attached permanent reference and control document that becomes part of the traceable paper package.

Design Information Form			
VG R4-B1		Mini Receiver	
Slots 4	Created 07-25-1998	Mini 4 Block Receiver Assembly w/Base	
User Information			
TTI Part#	VG-R4-B1		
Project	4 SLOT Receiver Demo Project		
Rev.	A1		
Company	Robert Grist & Company		
Address 1	2140 Bridle Path	Owner	Robert Grist
Address 2	Melbourne Fl, 32935	EMAIL	ragrist@earthlink.net
Address 3	Attn : Visual Basic Applications	Phone	407-555-1425
Dept / MS	Quality Assurance : MS 305-123		
Notes	Beeper Number 407-555-3412		
	All Wiring should utilize Teflon Insulation unless specifically authorized		
	ITA Coax Cabling shall be extended temperature -60c to + 125c		
Done			

### SAVING, DISPLAYING AND PRINTING YOUR DATA –

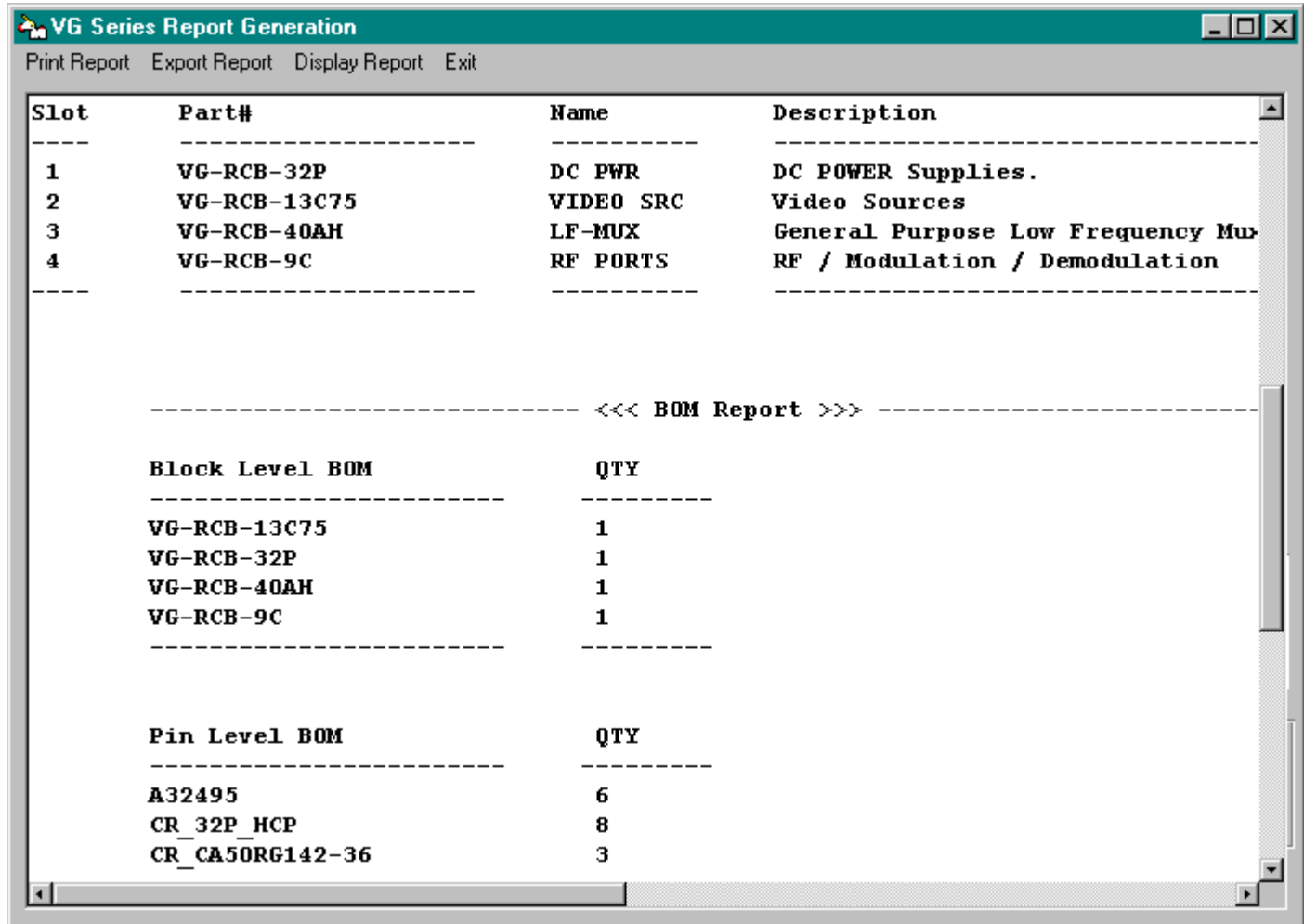
There are a number of variations of how to manipulate, save and print the data generated for a specific project. Note again that –

