TRS-80®

Model 100 Portable Computer

INTERACTIVE SOLUTIONS

INTERACTIVE SOLUTIONS

Radio Shack®
A DIVISION OF TANDY CORPORATION
FORT WORTH, TEXAS 76102

TABLE OF CONTENTS

INTRODUCTION

INTERACTIVE SOLUTIONS for the Model 100 is a cross referencing program consisting of a data base program, a spreadsheet program, and a word processing system. INTERACTIVE SOLUTIONS is designed to be self-explanatory and guide you through each process. The manual includes many examples that step through each phase of the program.

You have the option in many cases of using either function keys or designated letter keys to complete an action. Clear and concise labels and menus make decision making easy.

Information stored in Data Manager, the data base, can be utilized by Data Calc, the spreadsheet program, and Word Processor allows you to merge Data Manager information into the text. You can even store information in a buffer to be used at a later time.

While using Data Calc, you can select fields from a Data Manager file, specify selection criteria, and then load the field names in the columns of the worksheet.

You can generate a tabular report in Data Manager and then *paste* the report into a text file in Word Processor.

You can select any part of a Data Calc worksheet and, by using the paste buffer, add it to any text file in Word Processor.

Using the *Merge* option of Word Processor, you can extract fields from Data Manager selected records. Using these fields you can generate multiple letters and documents, inserting different names, addresses, or other field information.

The options to use underlining, boldface, and other print codes are included as print criteria. You can format print output to meet your own specific needs.

INTERACTIVE SOLUTIONS is a ROM product and therefore increases the amount of memory that can be utilized by your Model 100. In addition, you can save Data Calc results on cassette instead of using valuable RAM memory.

Required Equipment

- TRS-80® Model 100 Computer with at least 16K memory
- AC Power Supply (26-3804) or four AA batteries
- Tandy Parallel printer
- Model 100 printer cable (26-1409)

Optional Equipment

- Cassette recorder such as CCR-81 (26-1208) and cable

Note: INTERACTIVE SOLUTIONS is not meant to be used on the Disk Video Interface.

Loading Instructions

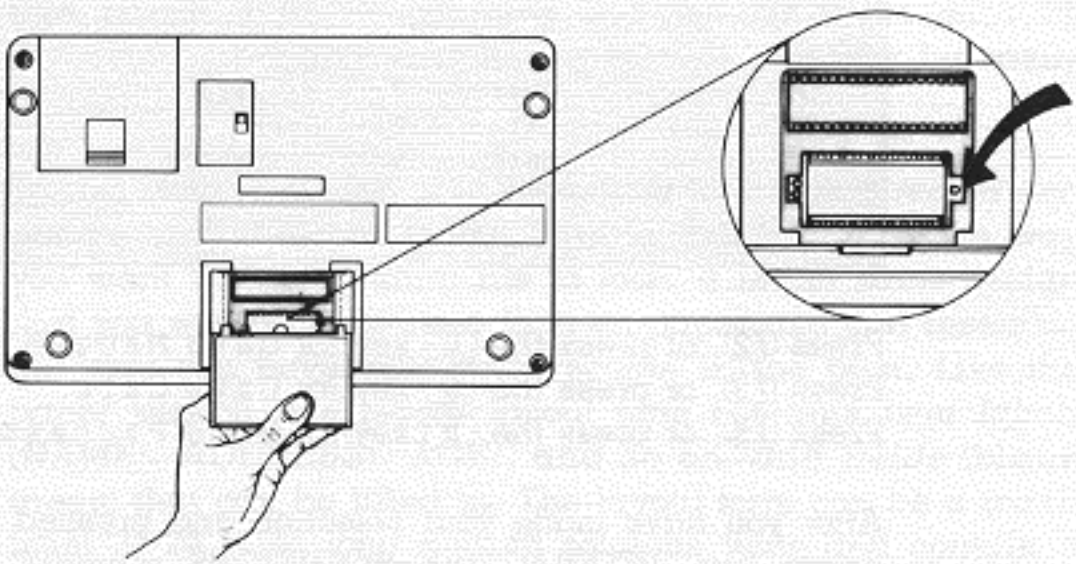
Note: The ROM module is extremely sensitive to static, be cautious when opening the ROM packaging.

