

VALET GUIDE

for Attache and Attache S

Portable Computer Systems

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How to USE this Guide

This manual describes Valet programs and functions, including alarms, screen dump, printer installation, calculator, and Set-up Mode. Each function is described here in a separate chapter.

Valet functions can be used with both the Attache (dual drive) and Attache S (single drive) models. The only requirement is that the file "VALET.VL2" resides on the diskette in Drive A.

The appendixes in the back of this guide contain a comprehensive glossary and cross-referenced index.

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Valet Guide

Introduction

Introduction

Overview

Valet is a software package that allows you to temporarily interrupt a program to perform other functions and then return directly to the program that was interrupted.

Valet functions range from simply displaying the date and time of day to performing complex mathematical calculations.

When the Valet function is complete, a single keystroke returns you to the interrupted program immediately.

How might you use this? Say you're working on a report using word processing and need to figure some percentages for inclusion in the text. You can quickly switch to Valet's calculator, make the required calculations, and just as quickly return to your report.

Continuing with this example, after you make the calculations and return to word processing, you could type in a table based on your calculations and then use Valet's screen dump to print what is displayed on the screen.

When the printout is complete, you can instantly return to word processing, with the cursor at the point of interruption in your report.

If you are writing your report and also trying to maintain your schedule, you can use Valet's alarm function to schedule alarms that will sound at specified times with messages to remind you of meetings or other obligations.

These are just a few of the many uses for Valet. The following pages describe Valet functions and the data files that make up Valet.

Valet Functions

There are two levels of Valet functions. The first level, Set-up Mode, allows you to interrupt a program to change the operating environment (screen brightness, keyboard volume, baud rates, etc.) and then return to the interrupted program.

The second level, Valet's Main Menu, allows you to interrupt a program to perform other tasks (calculator, screen dump, alarms, etc.) and then return to the interrupted program.

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Set-Up Mode Functions

Valet's "Set-Up Mode" functions are described on the top row of the keyboard template above the number keys that activate them.

Set-up Mode functions are displayed on the screen with their current settings when you press **CTRL** and **ESC** simultaneously.

You may then press the appropriate number key for your desired function, or press **ESC** again to return to what you were doing before activating Set-Up Mode.

Set-up Mode functions are as follows:

- o Date and Time Display
- o Screen Brightness Control
- o Keyboard Volume Control
- o Keyboard Click Sound Control
- o Communications Port Baud Rate Selection
- o Printer Port Baud Rate Selection
- o Bell Sound Control
- o Access to Valet Main Menu

Main Menu Functions

Valet's "Main Menu" functions are accessed while in Set-Up Mode by pressing the **TAB** key.

The Main Menu displays options for using the calculator, alarms, printer installation, and screen dump functions.

The interrupted program remains on the screen when Valet is being used. When you are finished with the Valet function, Attache returns directly to the interrupted program.

Main Menu functions are as follows:

- o Alarm and Message Scheduling
- o Four-Function RPN Calculator
- o Screen Dump to Print Screen Contents
- o Printer Installation for Screen Dump

Warning about Write-Protect Tabs

Do not apply a write-protect tab to the Attache Software diskette if you will be using Valet's Main Menu functions. Valet's functions are contained in program files on the Attache Software diskette. Data is routinely written to these files as the Main Menu functions execute. Valet programs will abort if a write-protect tab has been applied to the diskette.

Valet's Set-Up Mode programs are contained in ROM and will still function if a write protect tab has been applied to the Attache Software diskette.

Valet Files

Two Valet files are included on the Attache Software diskette. These files are named VALET.VL2 and PRINTER.VL2 on the disk. Some Valet functions require these files are on the diskette inserted in Drive A at all times. Other Valet functions will work properly even if the files are not on the system diskette.

If the required Valet file is not on the diskette in Drive A when you attempt to access a Valet function (or if the diskette contains a write-protect tab), the following message appears:

**Fatal Error on Disk x:
CR to Abort**

Press **RETURN** to clear this message. Then insert a diskette in Drive A that contains the required Valet files and retry the operation.

VALET.VL2

The VALET.VL2 file contains programs for alarms, screen dump, printer install, and calculator. These programs will only work if the VALET.VL2 file is on the diskette inserted in Drive A.

If an alarm is scheduled and the Valet.VL2 file is not in Drive A when the alarm is set to sound, the alarm will be ignored.

However, if the alarm is set to sound when Attache is turned off, the alarm will sound when the unit is powered up and booted with the VALET.VL2 file on the diskette in Drive A.

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PRINTER.VL2

The PRINTER.VL2 file provides printer settings for the install function. The calculator, alarm, and screen dump programs will function properly even if PRINTER.VL2 is not included on the diskette in Drive A.

Once a printer has been selected, the selection is inserted in the screen dump programs in the VALET.VL2 file. PRINTER.VL2 is not required again unless you want to change printer selection for the screen dump.

Set-Up Mode will function properly even if VALET.VL2 and PRINTER.VL2 are not on the diskette in Drive A when the function is activated.

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Set-up Mode controls functions on the top row of the keyboard template, displays the date and time, and provides access to the Valet Main Menu.

Set-up Mode may be activated at any time when the unit is powered up and CP/M has been booted, even while other programs are being used. The program that is interrupted remains on the screen while Set-Up Mode is activated. The screen returns to its previous function when you exit from Set-up Mode.

Values that you set in Set-Up Mode remain constant until you change them, even if the unit is powered down for long periods.

Activate Set-Up Mode

1. Press **CTRL** and **ESC** at the same time. The Set-Up Mode display will appear on the bottom two rows of the screen.

TIME	DATE	BRIGHT	VOLUME	KEY	COMM	PRINTER	BELL
13:52:26	10/14	27	8	BEEP1	2400	1200	ON

- 2a. Press the number key that corresponds to the specific operation you want to perform, as described on the top row of the keyboard template and displayed at the bottom of the Set-Up Mode screen,

or...

- 2b. Press **TAB** if you want to display the Valet Menu.
3. Press **ESC** again to exit Set-Up Mode and return the screen to its previous function.

Display Time and Date

The time and date are displayed when Set-Up Mode is activated. Both are displayed on the lower left corner of the Set-Up Mode screen. Time is shown on a 24-hour clock (in military hours:minutes:seconds) where 00:00:00 = midnight, 12:00:00 = noon, 18:00:00 = 6 p.m., etc.) The date is in month:date format.

Press **ESC** to exit from Set-Up Mode and return the screen to its previous function after displaying the time.

Set-Up Mode

Change Screen Brightness

To increase the screen brightness, activate Set-Up Mode and press 1. To reduce the screen brightness, press 2. Keep pressing for more or less brightness. Press **ESC** to return to the previous function.

Change Keyboard Volume

To increase the keyboard click volume, activate Set-up Mode and press 3. To reduce the keyboard volume, press 4. Keep pressing for more or less volume. Press **ESC** to return to the previous function.

Change Key "Click" Sound

To change the keyboard click sound, activate Set-up Mode and press 5. A different click will be heard each time the key is pressed. Four different clicks are available, or you may turn the click sound off altogether. Press **ESC** to return to the previous function.

Change Comm Port Baud Rate

To change the baud rate for the communications port, activate Set-up Mode and press 6 to increase the baud rate or 7 to decrease the baud rate. The setting will be increased or decreased by one increment each time the key is pressed. Press **ESC** to return to the previous function.

Change Printer Port Baud Rate

To change the baud rate for the printer port, activate Set-up Mode and press 8 to increase the baud rate or 9 to decrease the baud rate. The setting will be increased or decreased by one increment each time the key is pressed. Press **ESC** to return to the previous function.

Turn Bell on or off

To turn the keyboard bell on or off, activate Set-up Mode and press 0. If the bell is set to off it will change to on and vice versa. Press **ESC** to return to the previous function.

Valet's Main Menu

The Main Menu is displayed by activating Set-Up Mode and then pressing the **TAB** key.

```

M A I N ||  CALCULATOR  SCREEN DUMP
M E N U ||  ALARMS      INSTALL  EXIT

```

The Main Menu appears on the bottom two lines of the display and provides access to the alarms, calculator, screen dump, and printer installation programs. As with Set-Up Mode, the program that was interrupted remains on the screen while Valet's Main Menu and other Valet programs are activated.

Selecting Valet Functions

Select programs from the Main Menu by pressing the arrow keys to move screen highlighting the desired function. Then press **RETURN** to activate that function. Exit from this menu and return the screen to its previous function by pressing the **ESC** key.

You can also activate functions from the Main Menu by typing the first letter of the function. For example, typing **C** with the Main Menu on the display activates the calculator.

