Reflection versus AdvanceLink

R. C. Steambarge, Jr.
Lockheed - EMSCO
2400 Nasa Road 1
Houston, Texas 77058

and

John E. McLean, Jr.
JMA Technology, Inc.
P.O. Box 570727
Houston, Texas 77257

I. INTRODUCTION

Today, personal computers are being attached to mini-computers in greater and greater numbers. These require that some type of conductivity be available between the two systems. This is usually done via a terminal emulation package. This paper is concerned with comparing two of the oldest product lines of terminal emulation packages for the Hewlett Packard 3000 series of mini computers. They are Walker Richer & Quinn, Inc. (WRQ) R7+ and Hewlett Packard's (HP) AdvanceLink.

The comparison was between HP AdvanceLink version B.01.00 and on WRQ's R7+ version 3.0. These were chosen since they are the latest product available, have the most recent enhancements and are similar in capabilities.

The major topics to be covered in this paper are

* Requirements of running the programs
* Display capabilities
* Command language
* File transfer
* Configuration control
* Various miscellaneous topics

These topics were selected since this is where most of the confusion can occur in an evaluation.

II. CONFIGURATION REQUIREMENTS

Each software package was compared can run on a IBM PC or compatible. This also includes the XT and AT class machines. The minimum requirements are as follows:

Requirement	AdvanceLink	R7+
Operating System	DOS 3.1 or Up	DOS 2.0 or Up
Memory Usage		
Alpha Mode	256 KB	256 KB
Graphics Mode	512 Kb	310 KB
Disk Usage		
Floppies	2	1
Floppies & Hard Disk	1 & 1	0 & 1
Display Adapter	Monochrome	Monochrome

It should be noted that the memory requirements contain the default memory size for the display memory. This number can change if the amount of display memory is adjusted by the user.

III. DISPLAY CAPABILITIES

This section will into look the display capabilities that these two products support. The AdvanceLink and R7+ do graphics emulation.

Display Capabilities	AdvanceLink	R7+
Graphics Resolution		
Horizontal	640	640
Vertical	350	480
Highest type of monitor	EGA	VGA
Supported by MS-WINDOWS	NO	YES
Full Tektronix's GIN support	NO	YES
Support HP2648A commands	NO	YES
132 column mode	NO	YES
No. of characters scrollable horizontally	162	9,999
User definable color selection	YES	YES
Combine underline and inverse video	NO	NO
Number of vertical lines	25 or 26	25 or 26
Amount of display memory	Max 64 KB	Max 700 KB
Reflection Versus AdvanceLink	0121-2	

There are several notes that must be taken into account when reviewing the above table.

The highest graphics resolution has much to do with the capabilities of the hardware that is supported. Since AdvanceLink at this time does not support the Super EGA and VGA adapters the resolution is limited to that range.

The combination of the underline and inverse video is available when using monochrome adapters. On the color adapters this is a hardware design limitation not a software limitation.

The two products will on run on Monochrome adapter or Color Graphics Adapter,but only allow 25 lines to be displayed. Both products will allow you to select if two lines or one line is to be displayed for the function keys. But AdvanceLink will not remove the 24 line if an application wants to display a line of data there. Where as, R7+ will scroll the labels down to the 25th line and than display the data.

The 700 KB of display data that R7+ supports requires that an expanded memory system (EMS) driver be installed.

The 132 column mode supported in R7+ can be programaticly selected by using the ZENTEC (DIRECT 825) escape sequence. This is not the new escape sequence that is used by HP 700 series of terminals.

The difference in the number of characters that are horizontally scrollable is purely a design decision. AdvanceLink's limit of 162 characters is the same as that which the HP 2626A and 2626W had, thus sticking closer to a pure emulation. Whereas R7+ gives a greater range, thus giving an added value of displaying those extra wide printed reports.

R7+ support of MS-Windows is limited to being able to be selected from the menus and suspending all other programs in background. R7+ can be used in either alpha and graphics mode. AdvanceLink can also be run under MS-Windows but only in alpha mode. The graphics mode is to large to run under MS-Window manager. This is why the response to that item was "NO" since it can not run under both modes.

The HP2648A command support is to handle some special graphics commands which are unique to that terminal and HP2647A. This is true for the read cursor position and wait. This allowed the user to move the cross hair cursor around the screen, and then terminate it with a key and then send the coordinates back to the host computer. This is especially handy for interactive graphics.