- 1) Block data can be 'cut & pasted' within the same receiver.
- 2) Pin data can be viewed on the screen, one block at a time
- 3) Pin data can be printed to the printer one block at a time or as a complete project
- 4) Pin data can be saved to the disk, one block at a time
- 5) Project or block data can be exported to a spreadsheet program and reimported later

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## Display Reports

Once the REPORT mode is selected, the options exist to PRINT, DISPLAY or EXPORT the data in a report format. Displaying the reports limits the user to Displaying the BOM Report or Displaying Pin Information, one block at a time. You can not display all pin information at the same time. The BOM Report, shown below, provides a listing of materials that need to be ordered to build a particular ITR or ITA. Remember to add the Receiver or Fixture kit of your choice to the materials list.



The screenshot shows a software window titled "VG Series Report Generation" with a menu bar containing "Print Report", "Export Report", "Display Report", and "Exit". The main content area displays a table with the following data:

Slot	Part#	Name	Description
1	VG-RCB-32P	DC PWR	DC POWER Supplies.
2	VG-RCB-13C75	VIDEO SRC	Video Sources
3	VG-RCB-40AH	LF-MUX	General Purpose Low Frequency Mux
4	VG-RCB-9C	RF PORTS	RF / Modulation / Demodulation

Below the table, the report is titled "BOM Report" and is divided into two sections:

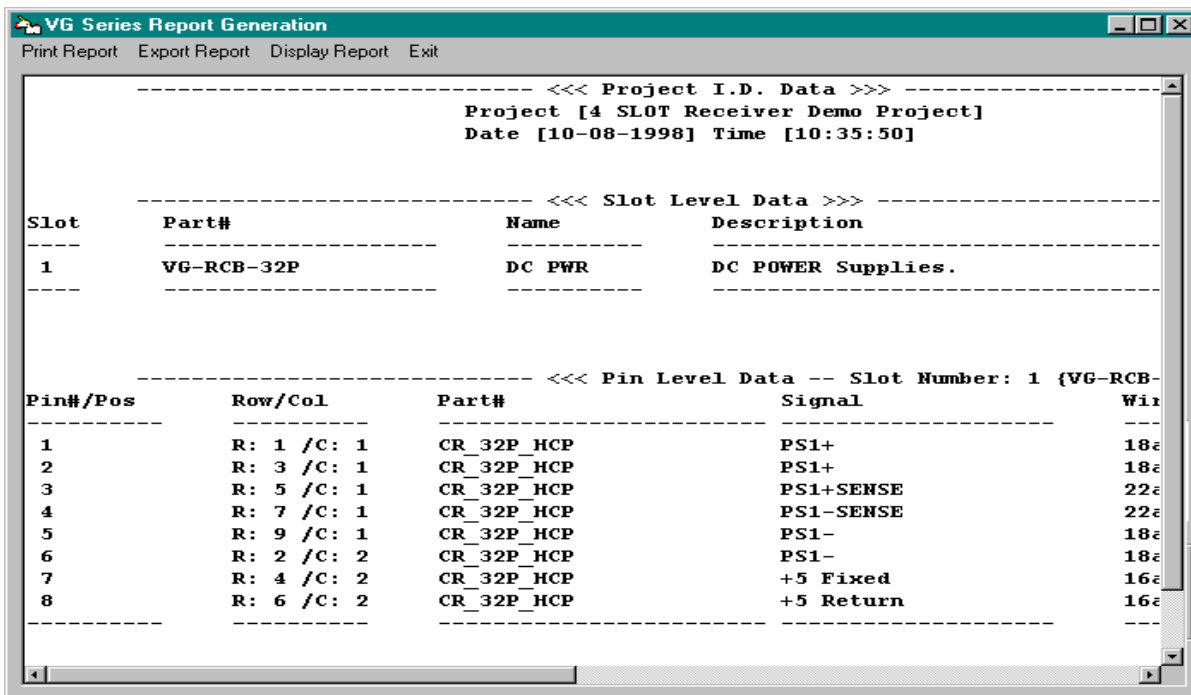
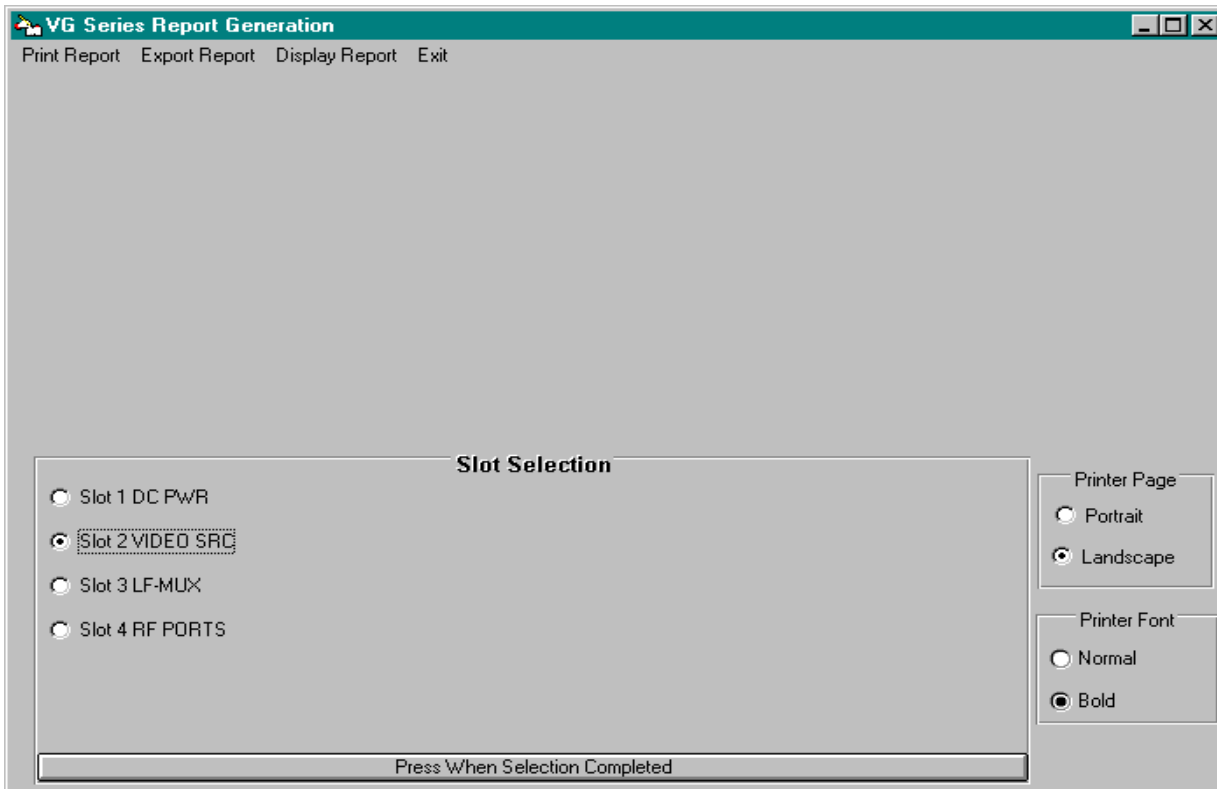
**Block Level BOM**

Part#	QTY
VG-RCB-13C75	1
VG-RCB-32P	1
VG-RCB-40AH	1
VG-RCB-9C	1

**Pin Level BOM**

Part#	QTY
A32495	6
CR_32P_HCP	8
CR_CA50RG142-36	3

Displaying the Block Pin Information is done in a similar fashion. Select the Slot for the desired information under Slot Selection and then Press When Selection is Completed at the bottom of the screen. The report is then generated on the display.