Bypassing the Main Menu

When you are familiar with the options provided by the Main Menu, you can bypass this menu and go directly from Set-Up Mode to the desired function by typing the letter that would select your option, such as **C** for calculator or **A** for alarms.

For example:

CTRL ESC and **TAB** and **C** displays the Set-Up Mode screen, then the Main Menu screen, and then activates the calculator program.

CTRL ESC and **C** displays the Set-Up Mode screen and then activates the calculator program without displaying the Main Menu screen.

Set-Up Mode

Set the Clock

A number of Valet functions access the battery-powered real-time clock, which operates even when Attache is turned off.

The clock must be set for Valet functions to work correctly. If the clock is not set, the message **CLOCK NOT SET** will appear where the time and date would normally appear when you activate Set-Up Mode.

Set or reset the clock when necessary by executing the following:

1. With the Attache Software diskette inserted in Drive A and the cursor at A>, type **TIME** and press **RETURN**. The Time Utility display will then appear on the screen.

A t t a c h e tm Date and Time Utility

Options:

Current Status

Hrs. Mins. Yrs Mos Days Day of Week

Set Time = T

Set Date = D

Exit Opt.

or Prog.

Option:

2. Type **T** and enter the time (in military hours/minutes) where 00:00:00 = midnight, 12:00:00 = noon, 18:00:00 = 6 p.m., etc. Your entry will be displayed for verification. Press **RETURN** if it is correct, or press **ESC** if it is not.
3. Type **D** and enter the date and day of the week (1 = Sunday, etc.) as prompted. Your entry will be displayed for verification; press **RETURN** if it is correct, or press **ESC** if it is not.
4. Press **ESC** when time and date have been properly set. Then activate Set-Up Mode to view the time and date display.

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Overview

The alarms feature lets you schedule alarms that will display messages or initiate program commands. It's as simple as an alarm clock, only more capable.

Each scheduled alarm contains a message or command and a date and time for retrieval. When the scheduled time arrives, a low beeping tone is issued three times by the computer.

You answer the alarm by activating Set-Up Mode, and the message or command is displayed on the screen. If you do not answer the alarm, it will be repeated every four minutes until you respond.

If the machine happens to be turned off when the scheduled time arrives, the alarm will be sounded the next time the machine is powered up and CP/M is booted.

As many as six different alarms may be set at any one time, and each message or command can be up to 58 characters long. When an alarm sounds, you are given the option of changing the message or rescheduling the alarm for another time. The alarms feature also lets you schedule programs for execution at a later time.

Commands may be chained together using the SUBMIT facility of CP/M, so the computer can be instructed to begin working even while you are occupied elsewhere. This may be useful for scheduling data transmissions at "off hours" when line rates are lowest or for compiling programs when you are otherwise occupied.

The following pages provide complete instructions for scheduling and answering alarms.

Alarm Types

There are three different alarm types available - Message, Command, and Immediate Command. The function for each alarm type is as follows:

Message allows you to type a message that will be displayed when the alarm is answered.

Command Line allows you to type a command for execution of a program or programs at a later time, effectively "time bombing" program initiation.

This alarm requires operator response before the command is actually executed, and also provides an option for rescheduling if it is not convenient to initiate the command as scheduled.

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Note: if the command is allowed to execute while another program is being used, the work in progress is lost.

Immediate Command is the same as Command except that the command is executed immediately at the scheduled time without requiring operator response and regardless of the status of other programs.

If you are using another program when this alarm sounds, the scheduled command will be executed and you will lose your work in progress. Use this option carefully to avoid losing important data.

The Alarm Menu

Alarm functions are accessed from Valet's Main Menu or by pressing **A** when Set-Up Mode is activated. When the alarms feature has been selected, the Alarm Menu appears on the bottom two lines of the screen.

```

M A I N ||   CALCULATOR   SCREEN DUMP
M E N U ||   ALARMS      INSTALL   EXIT

```

The Alarm Menu allows you to set alarms, review and/or reschedule alarms that have already been scheduled, or cancel alarms that are scheduled. The menu also identifies any of the six alarms that are already activated (Alarms in Use).

As with all Valet functions, the program that was interrupted remains on the screen while the Alarm Menu is displayed.

To activate the alarm feature, use the arrow keys to highlight **ALARMS** and then press **RETURN**. Press **ESC** if you want to return to the previous menu rather than proceed.

Bypassing the Alarm Menu

When you are familiar with the options provided by the Alarm Menu, you can bypass this menu and go directly from Set-Up Mode to the desired function by typing the letters that would activate the Alarm Menu (**A**) and your option, such as **S** for Set or **R** for Review.

Rather than display each menu, you can activate the "Set" option for alarms by pressing **CTRL** and **ESC** simultaneously and then **A** and **S** in sequence without waiting for the menus to be displayed.

Setting Alarms

To set an alarm, use the arrow keys to highlight **SET** on the Alarm Menu and press **RETURN**, or type **S**. If you decide not to schedule any alarms, press **ESC** to return to the Main Menu.

```

A L A R M  || SET REVIEW CANCEL || ALARMS IN USE
M E N U    || PRESS ESC TO EXIT ||

```

When the **S** option is selected, the current time, date, and available alarms will be displayed with a series of prompts about the alarm you are scheduling.

```

ENTER ALARM NUMBER: ALARMS AVAILABLE: 1 2 3 4 5 6
11:07:20 10/15 PRESS ESC TO EXIT

```

Type a number from 1 to 6 from the list of available alarms to enter the alarm number. The next screen will prompt for the date and time to sound the alarm.

MOS (0-12): DAY (0-31): HRS (00-23): MIN (00-59):

Answer these prompts as instructed below. If you make a mistake while typing, press the left arrow key or the **BACK SPACE** key to erase the previous entry and then type the correct data.

MOS: (01-12): Type the month (1-12) to schedule the alarm for.

DAY: (01-31): Type the day of the month (1 to 31) to schedule the alarm for.

HRS: (00-23): Type the hour to schedule the alarm for (in military time where 00 = midnight, 12 = noon, 18 = 6pm, etc.)

MIN: (00-59): Type the minute (0 to 59) to schedule the alarm for.

Note that leading zeros are not required, and the cursor moves automatically to the next field when an entry is made. In cases where the number is also the first digit for another entry (such as 1 = January, 11 = November), either use the leading zero or use the **RETURN** key to move the cursor to the next field.

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When the time and date for scheduling the alarm have been correctly input, your entry is displayed along with the current time and date. In addition, you are prompted to set the alarm or exit to the Alarm Menu.

```
ENTER ALARM  MOS:    DAY:    HRS:    MIN:
      11:08:19 10/15    (S)ET OR PRESS ESC TO EXIT
```

Press **ESC** if you want to cancel what you've done so far and return to the Alarm Menu, or press **S** to set the alarm and proceed to the next menu (where you will identify the alarm type).

Enter Alarm Type

From this menu, you define the type of alarm to schedule. Instructions for setting and using each of the three alarm types follow.

```
ENTER ALARM TYPE: (M)ESSAGE (C)OMMAND LINE (IMM)EDIATE LINE
```

Message Scheduling

At the prompt to ENTER ALARM TYPE, type **M** to enter a message.

```
ENTER MESSAGE:  ||
11:10:00 10/15  ||
```

The cursor appears at the first line of the message entry screen. Type the message, using both lines if necessary.

Press **ESC** when you are finished and the display returns to the Alarm Menu. Then press **ESC** to return to the Main Menu, and **ESC** again to return to the program that was interrupted by Valet. The message that was typed here will appear at the bottom of the display screen at the scheduled time when you respond to the alarm.

Command Line Scheduling

At the prompt to ENTER ALARM TYPE, type **C** to enter a command line.

```
ENTER COMMAND:  ||  
11:10:00 10/15  ||
```

The cursor appears at the first line of the message entry screen. Type the command. Use SUBMIT to chain more than one command if desirable.

Press **ESC** when you are finished and the display returns to the Alarm Menu. Then press **ESC** to return to the Main Menu, and **ESC** again to return to the program that was interrupted by Valet.

The command that was typed here will appear at the bottom of the display screen at the scheduled time when you respond to the alarm.

You may then reschedule the command line for a later time or allow it to execute as originally scheduled.

Immediate Command Scheduling

At the prompt to ENTER ALARM TYPE, type **IMM** to enter an immediate command line.

```
ENTER COMMAND:  ||  
11:10:00 10/15  ||
```

The cursor appears at the first line of the message entry screen. Type the command. Use SUBMIT to chain more than one command if desirable.