There are two features that are not available in either one of the products. The first feature is a raster image transfer of the graphics memory. This transfer can be back to the host or to a local mass storage device. This can be very help when a complex drawing is need to just edit a couple items since the whole drawing would not have be retransmitted. The second was the autoplot feature for line drawings. This not a big item since more powerful graphics programs are available for the personal computer.

IV. MACRO/COMMAND LANGUAGE

HP AdvanceLink and WRQ R7+ both provide a command language allowing the execution of repetitive command sequences from a file. The commands allow the user to set parameters for terminal emulation, file transfer, error handling, display control and user interaction. This section will take a look at this feature.

AdvanceLink command language has 96 commands that can be used within a command file. R7+ has 83 commands but the "SET" parameters can expand this to 121 because there are 38 parameters for the command. This is an indication that both programs have a rich and varied command language.

The two programs took different approaches in implementing this feature. This is shown by the syntax rules that apply to both programs.

1. The Language Syntax

The AdvanceLink use a macro type language. The following summary table will summarize the syntax rules.

* All commands can be abbreviated to the smallest number of characters which make it unique.
* Each command and variable must begin with a "&" (ampersand).
* Commands, functions, variables, DOS and MPE filenames can be in any case.
* All parameters are started by "&P" and followed by digits 0 thur 30.
* Text is limited to 80 characters even if it is a quoted string or variable (&P).
* All functions must start with a "&" (ampersand).

* Comments in a command file must start with "&!" in column 1 and 2. This causes the entire record to be ignored by the command processor.

* Control and escape characters must be started with a circumflex or "hat" (^) and followed by the ascii character which composes it.

* Strings within quotation marks are optional. If the string is to include a space, comma, ampersand it must be enclosed in quotation marks. They may be either double or single quotation marks.

* Commas must be used to separate variables and parameters.

WQR R7+ language is based on an interruptive language similar to the BASIC language. The following table summarize the syntax for the command language.

* All commands can be abbreviated to the smallest number of characters which make it unique.

* Commands, functions, variables, DOS and MPE filenames can be in any case.

* A command must be on a single line of the command file.

* All parameters are started "V" followed by digits 0 thur 10. Can be extended to 800 characters.

* Text is limited to 80 characters.

* Comments in a command file are denoted by preceding them ";". The comment can start in any column and will end at the termination of the current line.

* Control and escape characters must be started with a circumflex or "hat" (^) and followed by the ascii character which composes it.

* Strings must be placed in quotation marks. They may be either double or single quotation marks. This only applies to strings that are being used as a variable.

* If the "^" is not to be interrupted as the start of an escape sequence, it must be entered in as "\^". If the back slash is also to be entered, it must be entered this way "\\".

* Each command word or function must be separated by at least one space.

2. Activating or Executing Commands

Both programs have several methods of starting the execution of a command or command file.

R7+ allows the user to enter a command one of three ways:

1. The first is to press the F5 key from the main Reflection menu. This will display the input command line.

2. The second method allows the command line to be displayed while anything is displayed on the function keys. To access the command line, just press ALT-Y.

3. The third method allows a command file to be executed from the run line when R7+ is started. At this same time you may also pass to the command file starting values for some of the variable 0 thur 9.

The first two access methods allow for executing a command file using one of the commands available to start executing the command files. Alternately, the name of the command file can be typed in on the command line followed by a carriage return.

AdvanceLink allows the command language to be accessed in several ways.

1. Press the ADVLNK command key "F3" on the main AdvanceLink command function keys. A selection then has to be made if an AdvanceLink command file, a DOS command or a AdvanceLink command is be processed. The selection is made by pressing one of the appropriately labeled function key.

2. The second method allows a command file to be executed from the run line when AdvanceLink is started from a batch file.

3. Typing the file name at the main menu and not in terminal mode.

4. Processing the special autoexec files. They are named LOGON.SLK and COMMAND.SLK. These are processed in order their respective order.

3. Comparison of the Command Languages

This section of the paper will take a one to one comparison of some of the more commonly used commands in AdvanceLink and R7+. The commands will be reviewed by in functional groups. Those

commands that do not have any corresponding function in one for the programs will be mark by "(n.a.)" in that column. If a command sequence will do the same function that sequence will be shown.