Before installing the INTERACTIVE SOLUTIONS ROM in your Model 100, make sure that your computer is turned off. Unplug the Power Adapter.

1. Place the Model 100 face down on a flat surface such as a table.

2. Pop open the ROM Module expansion compartment door by inserting a small coin in the indicated slot and exerting light pressure.

3. Insert the INTERACTIVE SOLUTIONS ROM Module into the shorter socket in this compartment. Align the ends of the ROM as in the illustration.



4. Gently push the ROM into the socket. Don't force the ROM. If you are having trouble, make sure you are aligning the ROM and the socket correctly.

5. Close the compartment door, and turn over your Model 100.

Turn on the Model 100. At the Main Menu, press (ENTER) to select BASIC.

In BASIC, type:

NEW (ENTER)
10 CLEAR 0,60200 (ENTER)
20 CALL 63012 (ENTER)

SAVE "INTSOL.BA" (ENTER)

Press (F8) to return to the Main Menu. INTSOL.BA is the file used for running INTERACTIVE SOLUTIONS. Position the marker (also called a cursor) over INTSOL.BA, and press (ENTER). You will see the INTERACTIVE SOLUTIONS copyright message for two seconds, followed by the INTERACTIVE SOLUTIONS Main Menu:

```
                INTERACTIVE SOLUTIONS
------------------------------------------------

                DMgr  -  Data Manager
                Calc  -  Data Calc
                Word  -  Word Processor

DMgr            Calc          Word          Menu
```

Press (F2), or press the (D) key for Data Manager.
Press (F3), or press the (C) key for Data Calc.
Press (F5), or press the (W) key for Word Processor.

After you have made your selection and pressed the appropriate key, INTERACTIVE SOLUTIONS prompts for a filename. Respond with a filename of six or fewer characters. Use a name that clearly identifies the type of file that you will be using. The filename must start with a letter.

The screen exhibits the menu for the INTERACTIVE SOLUTIONS program you have chosen.

Introduction to INTERACTIVE SOLUTIONS Data Manager

Data Manager is simple, yet versatile software that converts your Model 100 into a functional personal filing system. With Data Manager you can easily store, examine, update, and list a variety of information. The information can vary from personnel records and inventory facts to lists of clients or lists of suppliers. Whatever your line of work, if you regularly handle information, then Data Manager is a most useful tool.

Data Manager organizes information into *record files*. A record file is composed of separate, individual records that relate to each other. Each record contains the information pertaining to a single person in your personnel record file, a supplier in your suppliers record file, and so on. You'll find that normally time-consuming and tedious tasks such as reviewing, updating, and listing records can now be easily accomplished.

To use Data Manager, it is necessary to create a *record layout form*. The record layout form is the design of the way you want your individual file to look. It is the same design that you would create as a form on paper and can resemble the way you have kept your records in the past. Like the paper version, the record layout form contains *item labels* (NAME:, ADDRESS:, AGE:, and so on) and *fields* (blank areas) that can be filled in. The layout form can be a maximum of 20 lines long and 40 columns wide and contain a maximum of 254 characters. Only 7 lines (rows) can be displayed at one time, you must *scroll* the screen to see the entire layout. The examples display the entire form although it is more than 8 rows.

A typical personnel record layout form for a fictitious company is:

```
                A. B. C. CORPORATION
                --------------------

        LAST NAME: ....................
        FIRST NAME: ............... AGE: ..
        ADDRESS: ......................
        CITY: ................ ST: .. ZIP: .....
        TEL: ................ STARTED: .........
        TITLE: ..................
        UNITED WAY: .....
```

Data Manager uses the layout form to enter, retrieve, update, and list any records that you wish. You can also perform addition and subtraction on numeric fields. This capability allows you to keep track of current balances or expenses and maintains numeric information at its most current level. Finally, Data Manager's *autodial* feature lets you call a phone number that has been included in any of your records when the Model 100 is connected to the telephone line by its built-in modem.