Press **ESC** when you are finished and the display returns to the Alarm Menu. Then press **ESC** to return to the Main Menu, and **ESC** again to return to the program that was interrupted by Valet.

Use this command only when you want to initiate processing while you are away from your computer. The command that was typed here will be initiated automatically at the scheduled time, regardless of what else the computer is doing.

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If you are working with another program at the time of the alarm, the command you have scheduled here will execute anyway. Your current program will be immediately terminated and work in progress will be lost. Be careful when using this option!

Answering Alarms

When an alarm is heard, activate Set-Up Mode. The message or command line is displayed on the bottom two lines of the screen.

```
RESCHEDULE?  MSG  || MEETING W/ J. JACKSON AT 10AM  
10:10:00      10/22 || BRING MANUSCRIPTS AND ARTWORK
```

You may then reschedule the alarm for a later time, change the message or command, change the alarm type, or simply "clear" the alarm by pressing the **ESC** key.

Unanswered alarms are repeated every four minutes until you respond. If the machine is turned off, the alarm will be heard when you turn the machine back on and boot CP/M.

Note: If the alarm is for an Immediate Command Line, the command will begin execution after the alarm has sounded.

If you are working on another program and are unsure about the alarm type when the alarm sounds, press **CTRL** and **BACK SPACE** at the same time.

If the alarm is an Immediate Command Line, it will be changed to a Command Line for four minutes rather than begin execution immediately.

This gives you time to save your work in progress if an immediate alarm type is pending and you are not ready for it.

Messages are "cleared" from the alarm system after you answer them unless you reschedule them.

If the message is for a repetitive type alarm (such as a luncheon appointment, staff meeting, etc.) it might be more convenient to reschedule it and revise the message rather than retype it later as a new alarm.

Command Lines are executed immediately after you answer them unless you reschedule them. If you are using another program when a scheduled command line is answered, reschedule it for a time when you are not using the machine.

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Immediate Command Lines do not require intervention on your part. When an alarm sounds for an immediate command line, execution of the scheduled program begins automatically.

Immediate Command Lines should not be scheduled for times when you may be using your computer. The immediate command will supersede the program you are working on and your work in progress will be lost. If an immediate command line is pending during the time you are using the machine, reschedule the alarm for a later time.

Again, you may temporarily postpone an immediate command line by pressing **CTRL** and **BACK SPACE** simultaneously during the time when the alarm is sounding.

The alarm is then changed to a regular command line for a period of four minutes. During this time, you may activate Set-Up Mode to evaluate the alarm, reschedule the alarm, or initiate execution of the command by activating Set-Up Mode.

If no action is taken, the alarm reverts to its original status as an immediate command line and begins automatic execution of the scheduled command after four minutes.

Rescheduling Alarms in Advance

Alarms may be rescheduled in advance using the Review option from the Alarm Menu. Activate Set-Up Mode and the Alarm Menu, and then use the arrow keys to highlight **REVIEW** and press **RETURN**. The review function can also be activated by typing **R** from this menu.

```
A L A R M || SET REVIEW CANCEL || ALARMS IN USE
M E N U   || PRESS ESC TO EXIT || 1
```

After the **R** option is selected, the alarm numbers for alarms that are set are displayed with a prompt to **ENTER ALARM NUMBER**.

```
ENTER ALARM NUMBER:      ALARMS SET: 1
12:20:20   10/15
```

Enter the number of the alarm you want to review or revise, or press **ESC** to return to the Alarm Menu. The selected alarm is displayed with the scheduled date and time, alarm type, message or command and a prompt to **RESCHEDULE?**

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```
RESCHEDULE?  MSG  || MEETING W/ J. JACKSON AT 10AM  
10/22       10:00 || BRING MANUSCRIPTS AND ARTWORK
```

If you do not want to reschedule the alarm, type **N**. You will then be prompted NEW MESSAGE? or NEW COMMAND?

If you do not want to change the message or command line, type **N** again. You will then return to the Alarm Menu.

To reschedule the alarm, type **Y** at the prompt RESCHEDULE?

```
|| 12/22 10:00 ||  
|| 12:21:04 10/15 ||
```

The scheduled date and time will be displayed in the message area with the cursor positioned to the right. Use the arrow keys to move the cursor through the date and time fields and type your changes. Press **ESC** when you are finished.

The screen will then display the message or command line and prompt NEW MESSAGE? or NEW COMMAND?

```
NEW MESSAGE?  || MEETING W/ J. JACKSON AT 10AM  
12:22:14 10/15 || BRING MANUSCRIPTS AND ARTWORK
```

If you do not want to change the message or command, type **N** to return to the Alarm Menu.

To change the message, type **Y**. The next display on the screen will be the prompt for alarm type. From this screen, you may change the alarm type or press **RETURN** to retain the same alarm type as before.

When the message screen appears, type your new message or command line and press **ESC** to return to the Alarm Menu. Then press **ESC** to return to the Main Menu, and **ESC** again to return to the program that was interrupted by Valet.

Rescheduling when the Alarm Sounds

When you answer an alarm at the scheduled time, the screen prompts **RESCHEDULE?** as it displays the message or command.

```
RESCHEDULE?  MSG  || MEETING W/ J. JACKSON AT 10AM
10/22        10:00 || BRING MANUSCRIPTS AND ARTWORK
```

If you answer **N**, the message is cleared from the system and the alarm number is returned to the available alarm stockpile. If the alarm is for a command line, the command program will begin processing when you type **N**.

If you answer **Y**, The scheduled date and time will be displayed in the message area.

```
10:00:45 10/22 || 10/22 10:00
```

Use the arrow keys to move the cursor through the date and time fields and type your changes. Press **ESC** when you are finished.

The screen will then display the message or command line and prompt **NEW MESSAGE?** or **NEW COMMAND?**

```
NEW MESSAGE?  || MEETING W/ J. JACKSON AT 10AM
12:22:14 10/15 || BRING MANUSCRIPTS AND ARTWORK
```

If you do not want to change the message or command, type **N** to return to the Alarm Menu.

To change the message or command line, type **Y** at the prompt for **NEW MESSAGE?** or **NEW COMMAND?**

The next display on the screen will be the prompt for alarm type. From this screen, you may change the alarm type or press **RETURN** to retain the same alarm type as before.

When the message screen appears, type your new message or command line and press **ESC** to return to the Alarm Menu. Then press **ESC** to return to the Main Menu, and **ESC** again to return to the program that was interrupted by Valet.

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Cancelling Alarms

Alarms are automatically cancelled or "cleared" if you respond at the scheduled time and elect to not reschedule them. Messages are cleared from the system and command lines begin program execution and then clear.

Alarms may be cancelled in advance by highlighting CANCEL on the Alarm Menu and pressing RETURN, or by typing C.

```
ALARM  || SET REVIEW CANCEL || ALARMS IN USE
MENU   || PRESS ESC TO EXIT ||
```

The screen prompts for the alarm number to cancel and then prompts again CANCEL (Y)ES OR (N)O.

```
ENTER ALARM NUMBER: CANCEL (Y)ES OR (N)O:
14:20:20 10/22
```

Type Y to cancel the alarm or N to return to the Alarm Menu without cancelling the alarm.

Using SUBMIT to Chain Commands in the Alarm

Commands may be chained together in the command and immediate command alarm types so that more than one program will execute when the alarm sounds. This is done with the CP/M utility program SUBMIT.

SUBMIT is a command that retrieves a given file from the disk. The file that is retrieved contains a series of commands that are then executed in sequence.

This file may be built using either WordStar-Plus or the ED.COM facility of CP/M. The file must have the extension .SUB in order to be recognized by SUBMIT (such as XYZ.SUB). To chain commands for execution by an alarm, the command "SUBMIT filename" is keyed as the command line in the alarm.

The name of the file to be retrieved is substituted for "filename" (such as SUBMIT XYZ). Note that the .SUB extension is assumed and is not required in the command.

Alarms

The file being retrieved must reside on the diskette in Drive A. When the scheduled alarm is activated, SUBMIT is called and retrieves the specified file. The chained commands are then executed from that file. When all commands have been executed, the system is returned to CP/M and the cursor is at A>.

A more complex use of SUBMIT is to initiate and execute programs that would normally require operator intervention to answer screen prompts. This is accomplished with SUBMIT and the CP/M Utility XSUB.

SUBMIT is used to call a file as described above, and XSUB is used to insert the answers to operator prompts that will appear when the program begins execution.

An example of how this might be used is to initiate a data transfer to another computer at a time when the line rates are reduced but no operator is present.

The Command File for SUBMIT

The file containing the actual commands may be built using either WordStar-Plus or ED.COM. If you are using WordStar-Plus, create the file as a "Non-Document File" by selecting the "N" option at the No-File Menu.

Select a filename and use the extension .SUB (such as XYZ.SUB). Then enter each command as a separate line in the file.

In the example that follows, PIP, STAT, and DIR will be keyed as separate lines in the non-document file XYZ.SUB on the diskette in the A Drive.

SUBMIT Example

In this example, SUBMIT XYZ will be used as the command line for the alarm. When the alarm begins command execution, SUBMIT will retrieve the file XYZ.SUB.

The file DOCFILE will then be copied from the diskette in Drive B to the diskette in Drive A by PIP. The file directory (DIR) and file sizes (STAT) will then be displayed and the system will then return to A>.

