Butler
BUTLER ASSOCIATES, INC.

Full service distributor of computers/peripherals equipment

TO: AUTHORIZED VISUAL 1050 DEALERS

FROM: PATRICE MOORE

SUBJ: VISUAL 1050 TRAINING SEMINAR

DATE: 22 FEBRUARY 1984

DATE: 29 February 1984

LOCATION: Visual Technology
                   540 Main Street
                   Tewksbury, MA   01876
                   1-851-5000

TIME: 8:30 - 9:00   Coffee & Danish

                   - Introduction & Company overview
                   - Product Overview Competition
                   - Marketing / Co-op Fund
                   - Merchandising

                   12:00-12:45 Lunch (included)

                   1:00 - End   Tour of Visual Manufacturring
                   facility

Directions: (From Boston) Take 128 North to Rte 3 North
                   to 495 North exit, Proceed on 495 to your 2nd
                   exit-marked #38. Proceed down ramp taking a
                   left (now on main st., Visual is 1 mile on
                   your left.)

TO MY DEALERS:

I would like to thank you for becoming a 1050 Dealer.
There are certain steps that I believe necessary to succeed
in the marketplace. I welcome the opportunity to share them with
you.

First, you must gather your sources to get your prospects:

> --Boston Business to Business Book
> --Yellow pages of all surrounding towns
> --Chamber of Commerce Books
> --Business directories
> --Specialized journals (lawyers; architects)

Second, establish your territory--i.e., how far around
your establishment do you want to solicit.

Next, let's talk markets for the 1050:

> --Lawyers--wordprocessing and legal time and billing
> --Architects--specifications; outlines of specifications
>   proposals; spread sheets
> --Consultants of all types--reports

To sell, we must show the 1050!!!!!

> --Attached is a sales call log
> --Require HIT LISTS
> --Mail flyers and follow with phone calls
> --Organize shows/seminars for groups of professional people
and companies (your own premises or nearby inexpensive motels)

Promotion Bundle Margins

	Bundle 1 Tally Spirit	Bundle 2 Tally 160L	Bundle 3 Tally 180L	Bundle 4 Juki 6100
Visual 1050	$1885.00	$1885.00	$1885.00	$1885.00
Warranty	$0.00	$0.00	$0.00	$0.00
Cable	$0.00	$0.00	$0.00	$0.00
Printer	$95.00	$400.00	$610.00	$250.00
	----------	----------	----------	----------
Total Cost	$1980.00	$2285.00	$2495.00	$2135.00
Sell Price	$2894.00	$3293.00	$3593.00	$3094.00
Gross Profit	$914.00	$1008.00	$1098.00	$959.00
Margin	32%	31%	31%	31%

COMPETITION

VISUAL 1050 Competition

* General Overview

* Specific Competitors

* Resource Materials

Three Types Of Competitors

1) The Market Leaders

    - IBM
    - Apple
    - DEC
    - Radio Shack

2) The Low-Cost Bundlers

    - Kaypro
    - Morrow

3) The Premium-Quality Bundlers

    - Epson
    - VISUAL 1050

Selling Against The Market Leaders

General Observations:

1) No Bundled Software.

2) Hardware Option Cards Required.

3) Strong Price Competition Puts Presure On Reseller Margins.

Selling Against The Market Leaders

* V1050 Delivers Complete Solution At Significantly
  Lower Price. Unbundled Systems Can Cost A Bundle!

  - Software Is Included.
  - No Option Cards Required.

* V1050 Offers Better Hardware/Software Integration.

* V1050 Is Highly Standardized.

  - One SKU For Dealer/Distributor.
  - Simple Purchase Decision For User.

* V1050 Hardware Feature Set Is Strong.

* V1050 Is Not Over-Franchised.

Selling Against The IBM PC

* **IBM Costs $2,000 More For Comparable Configuration!**
  - Software Costs Extra.
  - Many Hardware Option Cards Required.

* IBM Offers Little Hardware/Software Integration.
  - No HELP Key.   - No Front-End Menu.

* VISUAL 1050 Has Many Hardware Advantages:
  - 25% More Disk Capacity Per Drive.
  - 50% Higher Screen Resolution.
  - 70% More Function Keys.
  - Tilt & Swivel Display.
  - Clock Is Standard, Not An Option.
  - Etc. Etc. Etc.

Selling Against Low-Cost Bundlers

General Observations:

1) Most Provide Bare Minimum Hardware.

  - Memory?
  - Disk Capacity?
  - Real-Time Clock?

  - Bit-Mapped Graphics?
  - Function Keys? Num Pad?
  - Etc. Etc. Etc.

2) Most Bundle Off-Brand Software.

3) Most Are Ergonomic Disasters.

  - Display.
  - Keyboard.
  - Packaging.

Selling Against Low-Cost Bundlers

1) V1050 Wins On Point-By-Point Hardware Spec Comparison.

2) V1050 Name-Brand Software Wins Against Off-Brand Software.

3) V1050 Wins On Ergonomics And Styling.

Selling Against The Kaypro 4

* VISUAL 1050 Beats Kaypro On Almost Every Significant Hardware Spec.

    - 60% Faster Z80 Clock Rate.
    - 100% More Memory Standard.
    - 80% Bigger Screen Area.

	V1050	Kaypro
- Bit-Mapped Graphics	YES	NO
- Function Keys	YES	NO
- Real-Time Clock	YES	NO
- Tilt & Swivel Display	YES	NO
- Cooling Fan	YES	NO
- Expansion Slots	YES	NO
- Programmable Characters	YES	NO

* VISUAL 1050 Name Brand Software Beats Kaypro Off-Brand Packages.

* Kaypro Offers No HELP Key Or Front-End Menu.

* VISUAL Offers Far Superior Ergonomics & Styling.

Selling Against The Premium-Quality Bundlers

It's The VISUAL 1050
Versus The Epson QX-10

Selling Against The EPSON QX-10

VISUAL 1050 Wins As A Solution Machine

V1050 Software Beats Valdocs In Many Ways:

- Though Hardware Is Similar, Valdocs Makes
  The System Crawl. WP Is EXTREMELY Slow!

- Valdocs Graphics Package Has Less Than 1/3
  The Features Of DR Graph.

- Valdocs Includes NO Spreadsheet Package.

- Valdocs Front-End Menu Not Soft-Key Oriented.

- Many Valdocs Bugs Have Been Reported.

Selling Against The EPSON QX-10

VISUAL 1050 Wins As A CP/M Machine

CP/M Plus Beats CP/M 2.2 In Many Ways:

- Larger Program Area (Translates To 40% Bigger Workspace In Multiplan.)

- Time And Date Support.

- On-Line HELP.

- Passsord Protection.

- Etc. Etc. Etc.

COMPETITIVE ANALYSIS

*MARKET LEADERS - IBM, APPLE

*LOW COST BUNDLE SYSTEMS - KAYPRO

*PREMIUM QUALITY BUNDLE SYSTEMS - EPSON QX-10

COMPETITIVE BRIEF - IBM-PC

COMPLETE SOLUTION PRICE $4,752 TO $5,452

SOFTWARE

No software is included with the system. It would cost hundreds of dollars more to purchase comparable software packages. There is no front end menu, integrated software or help key included with the IBM.

HARDWARE

All of the V1050 hardware features are extra on the IBM-PC. The monitor, monitor adapter, 64k, and operating system must be purchased separately to match the V1050 base system price. Serial, parallel and graphics board are also extra. See part one for the actual costs.

Besides the additional costs, the IBM still doesn't match up to the V1050 specs:

- The V1050 has 20% more disk storage.

- The V1050 has better screen resolution, 640x300 vs. 640x200.

- The IBM display doesn't tilt or swivel.

- The V1050 has 93 keys, 17 function keys to IBM's 83 keys with 10 function keys.

- The clock with battery back-up is optional on the IBM.

1- Includes CPU, 128k, keyboard, display, two disc drives, and,
operating system. Based on manufacturers information available
December, 1983.