## Printing the Report

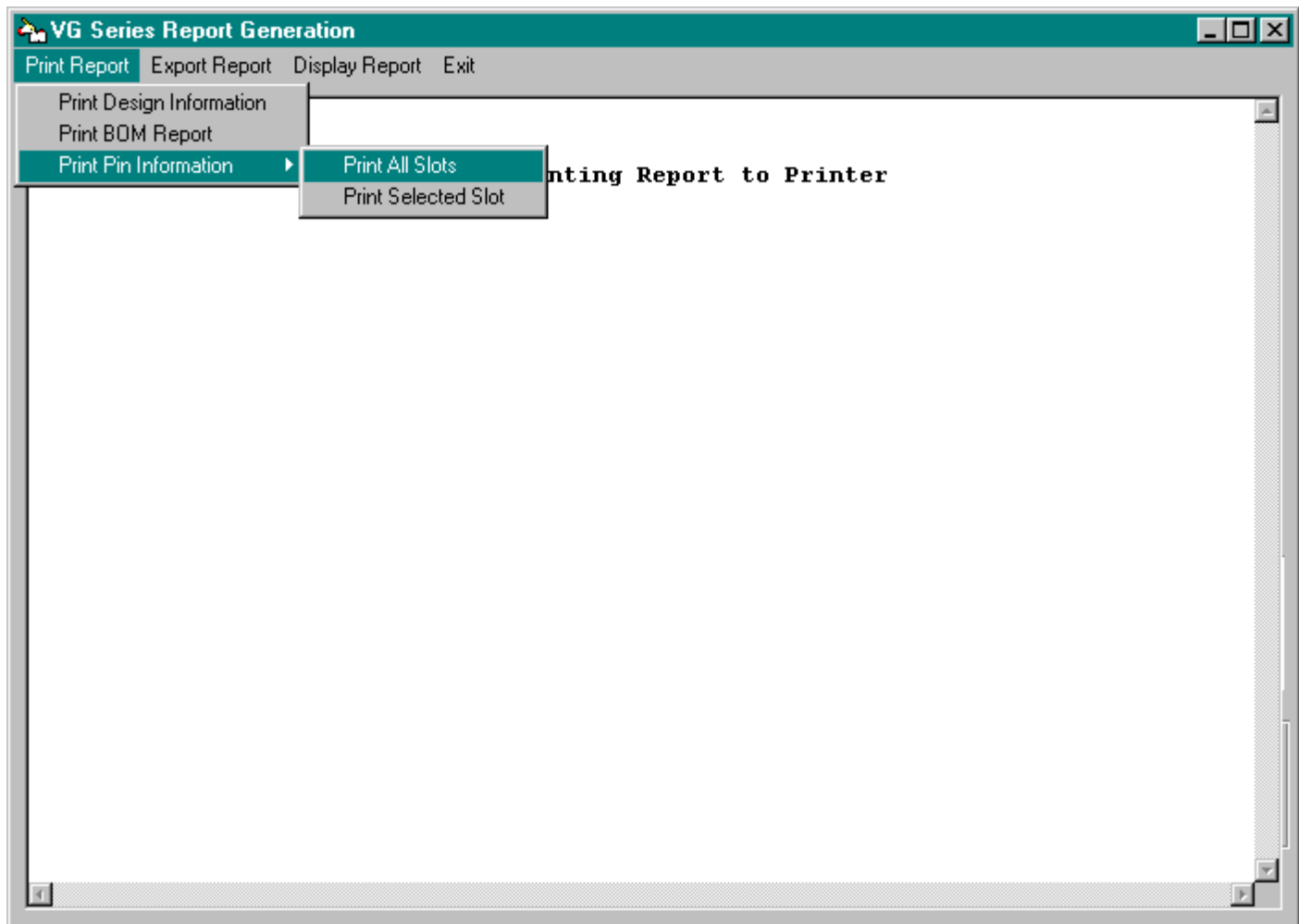
Printing Design Information prints the Header Block that contains the pertinent business information about the project.

Printing BOM Report prints the BOM report that was displayed in previous steps.

Print Pin Information

Print All Slots – Prints all pin information on the entire receiver / fixture

Print Selected Slots – Allows for printing on one block to simplify editing changes without the need to reprint the entire project each time a printout is made.