```
A:XYZ.SUB  FC=34  FL=3  COL=5
```

```
PIP A:=B:DOCFILE [V]      <
DIR                       <
STAT *.*                  <
```

Alarms

Using XSUB to Insert Variables in the SUBMIT File

Files with XSUB will automatically insert variables into the program as it executes, eliminating the need for operator intervention.

The naming and building process are the same as the file described on the previous page, but the command XSUB is entered on the first line in the file and a variable (\$#, where "#" is the next number in sequence) is entered for each prompt that would require intervention.

In the example that follows, a communications program (called TRANCOM) will be used to transfer data to another computer.

XSUB Example

XSUB is entered as the first line in a file named ABC.SUB, followed by the name of the program to execute (TRANCOM) and a variable (\$#) for each question that will appear on the screen when TRANCOM begins execution.

The actual answers to the questions represented by \$1, \$2, \$3, \$4, and \$5 are entered in the alarm's command line. XSUB substitutes the next value on the command line for each \$# line as operator prompts appear on the screen during program execution.

A:ABC.SUB FC=397 FL=3 COL=6

XSUB	<
TRANCOM	<
\$1	<
\$2	<
\$3	<
\$4	<
\$5	<

In this example, SUBMIT ABC 1 T DOCFILE Y 6 will be used as the command line for the alarm. When the alarm begins command execution, SUBMIT will retrieve the file ABC.SUB and XSUB will be called. XSUB will then call TRANCOM and program execution will begin.

When TRANCOM issues a screen prompt, XSUB looks to the next line in the command file (\$1) and substitutes the next value in the alarm's command line (1) for that value. At the next question, XSUB substitutes the next value (T) in the command line for \$2, and so on as each question appears on the screen.

Alarms

The alarm that initiates chained program execution may be a Command Line or an Immediate Command Line, but not a Message type alarm. For the exercises that follow, an Immediate Command Line will be assumed.

After the alarm has been scheduled and set, the command line appears with a prompt to ENTER COMMAND:

```
ENTER COMMAND:  ||  
11:10:00  10/15  ||
```

The command to enter here is SUBMIT, followed by the name of the file to retrieve. If that file contains XSUB, the answers to questions that will be substituted for variables (\$#) in the file are also included here.

For example, to set an alarm that calls the file XYZ.SUB in the first example on the preceding pages, you would enter **SUBMIT XYZ** at the command line.

```
ENTER COMMAND:  || SUBMIT XYZ  
1:10:00  10/15  ||
```

When the alarm sounds as scheduled, the file XYZ will be retrieved from the diskette in Drive A and the programs PIP, DIR, and STAT will be executed. Note that the file must reside on the diskette in Drive A to be retrieved by SUBMIT.

To call the file ABC (which contains XSUB) in the second example, you would enter **SUBMIT ABC 1 T DOCFILE Y 6** at the command line.

```
ENTER COMMAND:  || SUBMIT ABC 1 T DOCFILE Y 6  
11:10:00  10/15  ||
```

When the alarm sounds as scheduled, the file ABC is retrieved from the diskette on Drive A and the TRANCOM program begins execution. As TRANCOM asks questions, XSUB inserts the next answer from the command line.

In the preceding example, a menu is displayed and option "1" is inserted for a computer to computer transfer. TRANCOM then asks if you want transfer or receive, and the answer "T" is inserted.

Alarms

TRANCOM asks for the file to transfer and XSUB inserts "DOCFIELD". TRANCOM then asks "Check Sum Transfer Y/N" and XSUB inserts the value "Y" from the command line.

Assuming that cable connections, baud rates, and other protocols are properly set between the two devices involved in the data transfer, TRANCOM then transfers the file DOCFIELD to the receiving device.

When the transfer is complete, TRANCOM cycles back to its first menu and XSUB inserts the next value "6" from the command line. This number corresponds to the item on the TRANCOM menu to return the system to CP/M.

Note that the number of parameters that are passed from the command line to the .SUB file must match the number of \$# variables in the .SUB file or the program will abort.

In the preceding example, the command line contained five values (1, T, DOCFIELD, Y, 6) and the .SUB file contained five variable lines (\$1, \$2, \$3, \$4, \$5).

Since TRANCOM returns to its first question when the transfer is complete, additional files could be transferred by including additional answers in the command line and inserting matching variable lines into the .SUB file.

For example, you could activate TRANCOM and transfer both DOCFIELD and REPFIELD with a single alarm. The alarm's command line would be as follows:

```
ENTER COMMAND: || SUBMIT ABC 1 T DOCFIELD Y 1 T REPFIELD Y 6
11:10:00 10/15 ||
```

The file ABC.SUB would now require nine variable lines (\$1 through \$9). XSUB would pass the parameters for the first transfer (1 T DOCFIELD Y) and TRANCOM would transfer the file DOCFIELD.

When the data transfer is complete, TRANCOM returns to its first menu. Since the command line now specifies option 1 rather than option 6, TRANCOM begins another computer to computer transfer. The remaining questions are answered in sequence (T, REPFIELD, Y) and REPFIELD is transferred.

When the transfer is complete, TRANCOM cycles back to its first menu and XSUB inserts the next value "6" from the command line.

This number corresponds to the item on the TRANCOM menu to return the system to CP/M and the cursor returns to A>.

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Screen Dump

Screen Dump

Overview

The screen dump feature allows you to temporarily exit from the program you are working on to print all or part of the text or graphics that are currently on the display screen.

Screen dump provides four different options to allow maximum flexibility in printing and to support a large variety of printer types.

Screen Dump Options

Screen dump options are as follows:

Quick Text - works with most printers and is the fastest method for printing straight text without graphics, screen attributes, or alternate character sets. Only ASCII characters are printed.

Text Only - works with any of the printers identified in the Install option on Valet's Main Menu. All ASCII characters and Attache's alternate character sets (forms ruling, Greek upper and lower case, and math characters) are printed. Graphics characters are ignored.

Graphics Only - works with any of the printers identified in the Install option on Valet's Main Menu. All graphics characters are printed. ASCII characters, alternate character sets, and screen attributes are ignored.

Entire Screen - works with any of the printers identified in the Install option on Valet's Main Menu and is essentially a combination of the Text Only and Graphics Only options. All displayed characters are printed.

Activate Screen Dump

To print the contents of the display screen, activate Set-Up Mode and press the **TAB** key to display Valet's Main Menu.

When Set-Up Mode has been activated, graphics characters are "undisplayed" on the screen. Do not be alarmed by this. Graphics characters will still be printed and will be redisplayed when you exit from Valet.

```

M A I N ||   CALCULATOR   SCREEN DUMP
M E N U ||   ALARMS      INSTALL   EXIT

```


Screen Dump

From the Main Menu, use the arrow keys to highlight **SCREEN DUMP** and press **RETURN**, or type **S**. The Print Menu will then appear on the bottom two lines of the screen, with your installed printer selection identified at the left side of the first row.