	VISUAL 1050	IBM-PC
Base System Price (1)	$2695	$3538
Serial Port (RS232)	STD	120
Parallel Port	STD	150
Bit Mapped Graphics	STD	244
Business Graphics Software	STD	200-400
Word Processing Software	STD	200-500
Spreadsheet Software	STD	200-300
Communications Software	STD	100-200
Basic Language	STD	STD
Complete Solution Price	$2695	$4752-5452
Processor(s)	Z80A/6502	8088
-bit length	8	16
System Memory	128k	64k
-min. to r x.	128-256k	64-512k
-clock rat.	4mhz.	4.77mhz.
Display Memory	32k	40k
Dual Drive Capacity (Formatted)	800k	640k
-disk size	5 1/4	5 1/2
Display		
-type of display (CRT,LCD)	CRT	CRT
-pixel resolution	640 X 300	640 X 200
-inches	12	13
-lines x columns	25 X 80	25 X 80
-color option	NA	YES
-tilt & swivel (yes/no)	YES	NO
Keyboard		
-number of keys	93	83
-function keys	17	10
-detached (yes/no)	YES	YES
-tiltable (yes/no)	YES	YES
-numeric pad (yes/no)	YES	YES
-low profile (yes/no)	YES	YES
Internal Expansion Slots	2	2
Cooling Fan	YES	YES
Clock with Battery Back-up	YES	OPT.
Programmable Character Set	YES	NO
Front-end Menu	YES	NO
Integrated Software	YES	NO
Help Key	YES	NO
Operating System(s)	CP/M Plus	PC-DOS-MS-DOS-CP/M 86
Communications Supported		
-type	TTY	TTY: 3270
-file transfer included	YES	YES
-logging to disk	YES	YES
Warranty		
-program	90 DAY	90 DAY
-extended warranty/cost	$199 (retail)	275
Other Disk Formats Supported	Amigo (200k)	IBM COMPATIBLES
	DEC Rainbow	
	Kaypro II	

MARKETING BRIEF - IBM-PC

	VISUAL 1050	IBM-PC
Distribution Channel	DIST-DEALER	DEALER
Volume Discounts	300-1000 37%-42%	0-1200+ 28% 1200-2400+ 32% 2400+ 34%
Financial Assistance/ Floor Planning	NA	NO
Training	YES	YES
Co-op Allowance	3%/100%	NONE
National Advertising	YES	YES
Other Marketing Programs	OEM Program ISO's	OEM Program IBM Direct (National Sales) IBM Product Center's ISO's Educational Accounts GSA

MARKETING BRIEF - APPLE 2e

	VISUAL 1050	APPLE 2e
Distribution Channel	DIST-DEALER	REP-DEALER
Volume Discounts	300-1000 37%-42%	30-34%
Financial Assistance/ Floor Planning	NA	YES
Training	YES	YES (REP's)
Co-op Allowance	3%/100%	3%/75%
National Advertising	YES	YES
Other Marketing Programs	OEM Program ISO's	OEM Program Educational Program National Sales Program GSA ISO's

1- Includes CPU, 128k, keyboard, display, two disc drives, and operating system. Based on manufacturers information available December, 1983.

	VISUAL 1050	APPLE 2e
Base System Price (1)	$2695	$2390
Serial Port (RS232)	STD	195
Parallel Port	STD	165
Bit Mapped Graphics	STD	STD
Business Graphics Software	STD	200-400
Word Processing Software	STD	200-400
Spreadsheet Software	STD	200-300
Communications Software	STD	100-200
Basic Language	STD	STD
Complete Solution Price	$2695	$3450-4150
Processor's)	Z80A/6502	6502
-bit length	8	8
System Memory	128k	64k
-min. to max.	128-256k	64-128k
-clock rate	4mhz.	1mhz.
Display Memory	32k	----
Dual Drive Capacity (Formatted)	800k	280 k
-disk size	5 1/4	5 1/4
Display		
-type of display (CRT,LCD)	CRT	CRT
-pixel resolution	640 X 300	280 X 192
-inches	12	12
-lines x columns	25 X 80	24 X 80
-color option	NA	YES
-tilt & swivel (yes/no)	YES	NO
Keyboard		
-number of keys	93	63
-function keys	17	2
-detached (yes/no)	YES	NO
-tiltable (yes/no)	YES	NO
-numeric pad (yes/no)	YES	NO
-low profile (yes/no)	YES	NO
Internal Expansion Slots	2	8
Cooling Fan	YES	NO
Clock with Battery Back-up	YES	OPT.
Programmable Character Set	YES	NO
Front-end Menu	YES	NO
Integrated Software	YES	NO
Help Key	YES	NO
Operating System(s)	CP/M Plus	APPLE DOS-CP/M/MS-DOS
Communications Supported		NONE
-type	TTY	----
-file transfer included	YES	----
-logging to disk	YES	----
Warranty		
-program	90 DAY	90 DAY
-extended warranty/cost	$199 (retail)	$199
Other Disk Formats Supported	Amigo (200k)	----
	DEC Rainbow	
	Kaypro II	

KAYPRO 4 (portable)

COMPLETE SOLUTION PRICE $1,970 TO $2,170

SOFTWARE

   Kaypro bundles in a variety of applications software within
the price of the system--CP/M and S-basic, Profit Plan, Perfect
Writer, Perfect Speller, Perfect Filer, Perfect Calc, Basic 80
and Word Plus. In addition, Kaypro offers a choice of word
processing, electronic spreadsheet and data base management
packages. The Perfect series of applications software has less
features, is hard to use, and has poor documentation. Kaypro
tends to bundle non-brand name software, however, occasionally
will offer a market leader.

   The only application they don't bundle in is a communications
package.

   There is no front end menu, integrated software or help key
on the system..

   Kaypro uses version 2.2, an older version of CP/M. 3.0 has a
larger TPA, time and date stamping, passwork protection, and is
crash proof.

HARDWARE

Most of the V1050 features are also included on the Kaypro 4,
however, most don't meet 1050 specs:

        - Kaypro's Z-80 chip runs at 2.5 mhz.
          It's almost twice as slow as the V1050.

        - Kaypro has block graphics, with no option for
          an extended graphics card.

        - The Kaypro has a 9 inch screen.

        - The Model 4 doesn't have a 25th status line.

        - The Kaypro doesn't tilt or swivel.

        - The Kaypro only has 76 keys, with no function keys;
          there is also no programmable character set.

        - The keyboard is detached, but does not tilt.

        - There are no internal expansion slots.

        - There is no cooling fan included with the Model 4.

        - The Kaypro doesn't run other disk formats.

1- Includes CPU, 128k, keyboard, display, two disc drives, and
operating system. Based on manufacturers information available
December, 1983.

	VISUAL 1050	KAYPRO 4
Base System Price (1)	$2695	$1795
Serial Port (RS232)	STD	STD
Parallel Port	STD	STD
Bit Mapped Graphics	STD	NA
Business Graphics Software	STD	NA
Word Processing Software	STD	STD
Spreadsheet Software	STD	STD
Communications Software	STD	175
Basic Language	STD	STD
Complete Solution Price	$2695	$1970
Processor(s)	Z80A/6502	Z80
-bit length	8	8
System Memory	128k	64k
-min. to max.	128-256k	64-128k
-clock rate	4mhz.	2.5mhz.
Display Memory	32k	----
Dual Drive Capacity (Formatted)	800k	800k
-disk size	5 1/4	5 1/4
Display		
-type of display (CRT,LCD)	CRT	CRT
-pixel resolution	640 X 300	----
-inches	12	9
-lines x columns	25 X 80	24 X 80
-color option	NA	NO
-tilt & swivel (yes/no)	YES	NO
Keyboard		
-number of keys	93	76
-function keys	17	NO
-detached (yes/no)	YES	YES
-tiltable (yes/no)	YES	NO
-numeric pad (yes/no)	YES	YES
-low profile (yes/no)	YES	NO
Internal Expansion Slots	2	NONE
Cooling Fan	YES	NO
Clock with Battery Back-up	YES	NO
Programmable Character Set	YES	NO
Front-end Menu	YES	NO
Integrated Software	YES	NO
Help Key	YES	NO
Operating System(s)	CP/M Plus	CP/M 2.2
Communications Supported		OPT.
-type	TTY	SUPERTERM
-file transfer included	YES	YES
-logging to disk	YES	YES
Warranty		
-program	90 DAY	90 DAY
-extended warranty/cost	$199 (retail)	----
Other Disk Formats Supported	Amigo (200k)	----
	DEC Rainbow	
	Kaypro II	

MARKETING BRIEF - KAYPRO 4

	VISUAL 1050	KAYPRO 4
Distribution Channel	DIST-DEALER	DEALER
Volume Discounts	300-1000 37%-42%	30-34%
Financial Assistance/ Floor Planning	NA	ITT/Borg Warner
Training	YES	YES
Co-op Allowance	3%/100%	3%/75%
National Advertising	YES	YES
Other Marketing Programs	OEM Program ISO's	Educational Discounts National Accounts ISO's

COMPETITIVE BRIEF - EPSON QX-10

COMPLETE SOLUTION PRICE $3,195 TO $3,295

SOFTWARE

Epson is one of the only systems that does bundle software, however, Valdocs (Valuable Documents) is not off-the-shelf brand name software. The system is complicated even though Epson claims ease of use. There are reports of bugs in the system. The major problem is that the system runs very slowly. Another drawback with Valdocs is the calulator program. It is not a spreadsheet program.

Valdocs includes:

- CP/M 2.2, CP+ utilities package for CP/M
- Microsoft Basic-80
- a full word processor
- an information indexer for access to files
- an address book
- an electronic mail system
- a calculator
- an appointment book and notepad
- an event timer
- a clock and calendar
- a business graphics drawing system

The QX-10 uses an older version of CP/M. 3.0 has a larger TPA, time and date stamping, password protection, and is crash proof.

HARDWARE

Most of the V1050 hardware features are also standard on the Epson QX-10. There are some features that don't have the same spec as the 1050.