When retrieving records, you can specify a set of selection criteria directly on the layout form. You can then choose to extract from your file only those records that interest you. For example, if you want to retrieve the record for Joe Manning and no one else, you would mark the name fields with an equal symbol (=) and his name:

```
                A. B. C. CORPORATION
                --------------------

        LAST NAME:=MANNING.............
        FIRST NAME:=JOE........... AGE: ..
        ADDRESS: ......................
        CITY: ................ ST: .. ZIP: .....
        TEL: ................ STARTED: .........
        TITLE: ..................
        UNITED WAY: .....
```

You can also retrieve records on a *partial match* basis, by using # as the selection symbol. A partial match means that a record with some similarity to the condition specified is selected. In numeric fields, you can set criteria for selecting records containing a value greater than (>) or less than (<) the specified number. For instance, if you specify the selection criteria of **AGE:>35**, one record that would be retrieved is:

```
              A. B. C. CORPORATION
              --------------------

LAST NAME: Wilson
FIRST NAME: Gloria              AGE: 48
ADDRESS: 1752 Blue Bonnet Circle
CITY: Fort Worth          ST: Tx ZIP: 76102
TEL: 817-244-3298      STARTED: 07/12/79
TITLE: Sales Manager
UNITED WAY: 35.17
```

Another would be:

```
              A. B. C. CORPORATION
              --------------------

LAST NAME: Manning
FIRST NAME: Joe                 AGE: 36
ADDRESS: 2134 Murray Hill
CITY: Fort Worth          ST: Tx ZIP: 76112
TEL: 817-244-3732      STARTED: 03/25/82
TITLE: Systems Manager
UNITED WAY: 29.15
```

You can combine several selection criteria on a layout form and retrieve the first record that satisfies all your specifications. Then, by pressing the Next and Previous function keys, you can thumb through your record file, retrieving only the selected records.

Selected records can be updated, printed as a form, or tabulated in a report and printed. You can also produce the report as a Model 100 Text file. Your report can include as many as 9 items from a record.

When creating a tabular report, specify the items for printing and for column ordering simply by inserting the numbers 1 through 9 in the layout form. For example, to print a report with the NAME, TITLE, and AGE items in a report, in that order, the personnel form would look like this:

```
                A. B. C. CORPORATION
                --------------------

        LAST NAME: ....................
        FIRST NAME:2.............. AGE:4..
        ADDRESS: ......................
        CITY: ............... ST: .. ZIP: .....
        TEL: ............... STARTED: .........
        TITLE:3.................
        UNITED WAY: .....
```

The report is sorted in ascending or descending order (according to your decision), on the item specified as 1.

LAST NAME	FIRST NAME	TITLE	AGE
Anderson	James	Managing Editor	32
Horst	Robert N.	Design Manager	41
King	Clara	Vice President	50
Manning	Joe	Systems Manager	36
Rose	George	Research Manager	25
Wilson	Gloria	Sales Manager	48

Take this opportunity to design a record layout form. The example is based on the A.B.C. Company's personnel form that was just discussed.

Turn on the Model 100 computer, and place the cursor over the filename, INTSOL.BA. Press (ENTER). The INTERACTIVE SOLUTIONS menu is displayed:

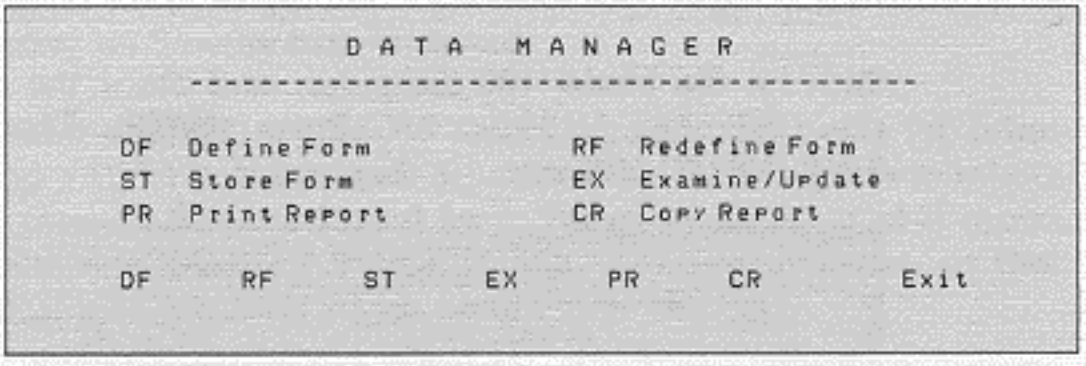
```
                INTERACTIVE SOLUTIONS
      ------------------------------------------

                DMgr  -  Data Manager
                Calc  -  Data Calc
                Word  -  Word Processor

  DMgr          Calc          Word          Menu
```

Press (F1) or the (D) key to activate INTERACTIVE SOLUTIONS Data Manager. The screen exhibits:

```
DMgr: Enter File Name:.....
```

Answer the prompt by typing a relevant filename, containing as many as 6 characters. An example might be CLIENT or, in this example, STAFF. If you had already used INTERACTIVE SOLUTIONS Data Manager and had previously entered a file name, that name would have been included in the prompt. Press the (ENTER) key if you want to work on the old file. Type over the name with a new name if you want to work on a different file or a new file.

When you answer the name prompt, the screen changes to the Data Manager Menu:



Press (F1) or (D). You can make this choice only when you are working on a new file. If the filename you entered at the name prompt was an old file, you would see an error message:

```
Data/Layout File already exists
```

Define Form allows you to design a layout form. The layout form is stored as a text file containing item labels and fields and serves as a pattern for arranging the information you want in your record files. *Record Files* are documents in which actual information is kept.

Define Form has some rules to guide you in creating a layout form:

- The form can be as many as 20 lines long and 40 columns wide. Use the arrow key to display subsequent lines.

- There can be as many as 20 item labels, blanks, and comments in any layout form. A comment is a title or a string of characters not followed by a colon.

- An item label can be 15 characters long, excluding the colon.

- End every item label with a colon (for example, NAME:).

- A comment can be as many as 40 characters long; however, every 16 characters consume the equivalent of an item label and decrease the possible maximum of 20 item labels.

- Alphanumeric fields (those in which you can enter both alphabetical and numerical characters) are specified by a string of lowercase a's (for example, ADDRESS: aaaaaaaaaaaaaaaaaaa).

- Numeric fields (in which you can enter numbers only) are specified by a string of 9s (example, ZIP: 99999). A numeric field cannot exceed a total of 14 digits, including a decimal point.

- Enter decimal fractions in numeric fields by inserting a decimal into the string of 9s (for example, BALANCE: 999.99).

- The field for the prime telephone number is indicated by a series of p's (for example, TEL: pppppppp).

- Additional telephone numbers are indicated with a's.

- If you plan to use the autodial feature and it is necessary to include a pause in the dialing sequence (as in calling an outside line), insert an = sign after the number requiring the pause (for example, 9=327-8567 or 1=603-376-2981). Design the layout form with enough p's to accept the entire telephone number.

- Determine the length of a field by counting the number of a's, 9s, or p's used in the field.

- Fields cannot extend beyond 2 display lines.

- Leave at least 1 space between the item label and the string of a's, 9s, and p's, and at the end of the field (for example, CITY: aaaaaaaaaaaa ST: aa ZIP: 99999).

- Use the arrow keys to position the cursor anywhere on the screen.

- To erase, position the cursor over the error and use the space bar or simply type new text.