```
E P S O N || QUICK TEXT   TEXT ONLY   GRAPHICS ONLY
PRINT MENU ||  ENTIRE SCREEN   PRESS ESC TO EXIT
```

Note: prior to making a selection from the Print Menu, you can send line feeds to the printer to align the paper properly by pressing **LINE FEED**.

Use the arrow keys to highlight your selection and then press **RETURN**, or type the letter that corresponds with your desired option. The contents of the screen will be printed according to the option that was selected. Press **ESC** to return to Valet's Main Menu without printing.

The Main Menu appears on the screen when printing is completed. You may then select an option from that menu to continue Valet processing or press **ESC** to return to the interrupted program.

Printers

Note that the Text Only, Graphics Only, and Entire Screen options will only work with a printer that has graphics capability and has been "installed" for use with Valet's Screen Dump. Installation instructions are detailed in the next section of this manual.

Virtually any printer may be used to print from the screen with the Quick Text option. This option ignores graphics, alternate character sets, and screen attributes.

Bypassing the Print Menu

When you are familiar with the options provided by the Print Menu, you can bypass this menu and Valet's Main Menu and go directly from Set-Up Mode to the desired function.

This is done by typing the letters that would activate Screen Dump's Print Menu (**S**) and your option, such as **Q** for Quick Text or **G** for Graphics Only.

For example, you can activate the "Quick Text" option for Screen Dump by pressing **CTRL** and **ESC** simultaneously and then **S** and **Q** in sequence without waiting for the menus to be displayed.

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Printer Installation

Overview

There is currently no industry standard among printer manufacturers for the way dot graphics codes are interpreted by printer software or the way bits are aligned on the printer head.

Because of this, Valet's screen dump program must be customized for each printer that is used for printing screen graphics. This is done through the Install option on Valet's Main Menu.

The Install program tells Attache which printer-type is being used for printing graphics from the screen and sets escape codes and other printer protocol automatically for that specific printer.

The following pages provide complete instructions for installing printers for use with Valet's Screen Dump feature.

Printers

Valet's screen dump feature currently supports graphics printer lines from five different manufacturers. These printers are as follows:

Epson (MX-100 and MX-80 with Graphtrax option)

Okidata (ML-83, ML-84, and ML-84 Step 2 with Graphics option)

Axiom (IMP Series)

C. Itoh (8500 Series)

Anadex (DP-9000 and DP-9500 series)

Mannesmann (MT160)

Note: even if your printer is not capable of printing graphics or is not yet supported for printing graphics from the screen using Valet, you can still use the screen dump feature to print ASCII character text (but not graphics, alternate character sets, or display screen attributes).

Valet is factory set to default to the Epson printer. This setting may be changed using the Install option on Valet's Main Menu. If your printer is not listed above, use Epson as the installed printer.

Printer Installation

Printer Settings

Printers used with the screen dump feature should be set to receive eight-dot bits. Auto Line Feed and Parity settings should be "off."

Printer baud rate must be the same as the setting for Attache's printer port baud rate. Use Valet's Set-Up Mode to match the printer port baud rate with that of the printer.

Activating Install

To select a printer for printing graphics, activate Set-Up Mode and press the **TAB** key to display Valet's Main Menu.

```
M A I N ||    CALCULATOR    SCREEN DUMP
M E N U ||    ALARMS      INSTALL  EXIT
```

From Valet's Main Menu, select option **I** to install a printer. The Install Menu will then appear on the screen.

```
I N S T A L L || EPSON  AXIOM  OKI 83A  OKI 84 STEP 2
M E N U       || ANADEx  C.ITOH OKI 84  MANNESMANN
```

Type the letter shown in parenthesis for your printer selection and then press **ESC** to return to the Main Menu. You may then select an option from that menu to continue Valet processing or press **ESC** again to return to the interrupted program.

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Calculator

Overview

Valet's RPN calculator function provides the capability for temporarily exiting from a program, performing a quick (or complex) calculation, and returning directly to the interrupted program.

Using the RPN logic system, Valet's calculator allows you to perform complex calculations easily. RPN, which is short for Reverse Polish Notation (really!), is used by Hewlett-Packard and other pocket calculator manufacturers. If you are not familiar with RPN, the exercises in this chapter will step you through a number of calculations using this logic system.

Besides the four basic functions (add, subtract, multiply, and divide), Valet's calculator supports scientific notation and uses an eight-level automatic register stack as a last-in-first-out temporary storage area for storing operands and intermediate results.

Eight different memory registers may also be maintained manually. Four of these registers are retained for storing constants between calculator sessions; the other four are cleared when you exit from the calculator.

Since Valet's calculator is not limited by a one-line display, the stack and memory registers are displayed and updated on the screen as an operation is performed. Numbers are displayed to 14 digits and fractions to 13 digits before conversion to scientific notation.

Activate the Calculator

Like other Valet functions, the calculator is accessed from Valet's Main Menu. The Main Menu is accessed by activating Set-Up Mode and pressing the **TAB** key. Then press **C** to select the calculator function.

```

M A I N ||  CALCULATOR  SCREEN DUMP
M E N U ||  ALARMS      INSTALL  EXIT
```

Bypassing the Main Menu

Like other Valet functions, the calculator may be activated directly from Set-Up Mode without displaying the Main Menu. To bypass the Main Menu, activate Set-Up Mode and then press **C** to activate the calculator.

Calculator

Exiting from the Calculator

When your calculation is complete, press the **ESC** key to return to the Main Menu, and then press **ESC** again to return to the program that was interrupted for Valet processing.

Number Keys

10-Key Mode is automatically activated when the calculator is selected, and automatically deactivated when you exit from the calculator program.

When 10-Key Mode is activated, certain letter keys are interpreted as numbers or math functions to emulate a 10-Key pad on the Attache keyboard.

10-Key Mode Key Conversion

M or 0 = 0

J or 1 = 1

K or 2 = 2

L or 3 = 3

U or 4 = 4

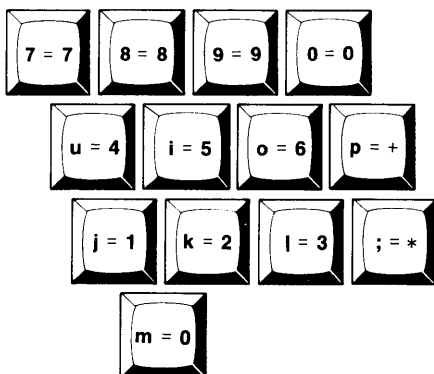
I or 5 = 5

O or 6 = 6

7 = 7

8 = 8

9 = 9



To enter numbers for calculator operation, you can use either the letter keys from the simulated 10-key pad or the number keys on the top row of the keyboard, or both interchangeably.

Function Keys

Add, subtract, divide, and multiply functions can also be performed either from the simulated 10-key pad or from the normal typewriter keys.

On the 10-key pad, the letter P indicates addition and the semicolon key indicates multiplication. These keys may be used interchangeably with the typewriter keys for addition (+) and multiplication (*). Calculator functions are activated as follows:

Minus = - Multiply = ; or * Plus = P or + Divide = /

Additional Calculator Keys

In addition to the number keys and math function keys, the following keys may be used for Valet's calculator:

.	Decimal Point.
ESC	Exits the calculator and returns to the Main Menu.
RETURN	The Enter key. Separates numbers in a calculation and rolls figures up the stack.
UP ARROW	Same as the RETURN key.
DOWN ARROW	Rolls figures down the stack.
LEFT ARROW	Moves the cursor to the left.
BACK SPACE	Same as the LEFT ARROW key.
X	Exchange. Swaps values in the X and Y registers.
N	Negate. Changes the sign in the current entry or X Register from + to - or - to +.
S	Store. Copies the value in the X Register to a specified memory register.
C	Clear. Clears the X Register or the current entry.
R	Recall. Places the contents of a specified memory register in the X Register and bumps the previous contents of the X Register to the Y Register.
T	Recalls the value that was displayed prior to the last function and bumps the previous contents of the X Register to the Y Register.
E	Enters scientific notation.

Calculator

RPN Logic System

RPN operates on a very simple theory - every calculation can be reduced to a series of two-number operations. For each operation, both numbers must be in the calculator before the function is defined.

This is quite easy to learn. The first number is keyed and **RETURN** is pressed to separate the first number from the second number.

The second number is then keyed and a function key is pressed to define the operation (add, subtract, multiply, or divide).

The function is performed automatically and immediately on the two numbers when the function key is pressed.

For example, $2 + 3$ is performed by pressing **2 RETURN 3 +** in sequence and the answer 5 is displayed.

No matter how complex the calculation, RPN handles it as a series of two-number operations. You only work with one function at a time.

For complex calculations, intermediate results are automatically stored and retrieved on a last-in first-out basis.

Even with the most complex calculations, you still only work with one function at a time, just as you would if working with pencil and paper.

Calculator Display

The calculator is displayed on the screen with the cursor positioned at the numeric entry position for the X Register, which is located at the bottom of the stack on the lower left part of the display screen.

T. REG.		0.00		MEM. 8		0.00
S. REG.		0.00		MEM. 7		0.00
R. REG.		0.00		MEM. 6		0.00
Q. REG.		0.00		MEM. 5		0.00
P. REG.		0.00		MEM. 4		0.00
Z. REG.		0.00		MEM. 3		0.00
Y. REG.		0.00		MEM. 2		0.00
X. REG.		0.00		MEM. 1		0.00

Do not be intimidated by the display. While Valet's calculator is quite sophisticated, the number of registers that you actually use depends entirely on the complexity of your calculations.

Most calculations require only the X and Y registers on the display. Numbers are represented in all registers with up to 14 digits displayed. Fractions are represented to 13 digits.

Values requiring even more digits are represented by scientific notation on the display up to E 125 before an overflow condition occurs. An underflow condition occurs if the value is less than E -127.

X and Y Registers

For simple calculations, the X and Y Registers are the only areas of the display where figures appear. The X register is the "active" area for the current entry that is being keyed, and also serves as the first storage register in the stack.