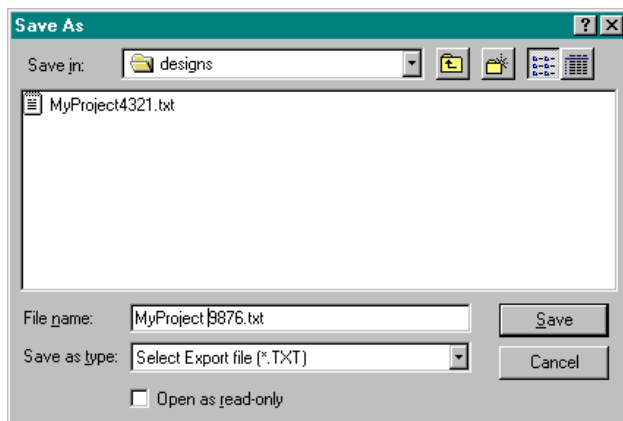
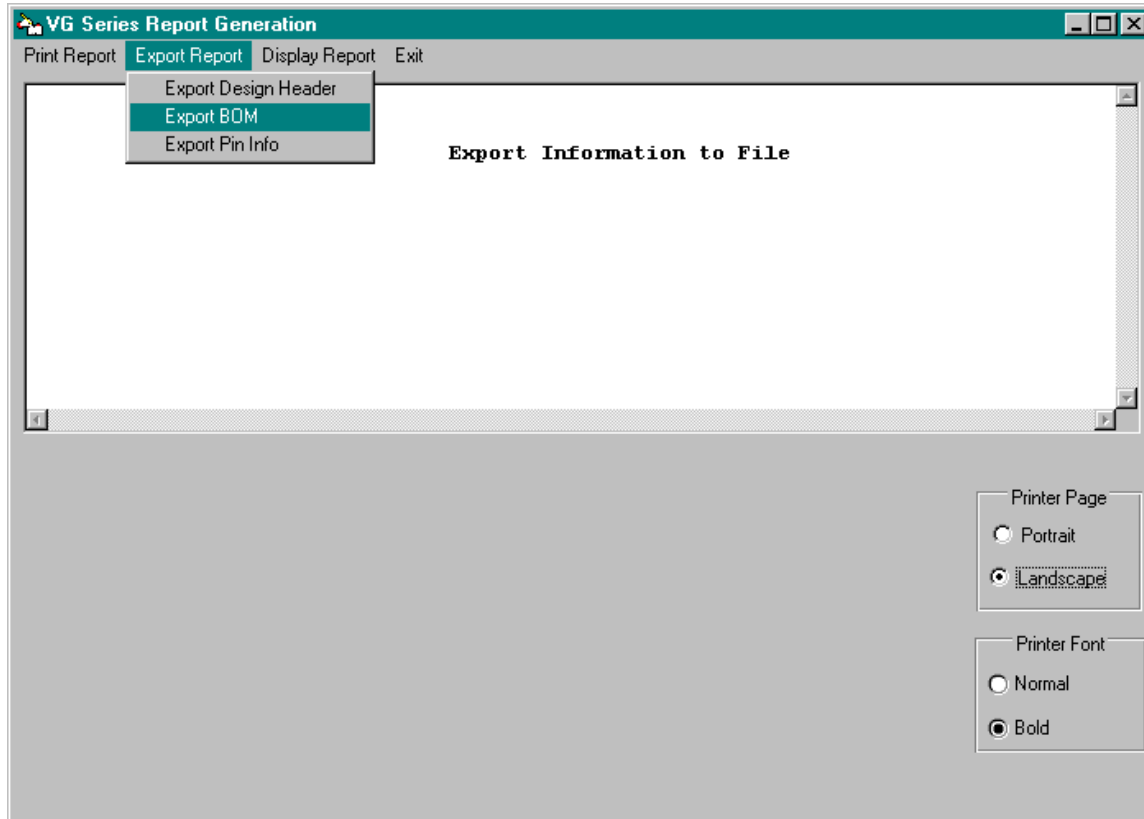
## Exporting Report Data

Report information can be exported to any spreadsheet program. It is stored as a .txt file in a comma delineated text format.

Export Design Header - will export the header information to an external spreadsheet

Export BOM – Exports BOM

Export Pin Information – Exports all pin information



When exporting to any spreadsheet document, the Save As window appears next. Type in the name of the project and press Save.

Page

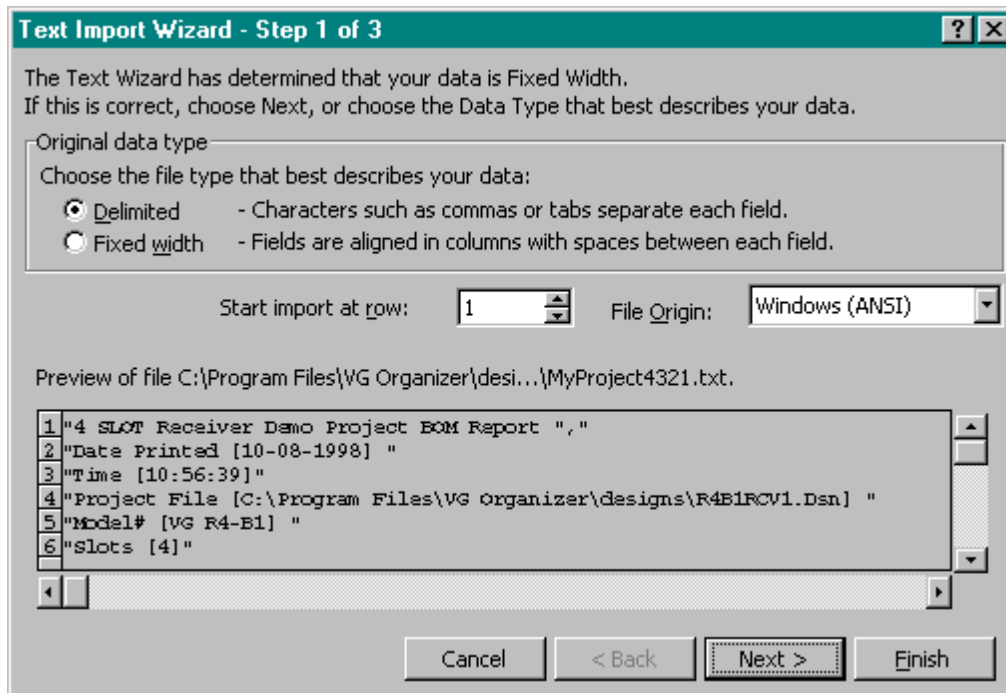
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## EXPORTING TO EXCEL –