FILE TRANSFER COMMANDS	AdvanceLink	R7+
Vendor Transfer	&DSCOPY	SEND
	&DSCOPY	RECEIVE
Xmode Transfer	&XSEND	XSEND
	&XRECEIVE	XRECEIVE
Kermit Transfer	(n.a.)	KSEND
	(n.a.)	KRECEIVE
Raw ASCII Transfer	&SENDFILE	TRANSMIT
	&HP3000	(n.a.)
	&LOGON	OPEN + LOG
PC File Backup	&BACKUP	BACKUP
	&RESTORE	RESTORE

TRANSFER CONTROL COMMANDS	AdvanceLink	R7+
Transmission Block Size	&BLOCKSIZE	SET BLOCK-SIZE
Block Retry	&RETRY	SET RETRY-LIMIT
Startup Timeout	&TIMEOUT	SET RECEIVE-TIMEOUT
Tab Expansion	&TAB	SET TABS-TO-SPACES
Tab Compression	(n.a.)	SET SPACES-TO-TABS
Strip eighthBit	&7BIT	SET ISO7-TO-ROMAN8
Leave eighth Bit	&8BIT	SET ROMAN8-TO-ISO7

TRANSMITTING DATA

	AdvanceLink	R7+
Send a String with CR	&SEND	PTRANSMIT
Send a String without CR	&QUICKSEND	TRANSMIT
Break Signal	&SENDBREAK	BREAK
Logon to HOST	&ATTENTION	PTRANSMIT ""

CONFIGURATION COMMANDS

	AdvanceLink	R7+
Baud Rate	&BAUD	SET BAUD
Communication Handshake	&HANDSHAKE	SET ENQ-ACK SET RECEIVE-PACING SET TRANSMIT-PACING SET DSR-REQUIRED
Parity	&PARITY	SET PARITY
Select a Port to Use	&PORT	SET DATACOMM-PORT
Change Emulation	&PERSONALITY	SET TERMINAL-CLASS
Maintaining Configuration Files	&MAKECONFIG &USE	SAVE LOAD

COMMAND FILE CONTROL

	AdvanceLink	R7+

Conditional Branching	&IF
	&ELSE
	&ENDIF
		IF
		ELSE
		ENDIF

Unconditional Branching	&GOTO &LABEL	GOTO : (name)

Reflection Versus AdvanceLink 0121-8

Subroutines	&CHAIN	CHAIN
	&EXECUTE	INVOKE
	&RETURN	RETURN
Cleanup Subroutines	&FINISHFILE	ON EXIT
Command file termination	&EXIT	EXIT
	(n.a.)	STOP
USER INPUT AND OUTPUT		
	AdvanceLink	R7+
Writing to CRT	&MSG	DISPLAY
	&VERIFY	VERIFY
	&TYPE (DOS)	TYPE (DOS)
User Input	&INPUT	ACCEPT
	&SINPUT	(n.a.)
	&QINPUT	(n.a.)
Host Input	&READDC	READHOST
Disk Commands	&DTEST	(n.a.)
	&DPURGE	(n.a.)
	&DRENAME	RENAME
	&DCOPY	COPY
	&DOPEN	OPEN
	&DREAD	READ
	&DWRITE	WRITE
	&DCLOSE	CLOSE
	&EOFTST	EOF (IF)
Timing Commands	&WAITDC	WAIT ... FOR
	&PAUSE	HOLD
	&WAITCLOCK	WIAT UNTIL
	&WTIMEOUT	WAIT
	&EXPECT	WAIT ... FOR ""
BUILT-IN FUNCTIONS		
	AdvanceLink	R7+
Math functions	&ASSIGN	= or LET
	&ADD	+
	&SUB	-
	&MUL	*
	&DIV	/

String function	&UPPER	&UPPER
	&TRIM	&PACK
	&LENGTH	&LENGTH
	&POSITION	&FIND
	&ASCII	(n.a.)
	(n.a.)	&LOWER
	(n.a.)	&MID
	(n.a.)	&VALUE
	(n.a.)	&TIME
	(n.a.)	&DATE
	(n.a.)	&DIR

With the command structure as large as the these two programs support it is helpful that an on-line help facility be available. AdvanceLink does not provide this type of facility. R7+ does provide this feature. R7+ help is available from the command line by just typing HELP followed by the command name. This can be helpful when you need to know the parameters of a command in detail.