When you are ready to design your layout form as it appears below, the screen will guide you with a message, reminding you of the field identifiers. The bottom of the screen will display:

```
{ Layout Creation }                    OK
```

After reading the message, press the (F5)—Ok key. The screen clears and displays:

```
{ Create Form }        OK        Redo      Exit
```

This message indicates that you can begin typing the form. Enter the following form:

```
                A. B. C. CORPORATION
                --------------------

        LAST NAME: aaaaaaaaaaaaaaaaaaa
        FIRST NAME: aaaaaaaaaaaaaa AGE: 99
        ADDRESS: aaaaaaaaaaaaaaaaaaaaaaa
        CITY: aaaaaaaaaaaaaaa ST: aa ZIP: 99999
        TEL: ppppppppppppppp STARTED: aaaaaaaa
        TITLE: aaaaaaaaaaaaaaaaa
        UNITED WAY: 99.99
```

When you have completed typing your layout form, press the (F5)–Ok key. If you have typed the layout form correctly and have followed the rules for designing a layout form, the label line changes to:

```
No errors      OK      Updt      Redo      Exit
```

The (F6) function key label indicates *Update*. Although the layout form you have just completed has no errors, you have the option to modify it at this time.

The (F7)–Redo key allows you to retype your entire layout form completely. If you press (F7), the old layout form is erased.

When the layout form appears exactly as you want it and contains no errors, press the (F5)–Ok function key.

If there are any errors, or if any rule was violated, a beep sounds, and the item label for the area in which the mistake was made place is highlighted. The instruction line indicates:

```
nn errors          Updt    Redo    Exit
```

The number of mistakes made is indicated by nn. Press the (F6)–Updt key, and correct the errors. When completed, press the (F5)–Ok key. If there are no errors, you return to the Data Manager Main Menu.

If you were to press (F8) and return to the Main Menu, you would notice that you created 2 new files, STAFF.DO, the file in which actual records will be stored, and STALAY.DO, the file that contains the layout form for STAFF.

Modifying A Form

Once you have created a layout form, you can start entering information using Data Manager. However, if you decide later (even after entering information) that you would like to change the design of the form, you are able to.

The rules for modifying a form are:

- You can change the wording of any item label, provided that the new label does not exceed 15 characters, excluding the colon.

- You cannot increase or decrease the number of spaces allotted for any field.

- You can change the position on the screen of any item, but not the order. That is, if you had typed: NAME:, ADDRESS:, ACCOUNT NUMBER:, you cannot change to ACCOUNT NUMBER:, NAME:, ADDRESS:. The order of precedence is left to right and top to bottom.

- You cannot change the placement of the decimal in a number field.

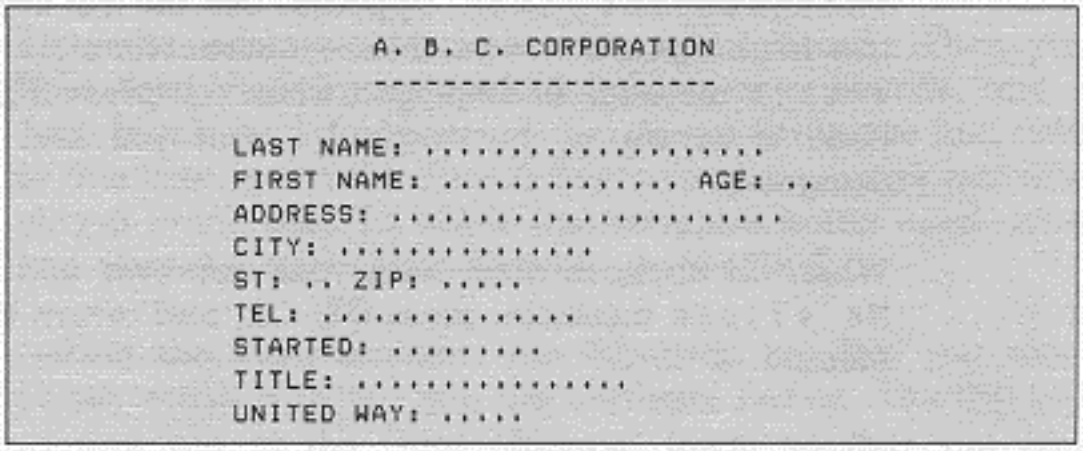
- You can change the wording of a Comment label but not the length.