- The 1050 has 5% more disk space.

- The 1050 has 3 more function keys.

- The QX-10 will not run other disk formats.

- The QX-10 display does not tilt and swivel.

1- Includes CPU, 128k, keyboard, display, two disc drives, and operating system. Based on manufacturers information available December, 19f .

	VISUAL 1050	EPSON QX-10
Base System Price (1)	$2695	$2995
Serial Port (RS232)	STD	STD
Parallel Port	STD	STD
Bit Mapped Graphics	STD	STD
Business Graphics Software	STD	STD
Word Processing Software	STD	STD
Spreadsheet Software	STD	200-300
Communications Software	STD	STD
Basic Language	STD	STD
Complete Solution Price	$2695	$3195-3295
Processor(s)	Z80A/6502	Z80A
-bit length	8	8
System Memory	128k	64k
-min. to max.	128-256k	64-256k
-clock rate	4mhz.	4mhz.
Display Memory	32k	128k
Dual Drive Capacity (Formatted)	800k	760k
-disk size	5 1/4	5 1/4
Display		
-type of display (CRT,LCD)	CRT	CRT
-pixel resolution	640 X 300	640 X 400
-inches	12	12
-lines x columns	25 X 80	25 X 80
-color option	NA	NA
-tilt & swivel (yes/no)	YES	NO
Keyboard		
-number of keys	93	103
-function keys	17	14
-detached (yes/no)	YES	YES
-tiltable (yes/no)	YES	YES
-numeric pad (yes/no)	YES	YES
-low profile (yes/no)	YES	YES
Internal Expansion Slots	2	5
Cooling Fan	YES	YES
Clock with Battery Back-up	YES	YES
Programmable Character Set	YES	YES
Front-end Menu	YES	YES
Integrated Software	YES	YES
Help Key	YES	YES
Operating System(s)	CP/M Plus	CP/M 2.2
Communications Supported		
-type	TTY	VALDOCS
-file transfer included	YES	YES
-logging to disk	YES	YES
Warranty		
-program	90 DAY	90 DAY
-extended warranty/cost	$199 (retail)	NA
Other Disk Formats Supported	Amigo (200k)	----
	DEC Rainbow	
	Kaypro II	

MARKETING BRIEF - EPSON QX-10

	VISUAL 1050	EPSON QX-10
Distribution Channel	DIST-DEALER	DIST-DEALER
Volume Discounts	300-1000 37%-42%	38%-42%
Financial Assistance/ Floor Planning	NA	YES
Training	YES	YES
Co-op Allowance	3%/100%	3%-75%
National Advertising	YES	YES
Other Marketing Programs	OEM Program ISO's	National Accounts Educational Discounts ISO's

HARDWARE

HARDWARE

- EASE OF USE

- OPERATOR COMFORT

- FUNCTIONALITY

- SOFTWARE COMPLEMENTARY

KEYBOARD

1. KEYTRONICS QUALITY

2. N KEY ROLLOVER

3. AUTOREPEAT

4. AUDIBLE KEYCLICK

5. NUMERIC PAD

6. HELP KEY

AND MORE ....

CUSTOMIZED KEYS

1. 17 ENGRAVED COMMAND KEYS

2. CURSOR MOVEMENT KEYS
   ON THE NUMERIC PAD

BUT HOW DO THEY WORK?

WE WANT TO SAVE THE WORK THAT
WE HAVE DONE SO FAR AND HAVE
THE CURSOR RETURN TO WHERE WE
LEFT OFF.

NORMALLY, WORDSTAR WOULD
REQUIRE THE FOLLOWING:

↑ KS ↑ QP

A TOTAL OF <u>6</u> KEYSTROKES

THE 1050 REQUIRES:

F1 (SAVE)

<u>1</u> KEYSTROKE !