The two products have a feature that makes available to the user or programmer all of the commands from the host computer. the both did it differently. AdvanceLink needs to be set into a mode that will allow it to receive the commands from the remote computer. This is done via "&HOSTCONTROL" command. This can be quite announce if you do not have control over the personal computer. R7+ did it with a special escape sequence which is constantly processed. This makes quite easy to run commands on the remote PC once the communication line is established.

The command structure of both products is very similar in the number of commands and type. There are some areas that are different. To the overall use of the commands this does not amount to much in the final analysis. There are others that do make big difference.

4. Error Recovery and Testing

AdvanceLink and R7+ both feature a mechanism for error recovery and analysis. The big difference is that R7+ provides more details and allows it to be used in more places.

The first error recovery method is using a command called CONTINUE. This is similar to the command found in the HP3000 stream facility. If a major error is discovered that would abort the command file, this flag causes the command file to keep going. With this flag set it is up to the command file designer to handle all error conditions and testing.

The second method of error recovery is using special event flags

which each program provides. These are used with the &IF ... &ELSE or the IF ... ELSE commands, in the two products.

AdvanceLink provides the user with four boolean (TRUE/FALSE) condition codes. These are:

&TIMEDOUT	That a command was not completed within a specified time period. This is used in conjunction with &WTIMEOUT.
&DOK	Indicates that the must recent disk access was done properly or not. This is used with &DTEST.
&TOK	Indicates the success or failure of a file transfer. This is used with &DSCOPY, &XSEND, &XRECEIVE.
&AOK	Indicates that everything that is all right with the commands that have been executed. This is used with &ATTENTION, &CALL, &MCONNECT, and &VCONNECT.

The above condition codes can only be used with the commands that are mentioned with them. There are no codes to give any additional information about the error that did occur. AdvanceLink does not provide any other code or reserve words for these functions.

R7+ provides the user with six boolean (TRUE/FALSE) condition codes. They are

DCD	Checks for the carrier detect being present. Used at any time.
EOF	Checks for the end of file. Used with the READ command.
ERROR	Checks for any error condition to have occurred with the previous command.
EXIT	Checks for a named file being present.
FDG	Checks to see if R7+ is in the foreground operation.
FOUND	Used to determine if a string or condition has occurred. This command is used with HOLD, WAIT and READHOST.

The general error condition code "ERROR" can be expanded to give more detail on the type of error by using the integer operator ERROR-CODE. This will return a number that is for a particular error that has happened. Some of the error return codes can only be used with certain commands. The areas covered are for file transfer, reading and writing to disk files, serial interface, the disk backup facility and the command syntax.

5. Variables

In the section on the command syntax, there was some mention of variables that are supported by each command group. This capability allows the command file to become quite flexible at handling various communication tasks. The variables can be used to develop an interface that can be quickly understood by an user who is not a communication expert.

The variables can be used in most of the commands. The assignment of variables is handled differently between the two programs.

AdvanceLink requires that everything be done with the &ASSIGN command. This is even true for the concatenation of strings. The assignment of numeric values requires the data to be placed between a set of quotes. There is no implicit numeric conversion available.

R7+ requires that the LET command be used to assign data to the variables. Within a command a quoted string and string can be concatenated with the use of the "&" between them. Numeric values do not need to be placed in quoted strings before being loaded into a variable. The variables can be used inside of a quoted string by using the "$" version of the variable name.

You should remember that only 80 characters can be stored in each variable for both products.

V. COMMUNICATION SUPPORT

1. File Transfer

This is the one of the most widely used features of the terminal emulation software, outside of the actual emulation itself. A file transfer capability is provided by both products. The number of transfer protocols that are supported by the two programs differs.

Transfer Protocols	AdvanceLink	R7+
Vendor Protocol	YES	YES
Kermit	NO	YES
XMODEM	YES	YES
TEXT Files	YES	YES
Hard Disk Backup/Restore	YES	YES

The number and type of protocols that are supported by the packages only become important when different host computer are used with the same PC.

AdvanceLink's vendor provide protocol can only be used with HP computer system. WRQ R7+ vendor provide protocol can be used with HP, Digital, UNIX. These protocols have been found to be faster than the public domain protocols because they can be tailored for use on a particular operating system or hardware platform.