The following series of Windows appear. Follow the instructions to the left for each window.



**Text Import Wizard - Step 1 of 3**

The Text Wizard has determined that your data is Fixed Width.  
If this is correct, choose Next, or choose the Data Type that best describes your data.

Original data type

Choose the file type that best describes your data:

- Delimited - Characters such as commas or tabs separate each field.
- Fixed width - Fields are aligned in columns with spaces between each field.

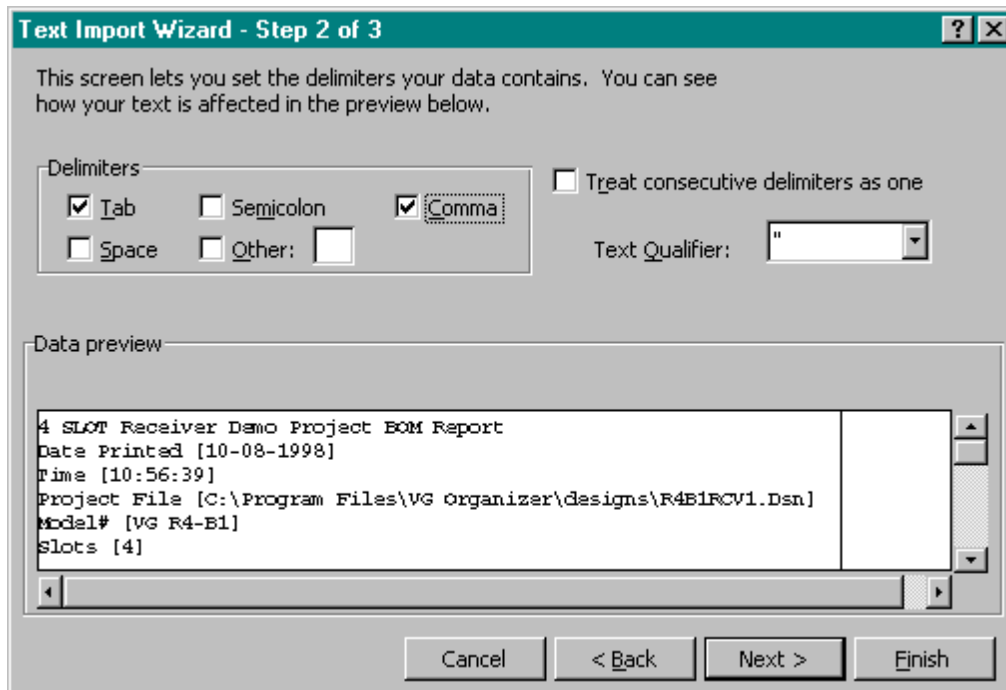
Start import at row:  File Origin:

Preview of file C:\Program Files\VG Organizer\desi...\MyProject4321.txt.

1	"4 SLOT Receiver Demo Project BOM Report ", "
2	"Date Printed [10-08-1998] "
3	"Time [10:56:39] "
4	"Project File [C:\Program Files\VG Organizer\designs\R4B1RCV1.Dsn] "
5	"Model# [VG R4-B1] "
6	"Slots [4] "

Buttons: Cancel, < Back, Next >, Finish

Select Delimited. Then default to the remainder of these settings. Select NEXT>.



**Text Import Wizard - Step 2 of 3**

This screen lets you set the delimiters your data contains. You can see how your text is affected in the preview below.