- You cannot add new labels or delete existing ones.

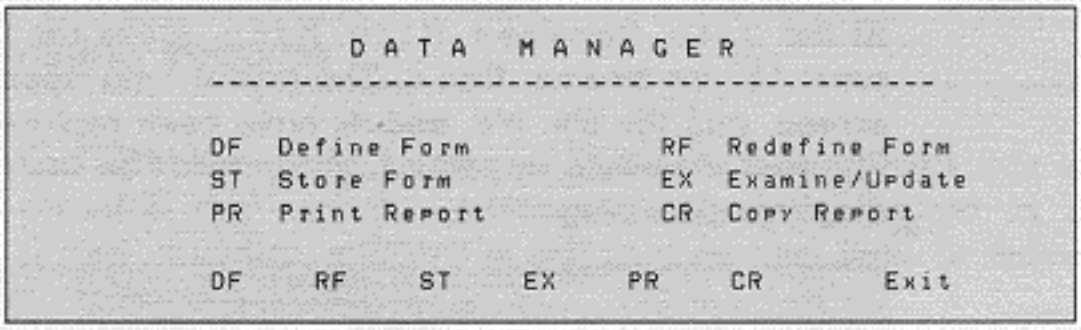
For example, suppose you have created a layout form that looks like this:

```
                A. B. C. CORPORATION
                --------------------

        LAST NAME: ....................
        FIRST NAME: ............... AGE: ..
        ADDRESS: ......................
        CITY: ................ ST: .. ZIP: .....
        TEL: ................ STARTED: .........
        TITLE: ................
        UNITED WAY: .....
```

After modifying the form, it might look like this:



To modify a layout form, press the function key, (F2), or (R) at the Data Manager Main Menu. The screen shows:



The layout form appears on the screen, and the instruction line displays:

{Modify form} Ok Redo Exit

You can make changes by moving item labels and blanks anywhere in the space allowed for the layout. Use the arrows and the space bar, or type over old text to make changes. When you are satisfied with the changes, press the (F5)–Ok key.

If the modification has been completed without any problems, the message, No Errors, appears on the instruction line. Press (F5)–Ok.

If any errors occurred, when you press (F5), the message, `Inconsistent item`, appears. Use the (F6) key to update the highlighted areas. Make corrections until the `No errors` message is displayed when you press (F5). Use (F7)–Redo to return to the original layout you had previously designed.

When all changes meet with your approval and you see a `No errors` message, press (F5)–Ok, and return to the Main Menu.

Storing Data

At the `Data Manager Main Menu`, press the (F3) key, or press (S) for `Store Data`. The layout form appears on the screen, and the a's, p's, and 9s have been replaced by dots. The first item field appears highlighted. The instruction line displays a message:

```
                A. B. C. CORPORATION
                --------------------

        LAST NAME: ....................
        FIRST NAME: ............. AGE: ..
        ADDRESS: ......................
        CITY: ............... ST: .. ZIP: .....
        TEL: ............... STARTED: .........
        TITLE: ................
        UNITED WAY: .....

      { Store Data}      Ok         Redo    Exit
```

- Press (ENTER), (↑), or (↓) to move from field to field.
- Use (CTRL) and (↓) or (CTRL) and (↑) together to view the next screen or the previous screen (*frame rolling*).
- Use (←) and (→) to move the cursor within a field.

• Use ← or → to correct mistakes.

Type the information you want in your record. When you have completed typing the last field, a beep sounds, and a new, blank record appears. If you do not fill in the last field at this time, press the F5–Ok key to save the record and display a blank one. To follow the examples being used, type and store the information listed in Appendix A.

During the Store function, the F7–Redo key lets you completely erase a record you are currently typing. The F8 key returns you to the Data Manager Menu so that you can select another function.

Examining Records

The Examine Data feature of Data Manager allows you to examine any record, update the information stored in a record, autodial, subtract or add in a number field, or delete a record.