DISPLAY

1. BIT MAPPED GRAPHICS

2. PROGRAMMABLE CHARACTER SET

3. CHARACTERS OR VECTORS

4. SCREEN SAVER

DUAL DISK DRIVES

1. EASE OF USE

2. 800 KB ON LINE STORAGE

3. COMPATIBILITY

WINCHESTER PORT

1. 10 MEGABYTES

   = 13X THE ON LINE STORAGE
     CAPACITY OF DRIVES

2. FASTER ACCESS TO DATA

PARALLEL   SERIAL   WINCHESTER   TO MONITOR
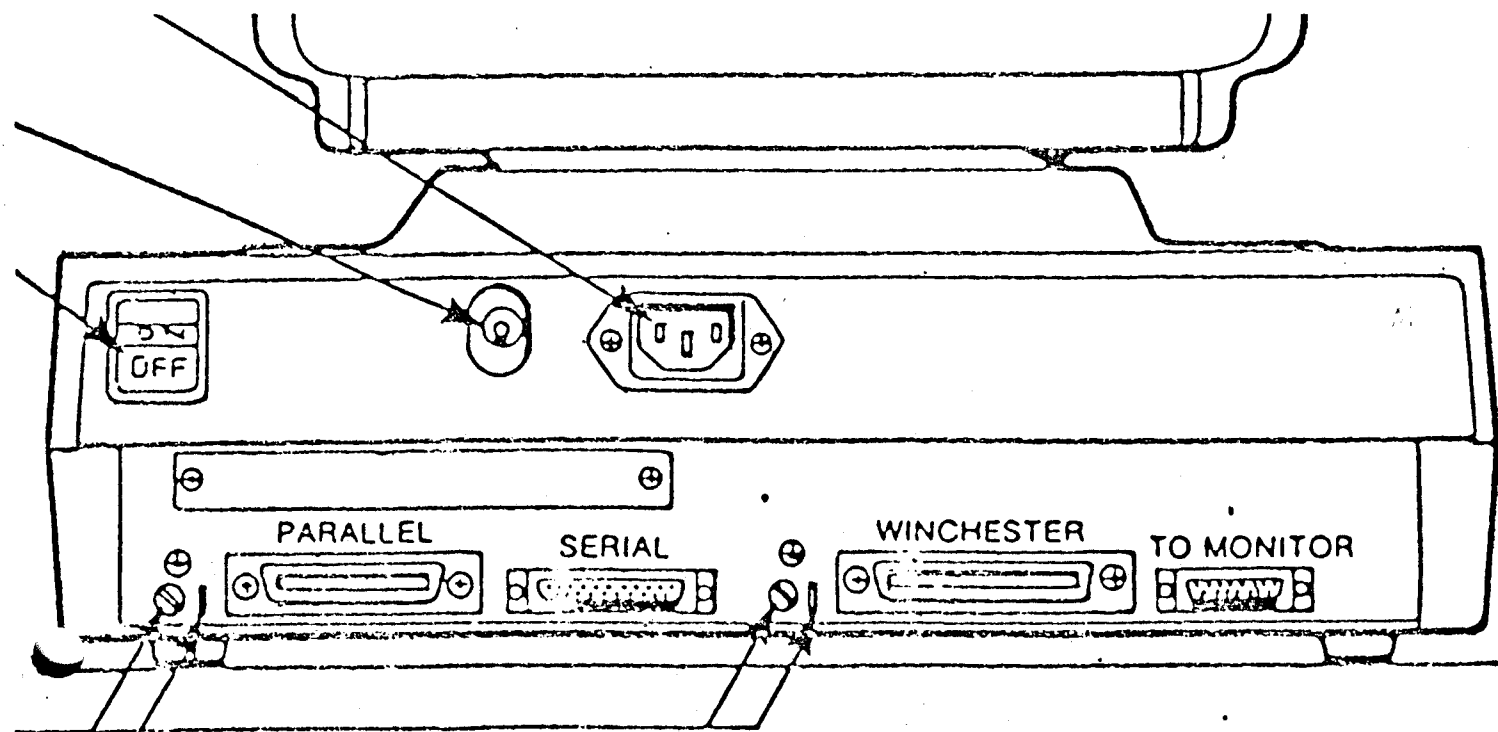
SERIAL AND PARALLEL PORTS

RS232 SERIAL PORT

    PLOTTERS

    PRINTERS

    DIGITIZING BIT PADS

    MODEMS

PARALLEL PORT

    CENTRONICS

BOTH STANDARD

DUAL PROCESSORS

INCREASED EFFICIENCY THROUGH
DIVISION OF LABOR

Z80A SYSTEM PROCESSOR

6502 DISPLAY PROCESSOR

INTERNAL MEMORY

1. 128K SYSTEM MEMORY

   A. FOR CP/M AND APPLICATION
     PROGRAMS

   B. LARGEST PROGRAM MEMORY AREA
     OF MANY CP/M, 8 BIT SYSTEMS

   C. GREATER EFFICIENCY

2. 32K DISPLAY MEMORY

INTERNAL EXPANSION

1. SYNCHRONOUS CARD

2. 128K ADDITIONAL MEMORY

    NOT ADDITIONAL PROGRAM
    MEMORY

    USED FOR DISK BUFFERING
    TO INCREASE SYSTEM
    PERFORMANCE

    SPR BASIS

SYSTEM SOFTWARE
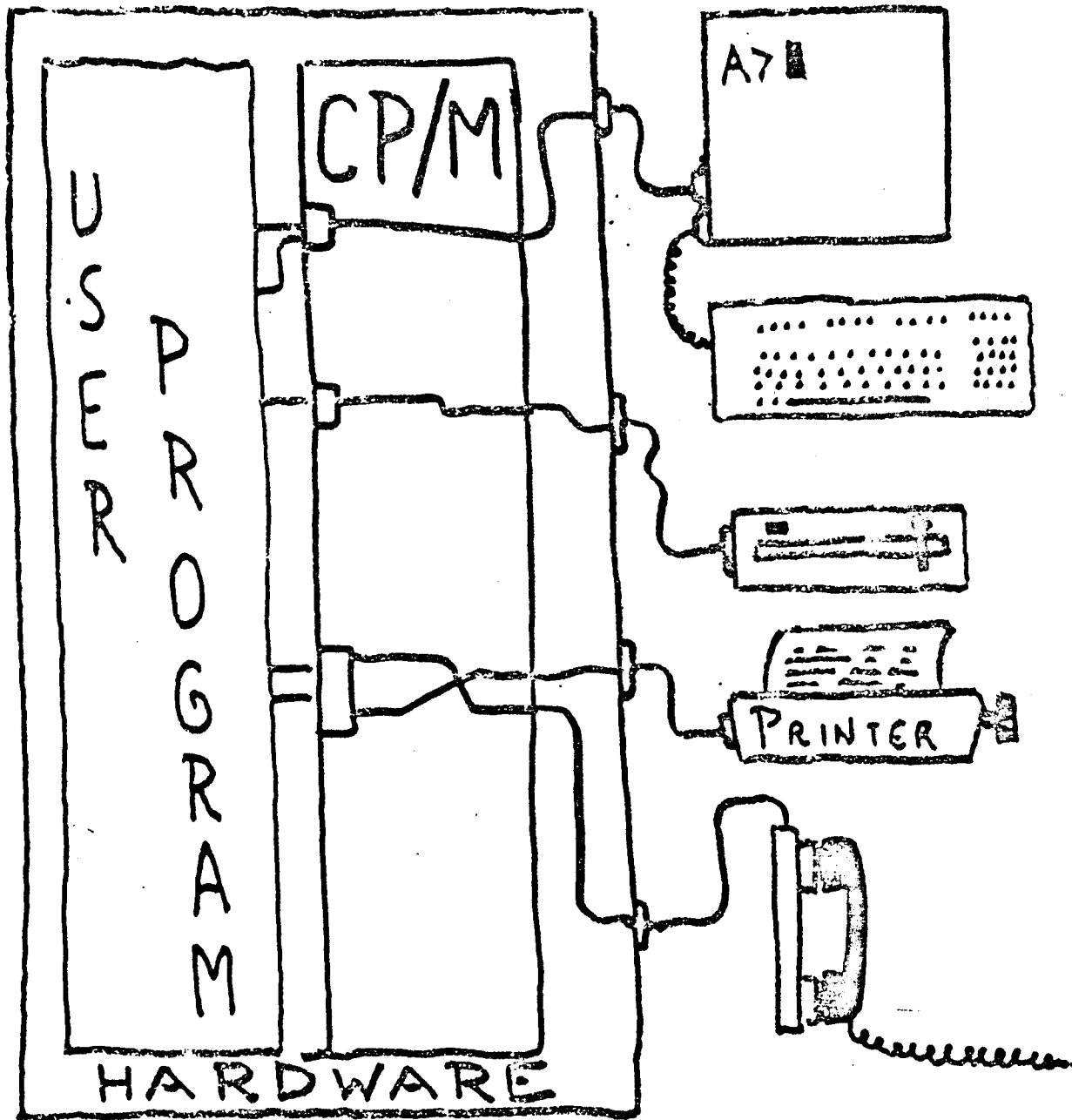
* The Operating System
  makes the hardware facilities
  available to user programs.

Why CP/M?

* In a word —

COMPATIBILITY

COMPATIBILITY

COMPATIBILITY

COMPATIBILITY

COMPATIBILITY

* 60 % OF ALL MICRO O/S's SOLD IN 1983 WERE CP/M
(January '84 HARDCOPY, page 73)

* PERHAPS 10,000 GENERAL- AND SPECIAL-PURPOSE
BUSINESS AND SCIENTIFIC PROGRAMS FOR CP/M

* 99 and 44/100 % OF THEM WILL RUN ON THE 1050 !!!!!

* HERE'S WHY:

Model 4
with CP/M
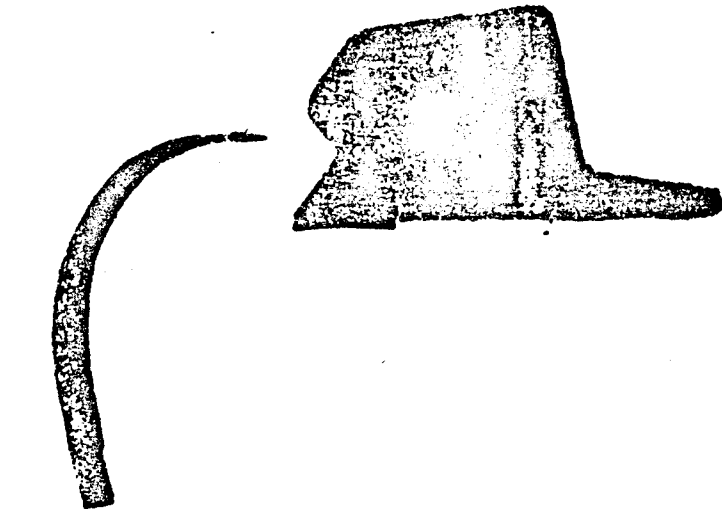
MULTIPLAN
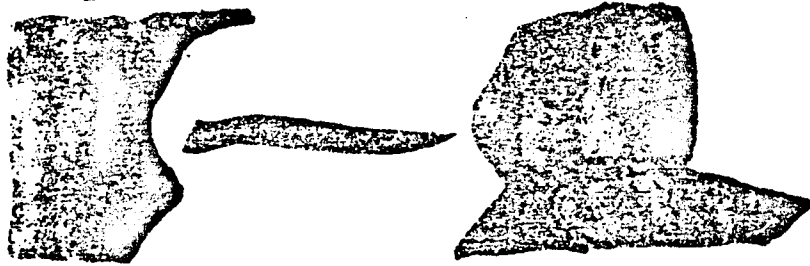
Apple IIe
with CP/M
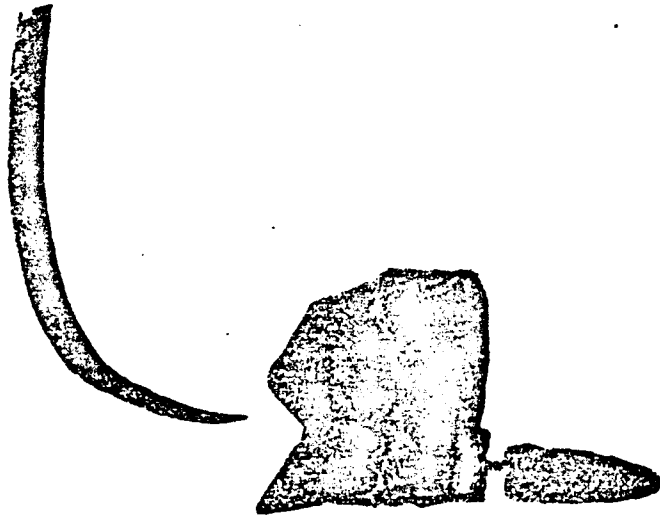
Commodore 64
with CP/M

THE SAME PROGRAM WORKS WITH ALL OF THEM
BECAUSE THE PROGRAM IS TALKING TO CP/M,
INSTEAD OF DIRECTLY TO THE COMPUTER.

VISICALC
for TRS-80
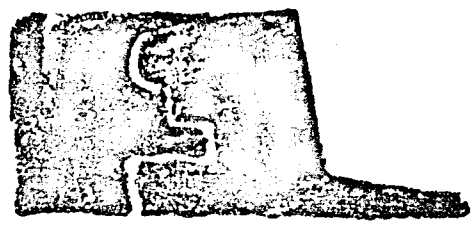
TRS-80
Model 4

VISICALC
for Apple II
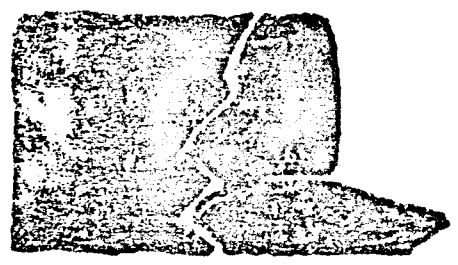
Apple IIe

VISICALC
for C-64
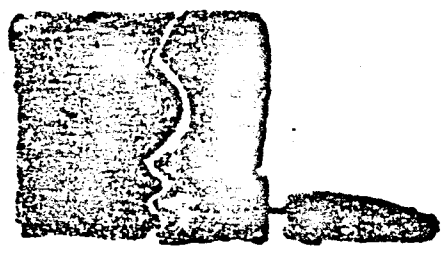
Commodore 64

* 3 PROGRAMS TO DO THE SAME JOB...