Delimiters

- Tab
- Semicolon
- Comma
- Space
- Other:

Treat consecutive delimiters as one

Text Qualifier:

Data preview

```
4 SLOT Receiver Demo Project BOM Report
Date Printed [10-08-1998]
Time [10:56:39]
Project File [C:\Program Files\VG Organizer\designs\R4B1RCV1.Dsn]
Model# [VG R4-B1]
Slots [4]
```

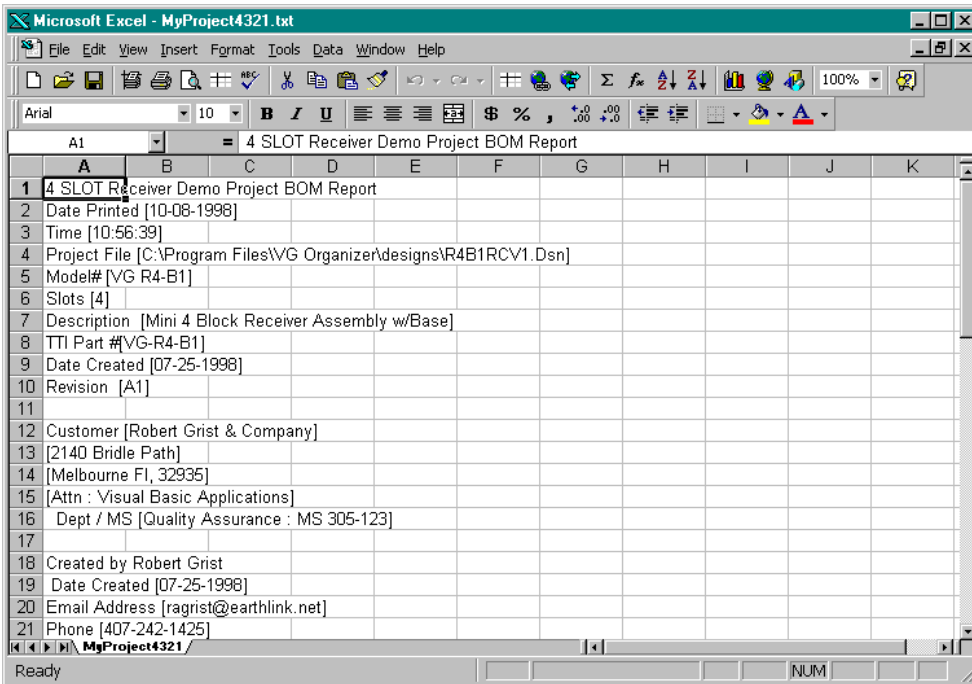
Buttons: Cancel, < Back, Next >, Finish

Select Tab And Comma.

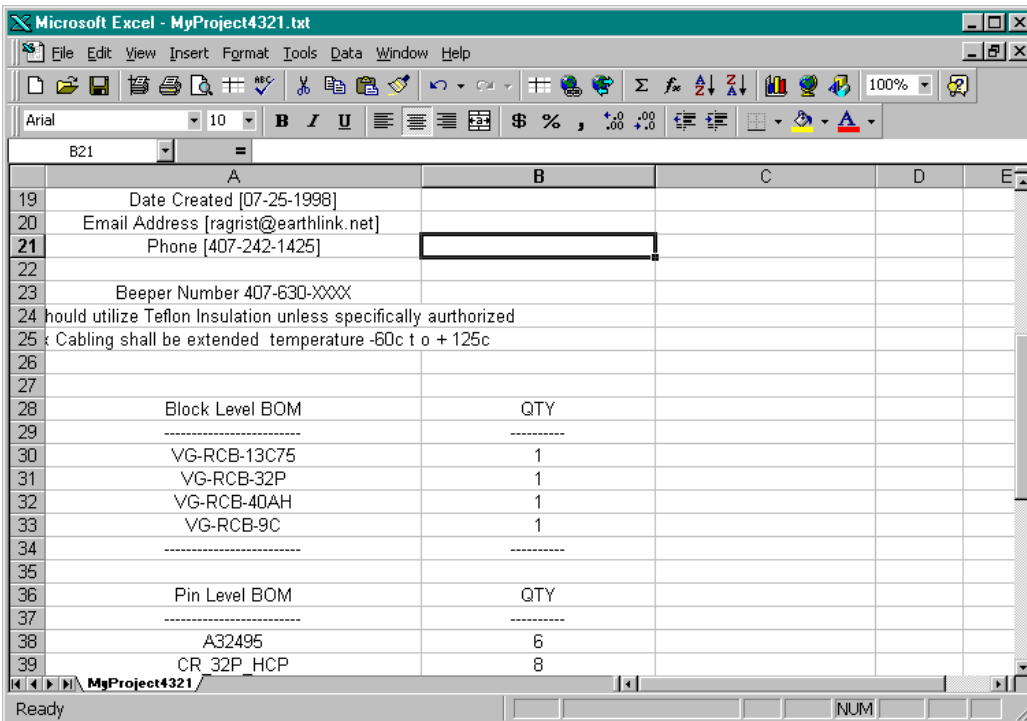
Select Next>, then Next> and Finish on the next two screens respectively.