Kermit and Xmodem are two of the most widely used file transfer protocols in the PC market. It is of great benefit to have both protocols in one package. This assures that the user can take to almost any computer system.

Xmodem is usually required by most bulletin boards. This is also required if you are using any of the major information services.

KERMIT is very helpful in those installations which are in a multiple computer vendor shop and the user must have control over the file transfer program on the host computer. Kermit's protocol and command structure allows you the ability to configure exactly how the file transfer is done. It is also useful in the places where the data format is different between computer systems. There is a capability to transfer binary data if need be. Another feature of the Kermit protocol is that it allows for wild card file transfer.

The last file transfer method is text files. These are usually required to boot up the vendor host protocol program. It is also an easy way of dumping text data into some type of editor without a whole lot of trouble.

Both AdvanceLink and R7+ have a set of commands to backup and restore files from the personal computers hard disk. This is can be also looked at as a file transfer method for the PC. Both programs use the vendor provided protocol to facility the transfer of the files between the host computer and the PC.

One of the nice things about this feature is that it can backup a whole hard disk unattended or just a selected directory and its subdirectory if required. Both programs provide a log of what files where backed up. The AdvanceLink log is just a little encrypted whereas the R7+ log can be read as is.

WRQ provides the user with two utilities to work with backup file on the host computer. The first program HPDIR will generate a directory listing or log of what files are in the backup file. This is nice to have since you do not need to bring the file back down to get this information. The second program, XTRACT, will remove a single file out of the backup file and place into a file on the host computer.

The AdvanceLink does have a feature that will generate default file name for the host computer if you select it to do so. This could be quit handy for unattended backups.

One problem with both programs when using this feature is that the user must determine the number of records that the backup file on the host computer is to have. If the file is too large, you will have to reduce the file size by some means such as using MISER out of the contributed library.

2. Communication Hardware Support

The next thing to look at is the communication hardware which the two products support.

Communication parameters	AdvanceLink	R7+
Communication speeds		
Lowest Baud rate	110	110
HIghest Baud rate	19,200	38,400
Number of Serial Ports	2	8

For most HP 3000's the 19,200 baud rate is the best it can do. The higher serial communication speeds which are being produced today, the faster speed will be greatly appreciated. This is true for those applications which paint the entire screen.

There are always those times when having the laser jet attached and running two sessions at the same time would be nice. That takes either 3 ports or a switch box. This type of setup is becoming more and more common. This is especially true those individuals running Microsoft WINDOWS or going to run Microsoft OS/2. This why IBM in the PS/2 allows the support of eight serial communication ports.

VI. CONFIGURING THE TERMINAL

Since each user has different way of working, it is important that terminal emulation software be as changeable as possible. That is what this section of the paper will look at.

1. Ways of Setting the Configuration

AdvanceLink and R7+ both allow the user to configure the software in several ways. They are as follows

* Screen Menus access from the function keys
* Using certain commands in the command language
* Loading the configuration file at run time

The ability to set the configuration from the command language is helpful when certain things are required to be changed for particular task that is a little different then the basic configuration file. This is a necessity for those PC's that are used by a group of users and critical parameters must be set to particular values for the application to work.

The ability to save the configuration in a file and recall it allows a user to have several different configurations that can be used for different tasks. One task that would benefit from this is to receive and send telexs from a telex service and then turn around and send it up to the host computer for printing.

2. Changing the Keyboard Layout

In recent years, applications have moved from the mini-computers to the PC and vice versus. Also the keyboards of the PC's do not match those of the traditional terminals. Users of these applications or terminals would like to remap their keyboards to feel the same as the way they are use to working. Some terminal manufactures are allowing a keyboard remapping feature. So a terminal emulator should also be able to do this.

This version of AdvanceLink does not provide this feature.

R7+ version 3.0 does have this capability to remap the keyboard. This is done by the user building a script file external to R7+ with their favorite text editor or word processor. This is than compiled into the configuration file using an utility program, called KEYMAP.EXE, that is provided by WRQ. There are some keyboard remap files on the distribution diskettes.

3. Supporting an External Printer

Both products support external printers. This support takes on the form of expanded, compress and graphics screen dumps. The two products allow for other printers to be supported in this mode. This allows for the printers to be parallel or serial.