* SO EVERYTHING IS FINE, RIGHT?

WELL, There are (mumble)
a few details, er, uh, ...

PROBLEMS REMAINING WITH COMPATIBILITY

* SCREEN COMMANDS

* SPECIAL PRINTERS, PLOTTERS etc.

* DISK FORMATS

* DISK PROTECTION SCHEMES (Antipiracy measures)

SCREEN COMMANDS

* Most programs use the screen, so they must
  know how to control it.

* Unfortunately, everyone uses different
  terminal commands.

* So CP/M programs come with auxiliary programs
  which allow the user to install them for
  his or her particular terminal.

* A nuisance, but not as hard as it seems.

PRINTERS AND OTHER OUTPUT DEVICES

* Some programs require particular printers
  or plotters –– others can choose among several.

* This is a part of the same procedure used
  to install the program for different terminals.

PROTECTION SCHEMES

* Tend to cause problems in using the software

* Usually prevent hard–disk use

* For mostly technical reasons, used very
  little in CP/M

* So it is not much of a problem for us

DISK FORMATS

* Refers to the method of assigning and labelling space on the disk so that a particular computer can use it.

* For a number of good and bad reasons, practically every computer uses a different format. Any given piece of CP/M software is generally available in formats used by popular computers.

* The v1050 is not (yet) a popular computer, so there won't be much software available in our format for some time to come -- probably fewer than fifty packages.

* But it doesn't matter, because we can read:

    * KAYPRO
    * DEC RAINBOW
    * AMIGO
    * and later, others such as Eagle, Osborne and so forth.

* The only types we physically cannot read:

    * Double sided disks
    * Hard sectored disks (North Star and some Heath/Zenith)

UTILITY MANAGER

- MENU DRIVEN PROGRAM

- ACCESSES CP/M and
  APPLICATION PROGRAMS

- 1050 IS INSTANTLY USABLE

F1 run application programs

F2 run user defined programs

F3 disk drive storage
   and space information

F4 file directory for each drive

F5 rename, erase, or copy files

F6 format and copy disks

F7 set system parameters

APPLICATION

SOFTWARE

WORDSTAR
FEATURES BENEFITS

1. MOST WIDELY USED

2. ON SCREEN FORMATTING

3. HANDLES LARGE FILES

4. V1050 FUNCTION KEYS

A WINNER MADE BETTER

MAILMERGE

PARTNER TO WORDSTAR

1. SOPHISTICATED PRINTING TASKS

2. PERSONALIZED FORM LETTERS

3. CONTRACTS OR STANDARD DOCUMENTS

4. JOINING FILES

5. CONDITIONAL PRINTING

WORDSTAR MAILMERGE

A POWERFUL TEAM

1. WIDELY USED
    less retraining time
    compatibility
    support

2. 1050 FUNCTION KEYS
    ease of learning
    ease of use
    eliminates weaknesses
    ENHANCES A PROVEN WINNER!

3. ON SCREEN FORMATTING
    "what you see is what you get"

4. MAILMERGE
    A STRONG PARTNER

FEATURE	WS	PW
ease of learning	X	
on screen formatting	X	
simultaneous edit/print	X	
mnemonic commands	X	
recover deleted text		X
manage large files	X	
editing ease		X
multiple documents		X

MULTIPLAN

REPLACES YOUR PEN, PAPER, AND CALCULATOR

AN ELECTRONIC WORKSHEET
255 ROWS LONG
and 63 COLUMNS WIDE

NUMBERS, WORDS, and FORMULAS

MULTIPLAN SCOPE

AN INTERACTIVE WORKSHEET TOOL
—FOR—

DECISION ANALYSIS
Pricing
Financial Planning
Proforma Analysis

REPORTING
Variance Reporting
Budgets
Estimates

—AND—

Any application involving Row and Column computations

- MULTIPLAN is not a single pre-set worksheet, but rather a tool that can be used to create many types of worksheets.

- The two general categories are decision analysis, such as financial planning, and reporting, such as variance reporting.

- In general, any application involving row and column computations can be made simpler with MULTIPLAN.

AN ELECTRONIC WORKSHEET

```
#1              1               2          3          4          5          6
  5 Market Size             10000000   10000000   10000000   10000000   10000000
  6 Market Share                3.00%     12.00%     20.00%     22.00%     25.00%
  7
  8 Volume                    300000    1200000    2000000    2200000    2500000
  9 Price/Unit                  0.80       0.80       0.85       0.90       0.90
 10
 11 Revenue                   240000     960000    1700000    1980000    2250000
 12
 13 Product Introduction
 14 Cost                       50000
 15 Promotion                  30000      20000      20000      20000      20000
 16
 17 Sales Exp %                 0.08       0.08       0.08       0.08       0.08
 18
 19 Sales Expense              19200      76800     136000     158400     180000
 20                          --------   --------   --------   --------   --------
 21 Sales Cost                 99200      96800     156000     178400     200000
 22
 23 Net From Sales            140800     863200    1544000    1801600    2050000
 24
COMMAND: Alpha Blank Copy Delete Edit Format Goto Help Insert Lock Move
        Name Options Print Quit Sort Transfer Value Window Xternal
Select option or type command letter
R24C1
                                   97% Free        Multiplan: b:markcost
```
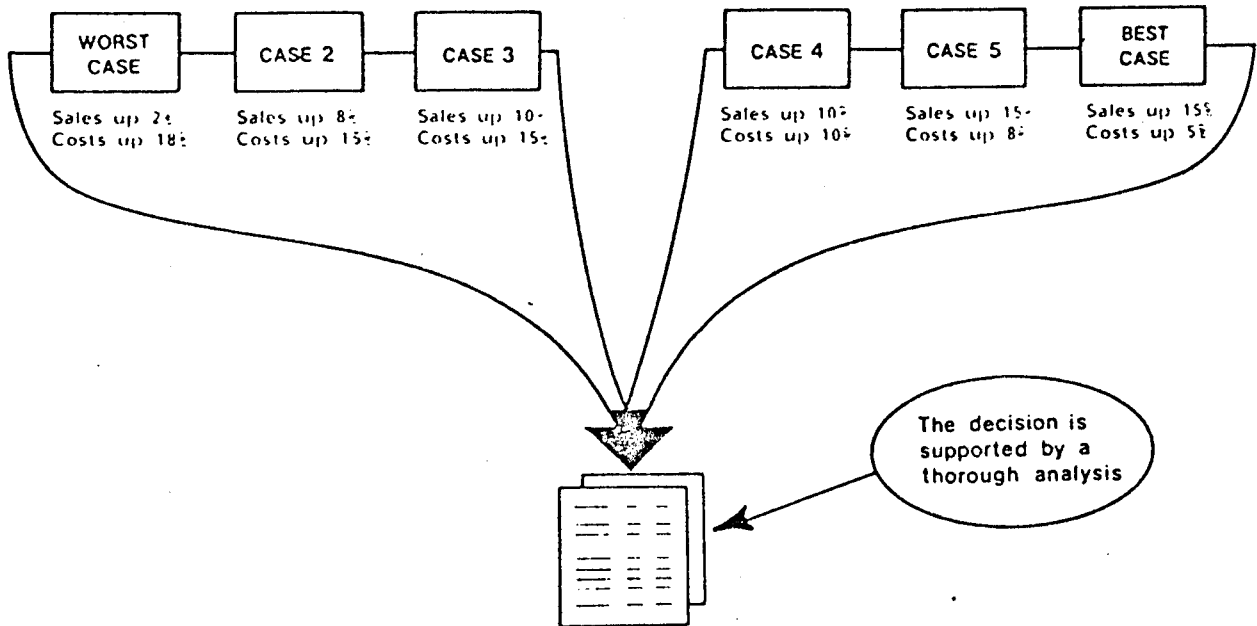
■ HAS ROWS AND COLUMNS (Cells are the Row and Column intercepts)

■ IS CREATED BY CELL OR BY GROUPS OF CELLS FOR
- Alphabetic values
- Data
- Formulas to calculate values

■ AN ELECTRONIC REPORT "WINDOW"

■ An electronic worksheet is similar to a manual spreadsheet. It has rows and columns.

■ A row-column intercept is called a cell.

■ A cell can have:
- Numeric data
- Alphabetic values
- A formula to compute values

■ You see a portion of the worksheet, or report, on the video display unit. This section is called a window and it may be moved all around so you can view any portion of the report.