To examine records, return to the Data Manager Main Menu, and press the function key, F4, or E for Examine Data. The layout form for your record appears on the screen. The instruction line displays:

```
{ Conditions }          OK    Redo  Exit
```

To examine selected records containing a specified set of criteria, use one or a combination of the *selection symbols*. Type the appropriate selection symbol in the space following the colon on the form layout, and follow it with a series of characters or numbers to be used as a *search string*. If you enter more than one condition, only the records that satisfy all conditions are retrieved.

= The *equal* sign (used in both alphanumeric and numeric fields) means that the string you type in a field, immediately after the =, must **exactly** match the characters typed in the field of a record if that record is to be retrieved.

Lower- and uppercase characters are considered equal. Gaps of one or more spaces are treated as one space in alphanumeric selections.

The *pound* sign (used in alphanumeric fields) means that the string you type for a particular field has to be at least a partial match to that which has been typed in the record field before the record can be retrieved.

> The *greater than* sign (used in numeric fields) means that only those records containing a number larger than specified in the particular field will be selected.

< The *less than* symbol (used in numeric fields) means that only those records containing a number smaller than specified will be selected.

Any selection symbol preceded by a slash (/) produces the *inverse retrieval condition*. For example, by typing **/= Joe Manning** in the name field of your staff file, all records *not equal* to Joe Manning will be selected. The slash (/) *does not* appear on the screen, but the selection symbol appears in reverse.

Erase selection conditions by placing the cursor on the appropriate field and pressing the spacebar. To erase reverse-condition fields, press (/) before pressing the spacebar. You can also press (F7)–Redo to start over.

The screen below shows selection symbols in the Staff layout form for those members of the staff living in Fort Worth who have contributed more than $30.00 to United Way.

```
                A. B. C. CORPORATION
                --------------------

          LAST NAME: ....................
          FIRST NAME: ............... AGE: ..
          ADDRESS: ......................
          CITY:=Fort Worth..... ST: .. ZIP: .....
          TEL: ................ STARTED: .........
          TITLE: ................
          UNITED WAY:>30.00
```

After providing the selection symbols and search strings, press (F5)–Ok. The first record you stored that meets all the selection criteria, is displayed.

```
                A. B. C. CORPORATION
                --------------------

          LAST NAME: Wilson
          FIRST NAME: Gloria          AGE: 48
          ADDRESS: 1752 Blue Bonnet Circle
          CITY: Fort Worth       ST: Tx ZIP: 76102
          TEL: 817-244-3298     STARTED: 07/12/79
          TITLE: Sales Manager
          UNITED WAY: 35.17

    Updt   Type    Call    Next    Prev    Dlt    Exit
```

Press (F5) or (N) to see the next selection, or press (F6) or (P) to see the previous selection that meets the set criteria. If the record extends beyond 7 lines, it is necessary to use the frame roll ((CTRL) and (↓) simultaneously) to display the additional lines.

If you do not want to choose specific files, after pressing (F4) to examine data, press (F5)–Ok to see your first stored file.

Updating Records

As the function keys indicate, you have several options from which to choose.

Update — press (F2) or press (U).

You can move the cursor anywhere within the field and make any corrections by typing over the existing information.

```
Add        OK        Sub              Redo
```

If you are not satisfied with the changes made, press (F7)–Redo to return to the pre-changed screen. Press (F5)–Ok if you approve the corrections. The Redo option works only if you have not yet pressed (F5).

Addition and Subtraction

The Add and Subtract features are subfunctions of the update mode. Using this feature, you can perform addition and subtraction operations on any numeric field.

1. Provide selection criteria (if desired), and begin retrieving records.

2. When a record on which you wish to perform addition appears, press the (F2)–Updt key. Move the cursor to the desired numeric field. Press (F4)–Add.

3. The field clears, and the bottom line displays the message, { ADD }. Enter the amount that you wish to add, and press (ENTER). The amount in the field immediately reflects the addition.

4. If you choose to subtract from a field (for example, for partial payment of a due bill), after pressing the (F2) key, press (F6)–Sub. (Note: Do not use a negative number.)