```
Y. REG. | 0.00
X. REG. | 0.00
```

When you key a number, it appears as the current entry on the X Register line of the display. When **RETURN** or a function key is pressed, the number is "stored" in the X Register and another number can be keyed as the current entry.

For example, if you key 100 and press **RETURN**

```
Y. REG. | 0.00
X. REG. | 100      (first number)
```

The number you keyed was displayed as the current entry in the active area when it was keyed. When **RETURN** was pressed, the number was stored in the X Register.

When a second number is keyed, that number appears as the current entry on the X Register line of the display and the first number is "bumped" up to the Y Register.

For example, if you key 50

```
Y. REG. | 100      (first number)
X. REG. | 50       (second number)
```

The first number is now stored in the Y Register and the second number is displayed in the active area of the X Register.

Calculator

When a function key is activated, the function is performed on the numbers displayed in the X and Y registers. The result of the calculation is stored in the X Register.

For example, if you press the + key

Y. REG. | 0.00 (cleared)

X. REG. | 150 (the result of the calculation $100 + 50$)

Notice in the example above that the X Register is highlighted on the display before any entries are made, but when a number is keyed, the new number is not highlighted. Then when the value is "stored" in the X Register, it appears highlighted again.

Highlighting differentiates between the current entry and the stored value in the X Register. The stored value is highlighted and the current entry appears without screen highlighting.

Note: the result of a calculation appears highlighted because that value is now stored in the X Register. Additional operations could be performed using this result since that value is now stored in the X Register.

When another number is keyed, the result of the previous operation becomes the first number in the next calculation and is bumped to the Y Register, just as the first number was bumped when the second number was entered in the previous example.

For example, if you key 10

Y. REG. | 150 (the previous result becomes the new first number)

X. REG. | 10 (the new second number)

and then press *

Y. REG. | 0.00 (cleared)

X. REG. | 1500 (the result of the calculation 150×10)

The calculation has now expanded to 100 plus 50 times 10. You could continue chaining operations like this using only one function and two numbers at a time.

For example, you could divide the result of the previous calculation by three. The problem is now 100 plus 50 times 10 divided by 3.

Key 3 and press /

Y. REG. | 0.00 (cleared)

X. REG. | 500 (the result of the calculation $1500 / 3$)

The answer 500 is displayed (and stored) in the X Register.

For more complex calculations, you will still be working with only one function and two numbers at a time. Intermediate results will be moved farther up the stack and then retrieved automatically after additional two-number calculations have been made.

Each intermediate result will be made independent of the other calculations and stored. Calculations will then be made on the results of these independent operations.

The role played by the **RETURN** and function keys in moving values up and down the stack will become clear as the sample problem is worked out on the following pages.

The **RETURN** key will indicate a new set of values that are being used independently of the previous calculations and move existing values up the stack.

The function keys (add, subtract, multiply, and divide) will perform operations on the values in the X and Y Registers. Values will move back down the stack automatically as X and Y become a single new value (the result of the operation).

Other Registers

Directly above the X and Y Registers on the calculator display are registers labelled Z, P, Q, R, S, and T.

T. REG.	 	0.00
S. REG.	 	0.00
R. REG.	 	0.00
Q. REG.	 	0.00
P. REG.	 	0.00
Z. REG.	 	0.00
Y. REG.	 	0.00
X. REG.	 	0.00

Calculator

These registers are also in the stack. When a calculation requires storing intermediate results in addition to those stored in the X and Y registers, values are stacked in ascending order in these registers and then retrieved on a last-in first-out basis as calculations are made.

Continuing with the example on the previous pages, the X Register now displays 500 (which is the result of $100 + 50 \times 10 / 3$).

Y. REG. | 0.00 (cleared)

X. REG. | 500 (the result of the calculation $1500 / 3$)

A more complex calculation will require storing values for retrieval and inclusion in the calculation at a later time. Suppose that the total problem is as follows:

$$\frac{(100 + 50) \times 10 / 3}{25} \times \frac{(5 \times 30)}{2}$$

So far, the top half of the left side of the problem ($100 + 50 \times 10 / 3$) has been calculated and the result (500) is stored in the X Register.

The next step is to divide this value by 25.

Key 25

Y. REG. | 500 (the previous result)

X. REG. | 25 (the new number)

and then press /

Y. REG. | 0.00 (cleared)

X. REG. | 20 (the result of the calculation $500 / 25$)

The previous result (500) is bumped to the Y Register when the new number (25) is keyed. The function (/) then divides 500 by 25. The result (20) is then displayed (and stored) in the X Register.

The next step in the problem requires a calculation (5×30) that is independent of the previous calculations, but the results of the previous calculation must be retained for inclusion at a later time.

The **RETURN** key will separate the previous result from the current calculation by bumping that value up the stack.

Key 5

Y. REG. 	20	(the previous result)
X. REG. 	5	(the new number displayed as the current entry)

and then press **RETURN**

Y. REG. 	20	(the previous result)
X. REG. 	5	(the new number stored in the X Register)

Notice that "5" became highlighted when you pressed **RETURN**. This indicates that "5" is now the stored value in the X Register (previously 5 was the displayed value). The intermediate (20) was bumped to the Y Register when the current entry was keyed.

In all of the previous calculations, the second number was keyed and then a function was performed. The value that was actually stored in the X Register was the result of the operation, not the second number.

By pressing **RETURN** instead of a function, you have indicated that a new calculation is being made independent of the previous operations.

The new value in the X Register (5) is the first number in the new calculation and the second number (30) will be entered next.

Key 30

Z. REG. 	20	(the intermediate result from prior operations)
Y. REG. 	5	(the first number in the new operation)
X. REG. 	30	(the second number in the new operation)

The first number in the new calculation has been bumped to the Y Register and the previous intermediate that was in the Y Register is now bumped to the Z Register. The second number in the new calculation is the current entry.

Calculator

Press *

Z. REG. | 0.00 (cleared)
Y. REG. | 20 (the intermediate result from prior operations)
X. REG. | 150 (the result of the calculation 5 x 30)

The result of the calculation (5 x 30) is now stored in the X Register and the previous intermediate that was in the Z Register (20) has moved down the stack to the Y Register.

Look again at the calculation in its entirety.

$$\frac{(100 + 50) \times 10 / 3}{25} \times \frac{(5 \times 30)}{2}$$

The left side of the problem has been solved and the result (20) is stored in the Y Register. The top half of the right side of the problem has been solved and the result (150) is stored in the X Register.

Completing the calculation will now require dividing the contents of the X Register by 2 and multiplying that result by the contents of the Y Register.

Key 2

Z. REG. | 20 (the intermediate result from prior operations)
Y. REG. | 150 (the result of the calculation 5 x 30)
X. REG. | 2 (the current entry)

The contents of the X and Y registers are now bumped up to the Y and Z Registers and the number just keyed is the current entry.

Press /

Z. REG. | 0.00 (cleared)
Y. REG. | 20 (the intermediate result from prior operations)
X. REG. | 75 (the result of the calculation 150 / 2)

Calculator

The result of the calculation (150 / 2) is now stored in the X Register and the previous intermediate that was in the Z Register (20) has moved down the stack to the Y Register.

All that is left in the calculation is to multiply the contents of the X Register by the contents of the Y Register.

Press *

Z. REG.	 0.00	(cleared)
Y. REG.	 0.00	(cleared)
X. REG.	 1500	(the result of the calculation 75 x 20)

The result (1500) is now stored in the X Register and the Y Register is cleared. As you can see, it would take a fairly complex problem to use more than the X, Y, and Z registers for storing intermediate results.

Memory Registers

The eight registers on the right side of the calculator display are the memory registers. These registers allow you to manually store and recall constants or set aside numbers for use in later calculations.

	MEM. 8		0.00
	MEM. 7		0.00
	MEM. 6		0.00
	MEM. 5		0.00
	MEM. 4		0.00
	MEM. 3		0.00
	MEM. 2		0.00
	MEM. 1		0.00

Values placed in the top four memory registers (5 - 8) are retained even when the unit is powered down. Several values are preset in these registers but may be changed at any time.

Values in the lower four registers (1 - 4) are cleared automatically when you exit from the calculator function.

Calculator

Storing Numbers

The memory registers provide a convenient permanent storage area for retaining constants that are used frequently and for temporarily storing numbers that will be used again in the same session with the calculator.