INTERACTIVE WORKSHEET CREATION

```
#1            1              2          3          4          5          6
    5 Market Size      10000000   10000000   10000000   10000000   10000000
    6 Market Share      [ 3.00%]    12.00%    .20.00%    22.00%     25.00%
    7
    8 Volume           ( 300000 )  1200000    2000000    2200000    2500000
    9 Price/Unit                      0.80       0.85       0.90       0.90
   10
   11 Revenue          ( 240000 )   960000    1700000    1980000    2250000
   12
   13 Product Intro
   14        Cost        50000
   15 Promotion          30000      20000      20000      20000      20000
   16
   17 Sales Exp %                    8.0%       8.0%       8.0%       8.0%
   18
   19 Sales Expense    ( 19200 )    76800     136000     158400     180000
   20                  --------   --------   --------   --------   --------
   21 Sales Cost       ( 99200 )    96800     156000     178400     200000
   22
   23 Net From Sales   (140800 )   863200    1544000    1801600    2050000
   24
COMMAND: Alpha Blank Copy Delete Edit Format Goto Help Insert Lock Move
         Name Options Print Quit Sort Transfer Value Window Xternal
Select option or type command letter
R24C1                                       97% Free         Multiplan: a:markcos
```

■ CHANGING A VALUE IMMEDIATELY RECALCULATES AFFECTED CELLS

E.g. A new value (3%) in line 6 will automatically
affect lines 8, 11, 19, 21 and 23

■ The beauty of an electronic worksheet is that it allows you to create a report interactively.

■ This means that you will know immediately when you have data or formulas correctly entered.

■ You can change data or a formula at any time and then immediately see the affected cells change.

■ This is a big improvement over what users of large computers had to do. They had to define the logic, then input the data, then see if it would execute, and then wait until the job was scheduled to be run.

MULTIPLAN
DECISION EVALUATION

ALLOWS USERS TO EVALUATE MANY "WHAT IF" ALTERNATIVES

WORST CASE	CASE 2	CASE 3		CASE 4	CASE 5	BEST CASE
Sales up 2%	Sales up 8%	Sales up 10-		Sales up 10%	Sales up 15-	Sales up 15%
Costs up 18%	Costs up 15%	Costs up 15%		Costs up 10%	Costs up 8%	Costs up 5%

The decision is supported by a thorough analysis

- Decision making frequently involves testing the effects of many different assumptions, sometimes called "what ifs".

- This process is valuable because it helps the decision maker understand how each of the variables affect the outcome.

- The decision maker will know that the final decision was supported by a thorough analysis.

MULTIPLAN ADVANTAGES

1. FORWARD REFERENCING

2. COMMUNICATION WITH USER

3. ANTICIPATES YOUR NEXT ACTION

4. POWERFUL EDITING COMMANDS

5. CELL LOCKING

6. FORMULA DISPLAY

7. WINDOWS (8)

8. LINKING OF WORKSHEETS

9. NUMERIC PAD

MULTIPLAN CONVENIENCE
AND PRODUCTIVITY FEATURES

FORWARD REFERENCING

		1st Q	2nd Q	3rd Q
1				
2	Sales	400	400	500
3	Cost of goods	240	240	300
4		----	----	----
5	Gross Profit	160	160	200
50	Units	200	200	250
51	Price	2.00	2.00	2.00
52	Cost of goods %	60	60	60

(Price X Units)

(Sales X CGS %)

- Reports can be created exactly the way they will be printed
- Interim computations are not included on the report
- Detail or summary lines can be "what-if's" E.G. units or sales
- No "order of recalculation" or forward referencing problems

---

- Many of the first generation spreadsheets and planning languages produce inaccurate results if calculated data is at the bottom of the worksheet.

- With MULTIPLAN, the data can be any place in the report.

- As you see in our example, Units is after Sales (the calculation of price times units) but with MULTIPLAN there is no "order of recalculation" or forward referencing problem.

- This means reports can be created exactly the way you want them printed.

MULTIPLAN CONVENIENCE
AND PRODUCTIVITY FEATURES

COMMUNICATION WITH THE USER

- Both first time users and experienced users find it easy to communicate with MULTIPLAN.

- First, notice the cell pointer; it indicates the active cell.

- Next, notice the row of commands at the bottom of the screen with a command cursor. Commands are selected by pointing with the space bar or by typing the first letter of the command. All of these commands have subcommands and options.

- Next, notice that MULTIPLAN has a "next action message", which always tells you what to do next; this is especially helpful to beginning users.

MULTIPLAN CONVENIENCE AND PRODUCTIVITY FEATURES

PROPOSED RESPONSES

MULTIPLAN _ANTICIPATES_ YOUR NEXT ACTION

- BY REMEMBERING YOUR LAST ACTION
- BY PROJECTING WHAT YOU PROBABLY WILL DO NEXT

EXAMPLE

- If you copied the contents of one cell into multiple columns, Multiplan would propose the same number of copies on subsequent rows.

- If you just named a row with certain cell dimensions, Multiplan would anticipate that future cells would have the same dimensions.

- This MULTIPLAN feature really saves steps and keystrokes because it anticipates your next action or response based on what you did previously.

- For example, if you copied the contents of one cell into multiple columns, MULTIPLAN would propose the same number of copies on subsequent rows.

MULTIPLAN CONVENIENCE AND PRODUCTIVITY FEATURES

| EDITING COMMANDS | For Both Formulas and Data

- Forward & Backward Movement
- By Character or Word

| INSERTION OR DELETION |

- Full or Partial Rows or Columns

| CELL LOCKING |

- Protects a Value/Formula from Inadvertent Change

| FORMULA DISPLAY |

- Selected by Cell Position
- Entire Report

- AND - | WINDOWS |

■ It's easy to make changes with MULTIPLAN's powerful editing commands.

■ Insertion and deletion commands make it simple to change data, row titles or formulas.

■ Cell locking protects formulas and data from inadvertent change—especially useful when many people will use the same worksheet.

■ You don't have to guess or backtrack through your reports. You can have MULTIPLAN display the formulas for the entire report. This is very convenient when you haven't used a model for awhile, or for explaining the report to someone else.

YES,
MULTIPLAN DOES WINDOWS
...8 OF THEM

#1	1	2	3	4	#7	13	#8	17	18
1									
2		Jan	Feb	Mar		Qtr 3		Qtr 4	Total
3 Sales		1000	1000	1000		4200		4500	15300
4 Costs		600	600	600		2520		2700	9180
5		------	------	------		------		------	------
6 Gross Profit		400	400	400		1680		1800	6120
7									
8 Sales Exp		100	100	100		420		450	1530
9 Adm Exp		50	50	50		210		225	765
10									

#2	1	#3	5	#4	9	#5	13	#6	17	18
11										
12			Qtr 1		Qtr 2		Qtr 3		Qtr 4	Total
13										
14 Net Profit			90		108		126		135	459
15										

```
COMMAND: Alpha Blank Copy Delete Edit Format Goto Help Insert Lock Move
         Name Options Print Quit Sort Transfer Value Window Xternal
Select option or type command letter
R5C4        "------"                    95% Free        Multiplan: WINDOW
```

→ ALLOWS USERS TO VIEW SELECTED SECTIONS OF A REPORT
→ WINDOWS MAY BE LINKED (SCROLLED TOGETHER)
→ WINDOWS MAY BE BORDERED FOR HIGHLIGHTING

■ Yes, MULTIPLAN does windows—up to 8 of them, with borders.

■ This is very convenient, especially when you want to view the effects of a change on several sections of the report.

■ You can view the key cells simultaneously as you test different assumptions.

MULTIPLAN FUNCTIONAL FEATURES

LINKING OF WORKSHEETS

```
WORKSHEET #1
WORKSHEET #2 ──── WORKSHEET #4 ──── WORKSHEET #5
WORKSHEET #3
```
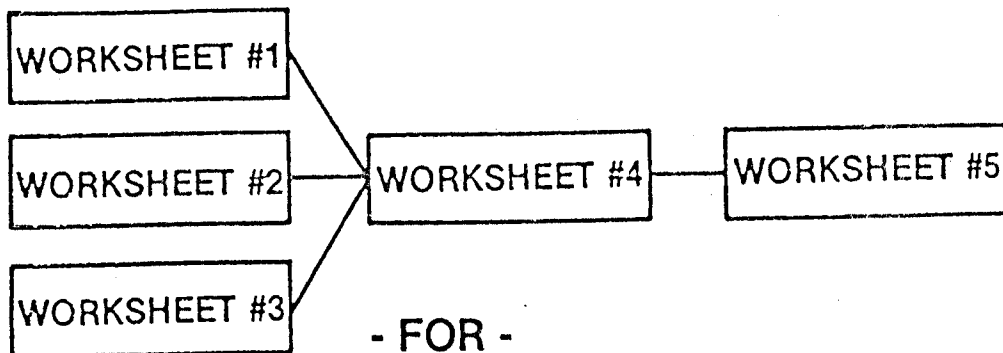
- FOR -
- Solving very large problems
- Consolidations
- Using the same data in multiple worksheets

- MULTIPLAN's functional features give it the power to solve difficult problems in very few steps. A good example is the ability to link worksheets.