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The information then appears in Excel as follows:



A little formatting of column widths and centering the data presentation in all the columns and the following appears:

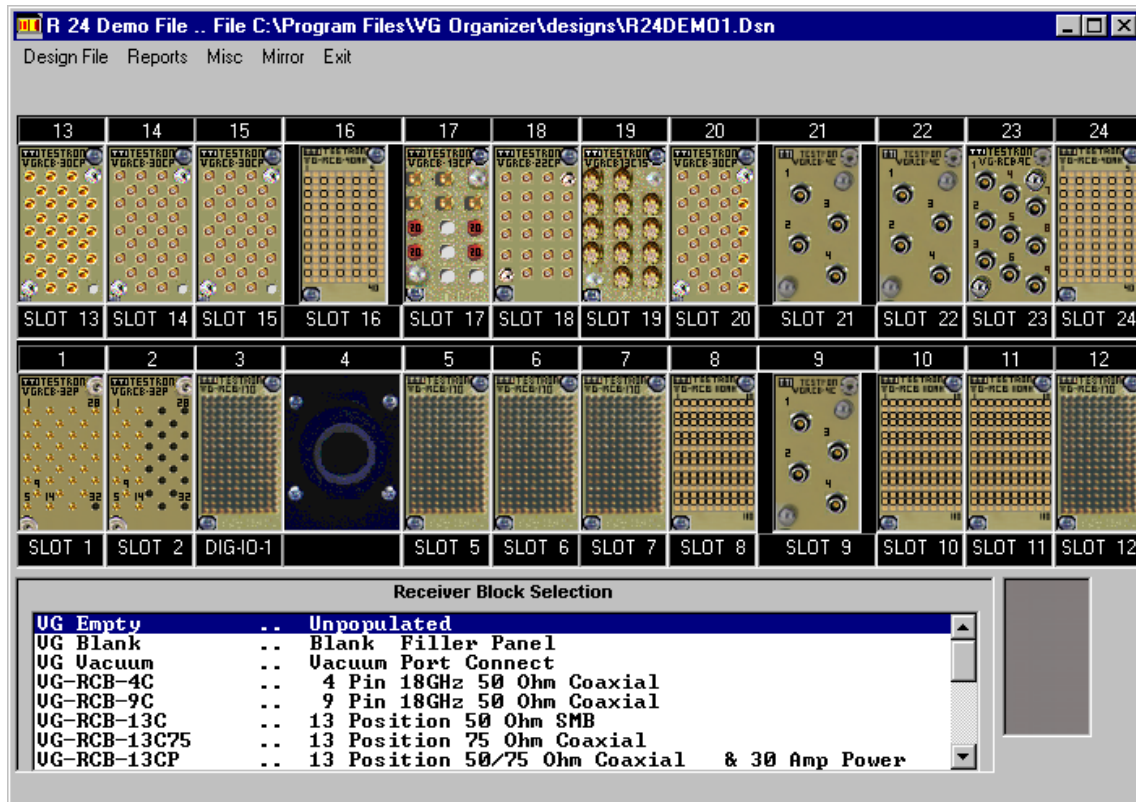


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## PRINTING THE GRAPHIC OF YOUR SYSTEM INTERCONNECT

The VG Organizer has limited printing options. However, the significant feature of the Windows environment is the ability to pass content from application to application. Hence, your favorite word processing program can easily accept the graphic image of the receiver by using the ALT PRINT SCREEN options on the keyboard.

Once the receiver is completely configured and the active design window in the VG Organizer software shows the completed receiver, press ALT PRINT SCREEN to capture the image. Move to your word processor and position the cursor where you want the image placed and click PASTE or CTRL-V from the keyboard. The image appears thusly.



Should you want to remove the extra content, the image can be controlled in several ways. From Word, activate the PICTURE toolbar from the VIEW menu. The toolbar appears in the toolbar section, allowing many changes to be made within your software.

### Picture Editing Tool Bar

The Cropping Tool allows you to 'trim' the edge of a picture to eliminate unwanted sections on the outside perimeter of the document. With a little trimming, and the receiver looks as below.

Using the drawing toolbar from Microsoft Word allows text to be placed on the content of the document, creating the documentation needed in less than 2 minutes. Then selecting and 'GROUPING' the images together allows the content to move within your document as though it were one item.

The same type of cropping and adding of text is available through an image processing program such as Microsoft Photo Editor, or Ricoh Photo Studio, as two examples.

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