Numbers may be copied from the X Register to any of the eight memory registers on the right side of the display by pressing the **S** key. The display will prompt **STORE** when **S** is pressed. Type the number of the register to copy to (1 to 8) and the value is copied to that register.

Figures stored in registers one through four are automatically cleared when you exit from the calculator.

Figures stored in registers five through eight are permanently stored until another entry is stored in the same register.

Storing an entry in a register that already has numbers stored in it results in the new entry overwriting the old entry.

Recalling Numbers

Numbers may be copied from any of the eight memory registers to the X Register by pressing the **R** key.

The display will prompt **RECALL** when **R** is pressed. Type the number of the register to recall (1 to 8) and the value is retrieved from that register.

The value that is recalled will be stored in the X Register, and the value that was previously stored in the X Register (if any) will be bumped to the Y Register.

Order of Entry

For complex problems with brackets inside of brackets, a good rule of thumb is to work from the innermost brackets first, just as you would if working the problem manually.

Negative Numbers

To type a negative number, enter the number and then press the **N** key. The number is changed to a negative number on the display. Pressing **N** again changes the number back to positive.

Clear the Current Entry

If you are in the process of entering a number, pressing **C** will clear the current entry. If you are not in the process of entering a number, pressing **C** will clear the X Register.

Overflow and Underflow

When the result of a calculation is larger than 14 digits, the figure is displayed using scientific notation.

When the result is even greater than scientific notation's upward limit (E 125), an overflow occurs. The display shows all 9's and E 126. This means you have exceeded the display capabilities of the calculator. Clear the entry to correct this condition.

Conversely, if the result of a calculation is so small that all thirteen digits on the display are zero, the figure is displayed using scientific notation.

If the number is even less than scientific notation can display (E -127), an underflow occurs. The display then shows all 9's and E 126. This means you have exceeded the display capabilities of the calculator. Clear the entry to correct this condition.

Roll the Stack Up or Down

Pressing the **RETURN** key or the **Up Arrow** Key will roll the contents of the stack upward.

For example, the contents of the Y Register will be bumped up to the Z Register and the contents of the X Register will be bumped up to the Y Register.

Pressing the **Down Arrow** key will roll the contents of the stack downward. For example, the contents of the Y Register will be moved to the X Register, and the contents of the Z Register will be moved to the Y Register.

Recall X Register

Press **T** to recall the contents of the X Register from the last operation. The number that is displayed will be the value that was displayed prior to the performance of a function.

Calculator

For example, if you add $2 + 3$, the result 5 is stored in the X register. If you press T, the value that was previously displayed (3) will be recalled to the X Register and the value 5 will be bumped up the stack to the Y Register.

Exchange X and Y Registers

Pressing the **X** key exchanges the contents of the X Register with the contents of the Y Register. What was in the X Register is now in the Y Register and vice versa. Pressing **X** again returns the registers to their original status.

Scientific Notation

Scientific notation is engaged by pressing **E**. This is a convenient numbering system for very large numbers or very small fractions.

Valet's calculator is capable of both displaying numbers in scientific notation and making calculations using numbers entered under scientific notation.

Under scientific notation, the value E on the display stands for the power of ten to the power represented by the next number keyed.

For example, rather than typing 2500000 for a calculation, you could just type 25 E 5. This is 25 times ten to the fifth power. The number will be converted to 2500000.

When using scientific notation, enter the first number (25 in the example above) and then press **E**. When E is displayed on the screen, key the second number (5 in the example above).

Sample Problems

Example # 1: $2 + 3$ (2 plus 3)

You key:

2	Current Entry = 2	displays current entry (2)
RETURN	X Register = 2	stores current entry (2) in X REG.
3	Y Register = 2	displays current entry (3) and
	Current Entry = 3	bumps X REG. (2) to Y REG.
+	Y Register = 0	adds 2 plus 3, stores result in X
	X Register = 5	REG. and clears Y REG.

Example # 2: $2 - 3$ (2 minus 3)

You key:

2	Current Entry = 2	displays current entry (2)
RETURN	X Register = 2	stores current entry (2) in X REG.
3	Y Register = 2	displays current entry (3) and
	Current Entry = 3	bumps X REG. (2) to Y REG.
-	Y Register = 0	subtracts 3 from 2, stores result
	X Register = -1	in X REG. and clears Y REG.

Example # 3: 2×3 (2 times 3)

You key:

2	Current Entry = 2	displays current entry (2)
RETURN	X Register = 2	stores current entry (2) in X REG.
3	Y Register = 2	displays current entry (3) and
	Current Entry = 3	bumps X REG. (2) to Y REG.
*	Y Register = 0	multiplies 3 times 2, stores
	X Register = 6	result in X REG. and clears Y REG.

Calculator

Example # 4: $2 / 3$ (2 divided by 3)

You key:

2 Current Entry = 2 displays current entry (2)
RETURN X Register = 2 stores current entry (2) in X REG.
3 Y Register = 2 displays current entry (3) and
 Current Entry = 3 bumps X REG. (2) to Y REG.
/ Y Register = 0 divides 2 by 3, stores result in X
 X Register = .666666666666 REG. and clears Y REG.

Example # 5: $(2 + 3) \times 4$ (2 plus 3 times 4)

You key:

2 Current Entry = 2 displays current entry (2)
RETURN X Register = 2 stores current entry (2) in X REG.
3 Y Register = 2 displays current entry (3) and
 Current Entry = 3 bumps X REG. (2) to Y REG.
+ Y Register = 0 adds 2 plus 3, stores result in X
 X Register = 5 REG. and clears Y REG.
4 Y Register = 5 displays current entry (4) and
 Current Entry = 4 bumps X REG. (5) to Y REG.
* Y Register = 0 multiplies 5 times 4, stores
 X Register = 20 stores result in X REG. and clears
 Y REG.

Example # 6: $\frac{(2 + 3) \times (4 - 1)}{5} \times (14 \times 4)$

You key

2 Current Entry = 2 displays current entry (2)
RETURN X Register = 2 stores current entry (2) in X REG.
3 Y Register = 2 displays current entry (3) and
 Current Entry = 3 bumps X REG. (2) to Y REG.

Calculator

+	Y Register = 0 X Register = 5	adds 2 plus 3, stores result in X REG. and clears Y REG.
4	Y Register = 5 Current Entry = 4	displays current entry (4) and bumps X REG. (5) to Y REG.
RETURN	Y Register = 5 X Register = 4	stores current entry (4) in X Reg.
1	Z Register = 5 Y Register = 4 Current Entry = 1	displays current entry (1) and bumps X Reg. (4) to Y REG. and Y REG. (5) to Z REG.
-	Z Register = 0 Y Register = 5 X Register = 3	subtracts 1 from 4, stores result (3) in X REG., moves Z Reg. (5) to Y REG. and clears Z REG.
*	Z Register = 0 Y Register = 0 X Register = 15	multiplies 5 times 3, stores result (15) in X REG. and clears Y REG.
5	Z Register = 0 Y Register = 15 Current Entry = 5	displays current entry (5) and bumps X REG. (15) to Y REG.
/	Z Register = 0 Y Register = 0 X Register = 3	divides 15 by 5, stores result (3) in X REG. and clears Y Reg.
14	Z Register = 0 Y Register = 3 Current Entry = 14	displays current entry (14) and bumps X REG. (3) to Y Reg.
RETURN	Z Register = 0 Y Register = 3 X Register = 14	stores current entry (14) in X REG. and bumps X REG. (3) to Y REG.
4	Z Register = 3 Y Register = 14 Current Entry = 4	displays current entry (4) and bumps X REG. (14) to Y REG. and Y REG. (3) to Z REG.
*	Z Register = 0 Y Register = 3 X Register = 56	multiplies 14 times 4, stores result (56) in X REG., moves Z REG. to Y REG. and clears Z REG.
*	Z Register = 0 Y Register = 0 X Register = 168	multiplies 3 times 56, stores result (168) in X REG., and clears Y REG.

Introduction

Set-Up Mode

Alarms

Screen Dump

Printer Install

Calculator

Appendixes



Valet Guide

Appendixes

Glossary

A>	Prompt which appears at the first column of a line on the screen to indicate that Drive A is logged and waiting for a command.
Alarms	Valet feature that allows you to schedule messages or commands for automatic retrieval and display at a specified time.
Alarm Menu	Menu that is used to access Valet's Alarm functions.
Alarm Number	A number from 1 to 6 that identifies a specific alarm (scheduled or available).
Alarm Scheduling	The process of setting an alarm for automatic retrieval and display at a specified time.
Alarm Type	Indicates the type of alarm (Message, Command Line, or Immediate Command Line).
B>	Prompt which appears at the first column of a line on the screen to indicate that Drive B is logged and waiting for a command.
BACK SPACE Key	Moves the cursor one column to the left on the line and deletes the character at that position.
Baud Rates	The number of bits per second transmitted between two electronic devices.
Bell	The Set-Up Mode function that activates or deactivates a software controlled bell sound.
Boot	The loading of CP/M programs and/or execution of diagnostic programs that occur when Attache is powered up.
Brightness	The Set-Up Mode function that allows the brightness of the display screen to be adjusted up or down.