- Worksheet linking is useful for doing consolidations. Regional sales forecasts can be linked to the company forecast; one part of a financial plan can be linked to another part.

- Once values are changed on supporting worksheets, they are automatically transferred and reflected on the dependent worksheets.

- This means very large applications can be developed by linking several worksheets together.

- It also helps to get around small memory sizes on some microcomputers.

MULTIPLAN
ADAPTABILITY FEATURES

FORMATTING

■ **COLUMN WIDTHS**   Vary entire report or individual column widths

■ **COMMAS**   Commas may be specified for the entire report

■ **ALIGNMENT**   Individual cells or groups of cells may be aligned by

- LEFT
- RIGHT
- CENTERED
- GENERAL (Text = Left, Numbers = Right)

■ **FORMAT TYPE**   Individual cells or groups of cells displayed with:

- DEFAULT SETTINGS
- FIXED POINT DECIMALS
- $
- SCIENTIFIC FORMAT
- $ and ( )
- INTEGERS
- BARCHART

■ With MULTIPLAN:
- Each column can have its own width
- Each cell can have its own alignment within a column
- Each cell can have its own format

■ There is no other worksheet system which provides all of these options, especially fixed point decimals and the use of commas in large numbers.
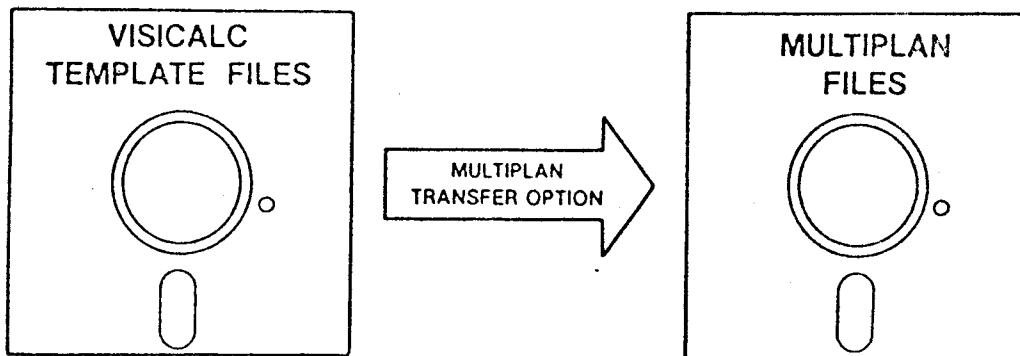
MULTIPLAN ADAPTABILITY FEATURES

AUTOMATIC CONVERSION UPGRADE FOR VISICALC® USERS

| COMMANDS | FUNCTIONS | TEMPLATES |

VISICALC TEMPLATE FILES

MULTIPLAN TRANSFER OPTION

MULTIPLAN FILES

- I am sure some of you have heard of VisiCalc; it was the first of the electronic worksheets.

- MULTIPLAN reads VisiCalc files directly so you can still use your existing VisiCalc files or read someone else's.

- This allows VisiCalc users to easily upgrade to MULTIPLAN's features.

MULTIPLAN
FORMULA REPORT


```
                 1                          2                    3
    1                          "Marketing Estimate
                               "
    2
    3
                               "Year 1"              "Year 2"
    4
    5  "Market Size"           10000000             [10000000]  ←── Values
    6  "Market Share"          0.03                 [0.12]      ←──
    7
    8  "Volume"                msize*mshare         [msize*mshare]
    9  "Price/Unit"            0.8                   0.8        ←── Calculations
   10
   11  "Revenue"              volume*price         [volume*price]
   12
   13  "Product Introduction"
   14  "Cost"                  50000
   15  "Promotion"             30000                20000
   16
   17  "Sales Exp %"           0.08                  0.08
   18
   19  "Sales Expense"         salesper*revenue     salesper*revenue
   20                          "---------"          "---------"
   21  "Sales Cost"            salesexp+promotion+  salesexp+promotion+
                               picost               picost
   22
   23  "Net From Sales"        revenue-salescost    revenue-salescost
```

■ With MULTIPLAN, you can have your formulas not only displayed,
but also printed.

■ This feature allows for easier development of very large models.

■ It also documents models for other people to understand.

MULTIPLAN
TAILORED REPORTS

HISTORY						PROJECTION			
1st Q	2nd Q	3rd Q	4th Q			1st Q	2nd Q	3rd Q	4th Q
——	——	——	——	Sales		——	——	——	——
——	——	——	——	Cost of Goods		——	——	·	——
——	——	——	——	Gross Profit		——	——	——	——
——	——	——	——	Selling G & A		——	——	——	——
——	——	——	——	Administrative Expenses		——	——	——	——
——	——	——	——	Operating Profit		——	——	——	——
——	——	——	——	Depreciation		——	——	——	——
——	——	——	——	Interest Expense		——	——	——	——
═══	═══	═══	═══	Net Before Tax		═══	═══	═══	═══
Company confidential								20% over last year	

● MOVE COMMANDS (Columns or Rows)

● TEXT or COMPUTED TEXT IN THE REPORT

■ You have total control over how words and numbers appear on a
  page. For example:
  - Put your row titles in the center
  - Frame history and projection areas with dashes
  - Use text values to highlight the report

FEATURE	MP	VCALC	SCALC
ENGLISH PROMPTS	○		
NAMING OF CELLS	●		
FORMATTING	●		○
SORTING	●		
COLUMN WIDTHS	●		●
WORKSPACE		●	●
PROTECTED CELLS	●		
LINKING	●		
WINDOWS	●	○	○
ON–LINE HELP	○		●

INFOWORLD PRODUCT OF THE YEAR 1982

DR GRAPH

USES GSX 80
  - an extension to CP/M

WIDE CHOICE OF GRAPH STYLES:
  - line
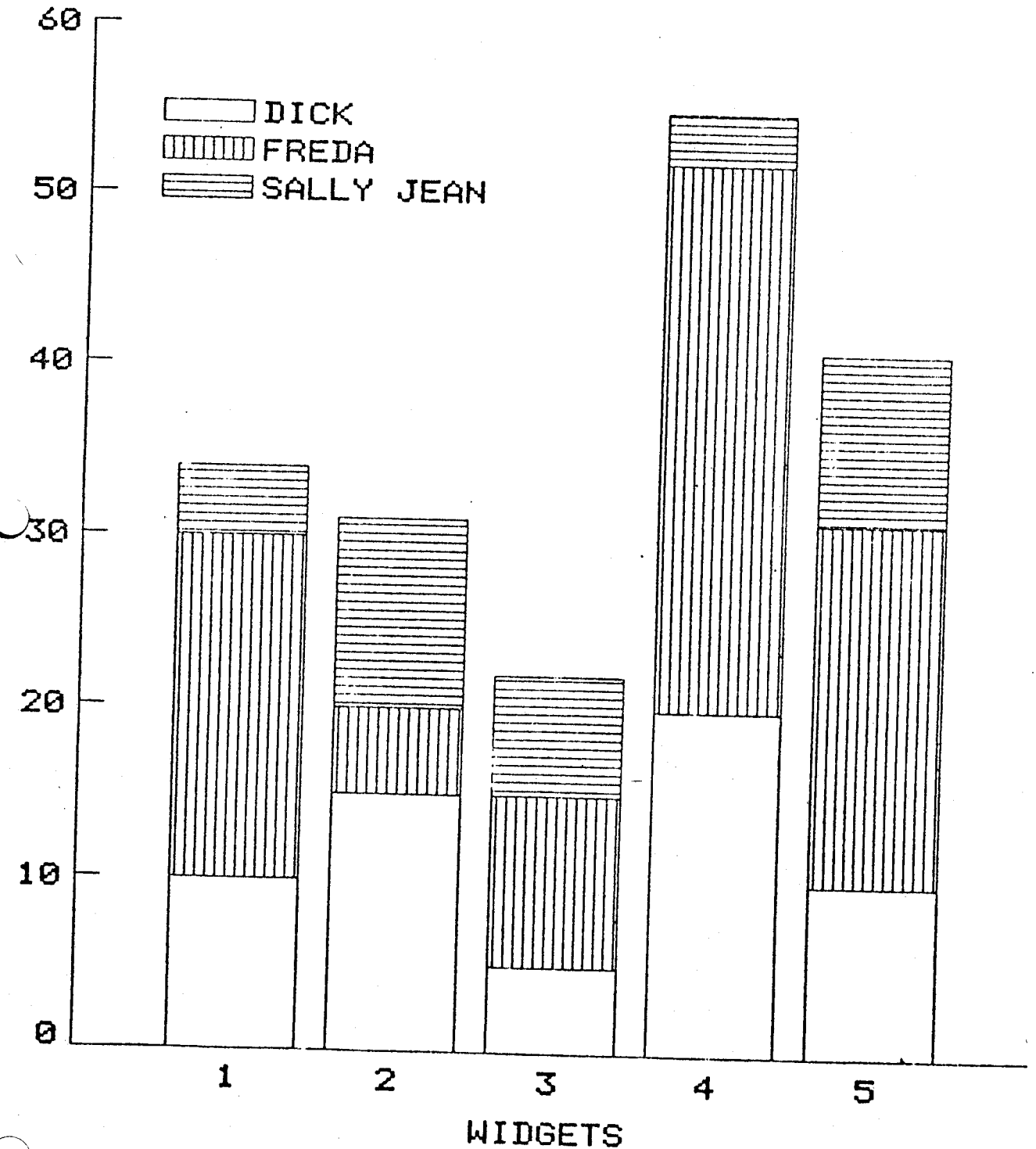 - bar
  - pie
  - step
  - stick
  - scatter
  - text only
  - multiple