AdvanceLink does allow other printers to have their escapes sequences to be defined. This is not allowed with R7+, but can be accomplished using certain commands to setup the print.

R7+ does allow the use of a driver from the program. This would allow the escape sequence to be converted or handled if need be.

4. Expanded Memory

With the introduction of the Lotus Intel Microsoft (LIM) expanded memory system (EMS), more individuals are extending the memory range beyond the 640 KB limit of DOS. This capability would free up memory in the standard DOS memory thus allowing other programs to run. This feature is not available in AdvanceLink but is in R7+. Using this feature with R7+ would reduce the main memory requires by 64 KB.

VII. Miscellaneous Topics

1. Other terminal emulation availability

With a terminal emulation software the question always comes up "Does it provide other terminal emulation?" This is true for both programs and the other products by the two companies to provide additional emulation.

Terminal Emulation	AdvanceLink	R7+
VT 52	YES	YES
VT 100 or 102	YES	YES
VT 200	NO	YES

The VT 200 emulation that is available with R7+ is a subset of the actual terminal. If a full VT 200 emulation is required, then you can use WRQ R2 or R2+ product which provides the same command set as R7+. The major items left out of the product are not a complete set of user defined keys (UDKs)and multinational character sets are not supported.

If you are in a shop that has VAX's and need the support of VT 341 terminals, then WRQ can supply you with R4 or R4+. This could

make your support task simpler since the command language is the same for all products.

2. Availability to Run on other Hardware Platforms

This was looked at for two reason how protected is the expense of user training where a hardware platform is changed. And can the support of one product be spread over several platforms.

This becomes a major concern for companies who are using more than one type of personal computers. Many organizations are getting IBM PC and compatibles for business application and Apple Macintosh for desktop publishing and word processing.

Platform Availability	AdvanceLink	R7+
IBM PC	YES	YES
IBM PC Compatibles	Maybe	YES
Apple Macintosh	NO	YES
HP 150	NO	YES
HP Vectra	YES	YES
HP 110	YES	YES

It should be noted that IBM compatibles for the AdvanceLink is a maybe. That means it is trial and error to determine if the product works on that particular PC.

3. Multitasking of the Program

A feature that was found to quite useful was R7+ ability to continue processing in the background and allow another process to be interactively used in the foreground. AdvanceLink does not have this capability. This can be used while a file is being transferred down to the PC at the same time you are editing on another file.

This should not be confused with the capabilities to execute another program from within the two programs. This allows only the child process to be active until it is terminated and control is returned to the parent process.

4. Forms Cache

During the investigation phase of the this paper, an interesting fact was found. The fact is that AdvanceLink does not support

forms cache and that R7+ does. The forms cache feature is one of HP big sells point on the their HP 2624B and 2394 terminals. This feature may have been left out because of marketing reasons. R7+ has taken this feature and expanded it to allow 255 forms to be downloaded to the PC.

5. Some Vendor Supplied Utilities

AdvanceLink does come with an IBM PC version of PAM. It allows any encrypt commands files to have passwords on them which PAM will then prompt for. It provides a somewhat friendly user interface which the documentation says is very slow. It does allow step by step prompts for setting of the application to be run. It does come with a visual file manager.

Both products come with a translator program for the other command files as long as they are in ASCII form.

An encryption program is supplied for the command files. The encrypted command file can be protected by a password which is optional.

R7+ does provide a set of programs for transferring data between PC's directly. There are versions for the HP150, IBM PC, Wang and Digital Equipment Corporation personal computers. These rates can be at 38400 if the hardware is fast enough and the program being executed can support it.

6. Support and Manuals

What would a product evaluation be without some mention of the documentation and the support that is provided by the vendor.

AdvanceLink comes in a single binder. Each of the major sections are tabled for easy selection. It does have a comprehensive index and table of contents.

The support of product in through HP and is charged at an hourly rate. So have your credit cards ready.

R7+ comes in three spiral bound books. The books are the user manual, technical reference and command language. This allows you to just use those parts which you need to do the job at hand. Each books index references the other manuals. The table of contents just covers the material for that manual.

Support for the product is provided by the WRQ support line and a group of highly qualified independent dealers. The charge for this is free.

VIII. Summary

As can be seen, that both products provide allot of features. The selection of which one to use can be difficult. You, the user, must look at the job to be done and then match the product.