Calculator	The Valet function that provides a four-function RPN calculator with an eight-level storage stack area and eight memory registers.
Calculator Display	The multi-level grid that appears on the display screen when Valet's calculator is activated.
Calculator Keys	Keys that may be used to perform calculator functions when Valet's calculator is activated.

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Cancel Alarms	The Alarm Menu function that is used to cancel alarms that have been scheduled for automatic retrieval and display at a later time.
Chaining Commands	The process of specifying a series of commands that will execute when a scheduled alarm is sounded.
Clear Alarms	The process of responding to a scheduled alarm, removing its contents from the message or command area, and returning the alarm number to the pool of available alarm numbers.
Clear Calculator	The process of removing an entry from the calculator's current entry area or from storage in one of the storage registers.
Click	Keyboard sounds that are activated or modified in Set-Up Mode.
Clock	Attache's battery powered 24-hour clock.
Command	An instruction to the computer.
Command Line	Alarm type that provides entry of a command for a scheduled alarm.
CP/M	The operating system used by Attache.
CTRL KEY	Modifier key used in conjunction with other keys for activating keyboard functions and operating modes.
Cursor	The movable highlighted rectangle on the display screen that indicates the current typing position where "you" are "at" on the display screen.
ED.COM	A CP/M Utility program that provides the facility for creating files.
Enter	Imputting a keyed value to the computer. For example, in the calculator function, the RETURN key is used to enter values.
Entire Screen	A screen dump option that prints all characters that are currently displayed on the screen (including both graphics and text).
ESC Key	Used to exit from Valet functions, and with the CTRL key to activate Set-Up Mode.
Exchange X and Y	Calculator function that exchanges the values that are displayed in the X and Y Registers.

File	A collection of like records stored under a single filename, such as a command file or a data file.
Function Keys	Calculator keys for performing addition, subtraction, division, or multiplication.
Graphics Only	A screen dump option that prints graphics characters from the display screen but ignores text.
Immediate Command	Alarm type that provides entry of a command for a scheduled alarm. Immediate command lines begin execution automatically when the alarm sounds.
Install	Valet Main Menu option that sets escape codes and other printer protocol automatically for graphics printers supported by the screen dump programs.
Install Menu	Menus containing printer selections that are displayed when the Install option is selected from Valet's Main Menu.
Keyboard Click	Keyboard sounds that are activated or modified in Set-Up Mode.
Keyboard Template	The area above the keyboard with printed instructions for activating keyboard multi-function commands.
Keyboard Volume	The Set-Up Mode command for determining the sound level of keyboard click.
LINE FEED Key	Used for sending line feeds to the printer for forms alignment prior to screen dump.
Main Menu	The menu containing options for activating Valet functions that is displayed when the TAB key is pressed from Set-Up Mode.
Memory Registers	Eight areas on the right side of the calculator display where values may be stored for later inclusion in a calculation.
MEM. 1 - 8	The memory registers in Valet's calculator function.
Menu	A table listing available command options.
Message	Alarm type that provides entry of a message that will be retrieved and displayed when the scheduled alarm sounds.

Glossary

Military Time	24-hour clock with hours 00 to 23, where 00:00 = midnight, 12:00 = noon, and 18:00 = 6 p.m.
Mode	One of a computer system's operating states which provide the means for keyboard multi-functions and other tasks where internal interpretations depend upon the active mode.
Negative Numbers	Numbers that are represented as negative values in Valet's calculator function.
No-File Menu	The main menu for word processing in WordStar-Plus.
Non-Document File	A data file created in WordStar-Plus that is not formatted as a document file and is normally used as a program editing file.
Number Keys	Keys that are used for entering numbers, including the top row of the keyboard and certain letter keys in the simulated 10-key pad area when 10-Key Mode is activated.
Operating System	The set of programs that run the computer hardware and interpret software commands. Attache uses an enhanced version of the CP/M operating system.
Overflow	Condition that occurs when when a calculation is made that exceeds the display capabilities of the calculator.
P Register	One of the temporary storage registers in the calculator's stack.
Print Menu	Menu that is displayed when Valet's screen dump function is activated.
PRINTER.VL2	Valet program file where escape codes and other printer protocols are stored for graphics printers that are supported by Valet for the screen dump function.
Printer Install	The process of selecting a graphics printer from Valet's Install function for use with the screen dump feature.
Q Register	One of the temporary storage registers in the calculator's stack.
Quick Text	Screen dump option that prints ASCII characters on any printer regardless of selections for the printer installation. Graphics and alternate character sets are ignored.

Recall MEM. Values	A calculator function that retrieves a value from a specified memory register and stores it in the X Register.
Recall X Register	A calculator function that redisplay the value that was displayed prior to the last function.
RPN Logic System	Reverse Polish Notation, the logic system that is used by Valet's calculator function.
Reschedule Alarms	The process of changing the scheduled date and time for an alarm to sound, either in advance or when the alarm sounds as scheduled.
RETURN Key	Used to "enter" a keyed value or "send" a command to the computer.
Review Alarms	Alarm Menu option for retrieving and revising a scheduled alarm.
Roll the Stack	The process of moving values up or down in the registers that comprise the "stack" in valet's calculator function.
.SUB File	A file that is created for retrieval by the SUBMIT program.
S Register	One of the temporary storage registers in the calculator's stack.
Schedule Alarms	The process of setting alarms for automatic retrieval and display at a specified date and time.
Scientific Notation	A convenient numbering system for representing very large numbers or very small fractions.
Screen Brightness	The Set-Up Mode function that allows the brightness of the display screen to be adjusted up or down.
Screen Dump	A Valet function that prints the contents of the display screen.
Set Alarms	The process of scheduling alarms for automatic retrieval and display at a specified date and time.
Set Clock	The process of setting the date and time in Attache's 24-hour clock (using the TIME utility).

Glossary

Set-Up Mode	Operating state used for setting or changing screen brightness, keyboard click sound, volume level, baud rates, etc., and for activating Valet's Main Menu or displaying the date and time.
SHIFT Keys	Modifier keys used for activating upper case as on a typewriter, and for activating multi-functions when used in conjunction with other modifier keys (such as CTRL).
Stack	The temporary storage registers on the calculator display where operands and other intermediate results are stored during a calculation.
Store Values	A calculator command that copies values from the X Register to a specified memory register.
SUBMIT	A CP/M Utility program that retrieves a specified .SUB file from the diskette.
System	The necessary hardware and software for a "computer" that is functionally complete. Sometimes used in reference to the operating system or a specific application software package that is being used.
T Register	One of the temporary storage registers in the calculator's stack.
TAB Key	Used to move the cursor to the next tab stop, and to activate Valet's Main Menu when pressed from Set-Up Mode.
Text Only	Screen dump option that prints text characters but ignores graphics characters on the display screen.
Time Utility	Attache Utility program that is used for setting the 24-hour clock.
Underflow	Condition that occurs when the result of a calculation is too small to be displayed by the calculator.
Utility Program	A program that is used to assist in the operation and maintenance of the computer.
Valet	Attache software programs that allow temporary interruption from a program to perform other operations and then return automatically to the interrupted program.
Valet Files	Files that contain the Valet programs.

VALET.VL2	One of the two Valet files contained on the Attache Software diskette. VALET.VL2 contains calculator programs, screen dump programs, alarm programs, and the current printer installation.
Valet's Main Menu	Menu containing Valet functions that is activated by pressing the TAB key while in Set-Up Mode.
X Register	One of the temporary storage registers in the calculator's stack.
XSUB	CP/M Utility program that automatically inserts predefined answers to operator prompts.
Y Register	One of the temporary storage registers in the calculator's stack.
Z Register	One of the temporary storage registers in the calculator's stack.
10-Key Mode	Operating state where certain keys emulate a 10-Key pad for numeric entry.
24-Hour Clock	Attache's battery powered clock that operates on military time, where hours are 00-23 and 00:00 = midnight, 12:00 = noon, 18:00 = 6 p.m., etc.

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