ANNOTATE TEXT

DIRECT OUTPUT TO PLOTTER OR PRINTER

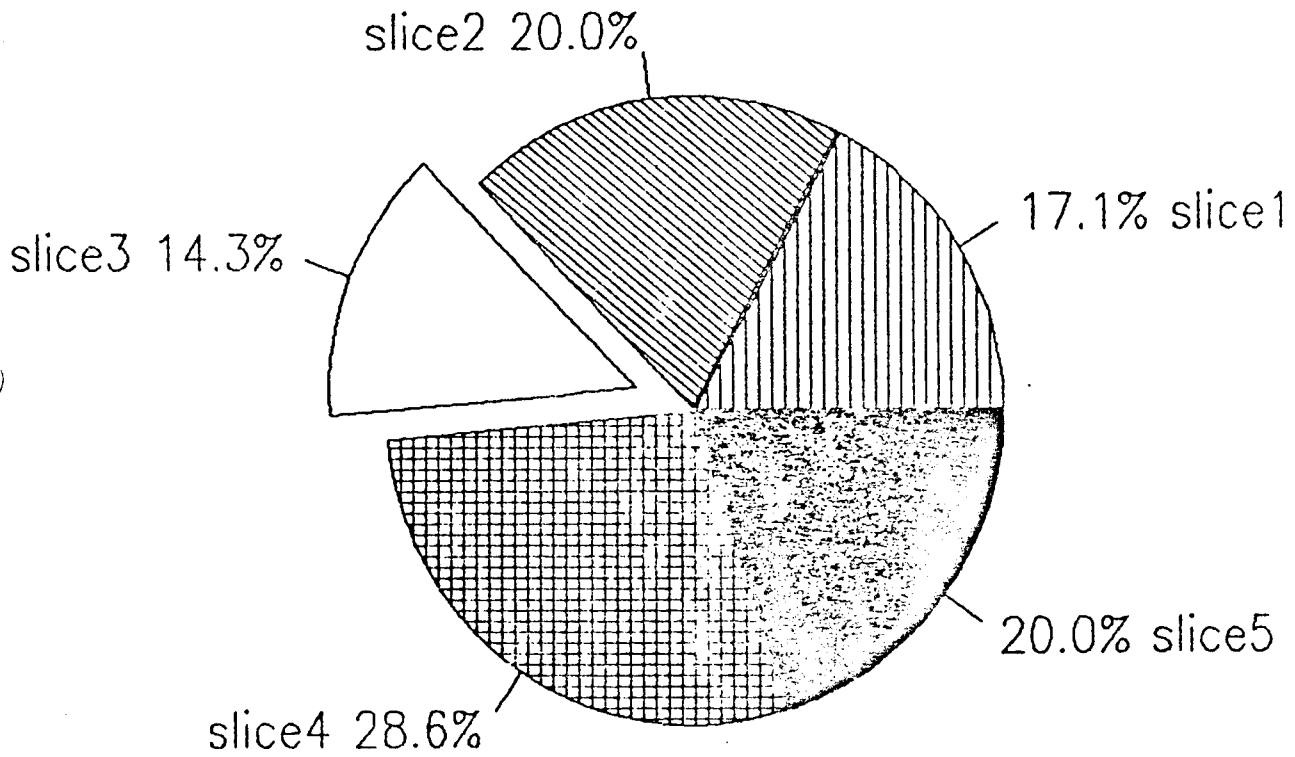USE MULTIPLAN DATA TO CREATE GRAPHS

Sample Bar Graph
SIMPLE SAMPLE SUBTITLE

FROBOZZES

Legend:
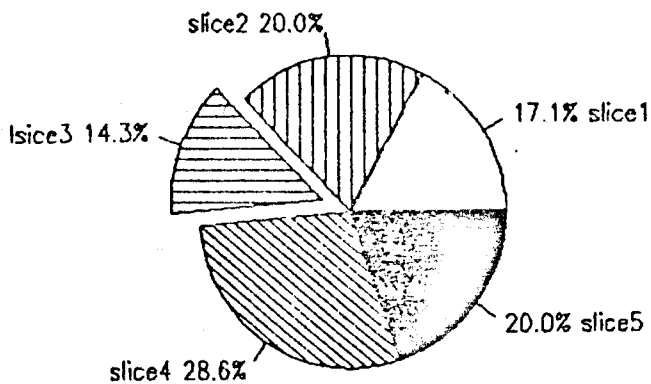- DICK
- FREDA
- SALLY JEAN

WIDGETS

show.pie
demonstration pie chart

slice2 20.0%

17.1% slice1

slice3 14.3%

20.0% slice5

slice4 28.6%

Visual Technology, Inc.

test.pie

SUBTITLE: PIE TEST

slice2 20.0%

17.1% slice1

lsice3 14.3%

20.0% slice5

slice4 28.6%

Sample Bar Graph
SIMPLE SAMPLE SUBTITLE

FROBOZZES

60

☐ DICK
▦ PREDA
▤ SALLY JEAN

50

40

30

20

10

1   2   3   4   5

WIDGETS

show.pie

demonstration pie chart

slice2 20.0%

17.1% slice1

slice3 14.3%

20.0% slice5

slice4 28.6%
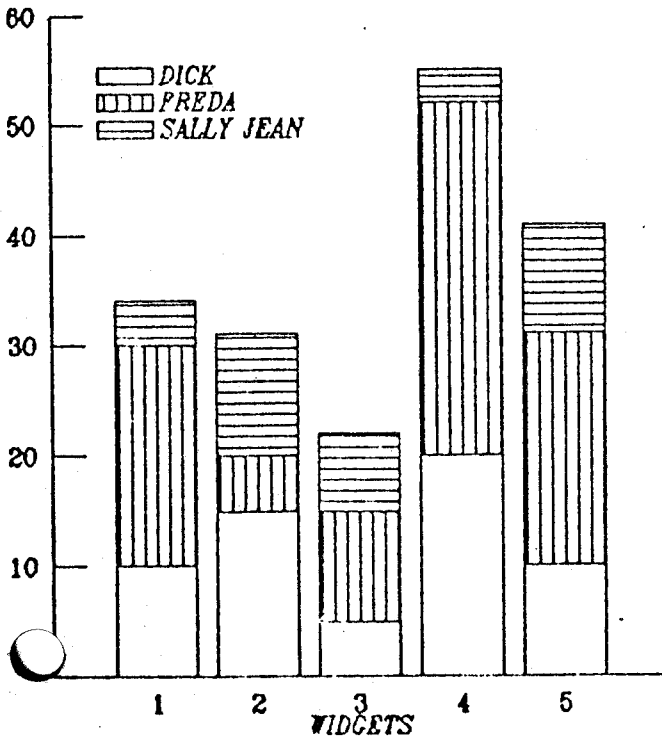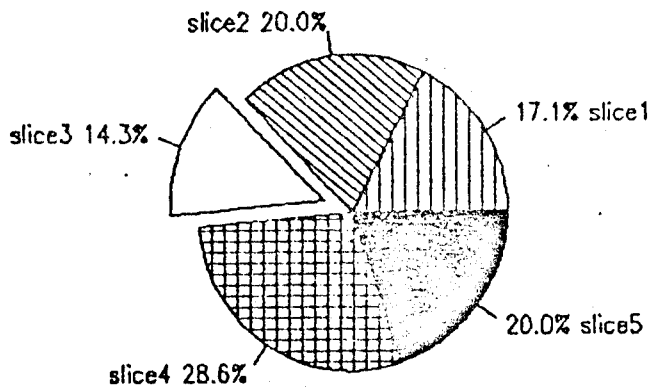
Visual Technology, Inc.

TTY COMMUNICATIONS

A TERMINAL EMULATOR ...

    – dial up to outside computer services
    – direct connection to nearby host

AND MORE :

– LOG and SEND FILES

– COMMAND FILES

– PROGRAMMABLE MESSAGES

– X/ON – X/OFF

CBASIC

WRITE YOUR OWN PROGRAMS

GOOD STRONG BASIC

FINANCIAL MATH WITHOUT ROUNDOFF ERRORS

EASY TO WRITE STRUCTURED CODE

DIFFERENT THAN MBASIC