5. The field clears, and the bottom line displays the message, { SUB }. Enter the amount to subtract and the result is immediately displayed in the number field.

6. You can use the (F7)–Redo key if you have not yet pressed (F5).

The Type Function

Press (F3)–Type to print a copy of each stored record. To use Type, a parallel printer must be attached. The Type function prints the entire record. Review selected records by pressing (F5)–Next (or (N)) repeatedly. To scan backwards, press (F6)–Prev (or (P)).

The Call Function

One of the options offered by Examine Data is the Call function. To have the Model 100 automatically dial a number in your file, you must first have the Model 100 connected to a phone via its built-in modem.

1. Make choices by providing selection criteria (if desired), and begin retrieving records.

2. When a record for which you wish to make a phone call appears, press the (F4)–Call key. The field you indicated with p's is brought to the top of the display, and the bottom line displays the message, `Calling`. The cursor flashes through each digit as the number is dialed. Pick up the phone receiver before the dialing is complete.

3. It is possible to design fields for more than one phone number. Use a's in all the *non-prime phone* fields. There can be only one field containing p's.

The Delete Function

Use all the Examine Data functions to choose or examine any of your records. Use the (F5) and (F6) keys to thumb through the files. When you have completely gone through all the files, a beep sounds, and the message, `{No more}`, appears on the last line.

Delete the record from your file by pressing (F7)–Dlt ((D)) after you have selected it. The instruction line displays the message, `Sure?`. Respond by pressing (Y). If you answer (N), the request to delete is cancelled.

To delete the entire file, return to BASIC and type: **KILL "filename.DO"** (ENTER) and **KILL "filenameLAY.DO"** (ENTER). (The layout file filename is the first 3 characters of the actual filename plus LAY, so the STAFF.DO layout file is STALAY.DO.)

Printing Reports

Another useful option of the Data Manager program is its ability to print reports. At the Data Manager Menu, press (F5) or (P) to print reports.

As in Examine Data, the print option lets you provide conditions for printing only the records that interest you. To select the fields to be printed, insert a number (1-9) in the appropriate field. The number determines the ordering of the column. The lowest number column is the leftmost column, and the highest number column is furthest right. You can start with any number when determining the order of the columns.

The printed report can contain as many as 9 columns, headed by the fields of your choice. The maximum width of the report is 80 characters. Total the number of characters in each field of the layout form, and add 1 character for the space between fields. The columns appear in the order that you design. The printed reports are automatically sorted on the field marked with *1*. The field can be alpha or numeric. You are given the choice of sorting in *ascending* or *descending* order. To avoid automatic sorting, do not use *1* in any field.

You must have a printer connected to the Model 100 (see "Required Equipment") to print the report. However, if the printer is not connected or if it is off line, the report is still assembled and sorted. The report will then scroll on your screen whether it is printing or not.

Press the space bar to stop scrolling and printing. Press the space bar again to resume.

- When you press the key for Print Reports, the screen displays the layout form, and the cursor is positioned on the first field. Use the arrow keys to move around the form.

- You can choose the column headings for your tabular report by marking the field with a number. If you put *1* in any field, your records will be sorted by that field. Use the Redo key if you want to start over.

Note the following example of a layout containing column heading choices for report printing:

```
                A. B. C. CORPORATION
                --------------------

        LAST NAME:1.....................
        FIRST NAME:2.............. AGE: ..
        ADDRESS: .........................
        CITY: ............... ST: .. ZIP: .....
        TEL: ............... STARTED: .........
        TITLE:4.................
        UNITED WAY:3.....
```

- After marking the desired fields for columnar printing, press the Ok function key.

- If you used *1* in any field, the message on the bottom of the display changes to:

```
Sort order A/D ?
```

- Repond with (A) for ascending or (D) for descending.

- If you did not indicate a sort field, the message is:

```
{ Conditions }
```

- You also have the option to determine conditions after choosing (A) or (D) for the sort.

- The column numbers disappear from the layout chart.

- Use the search and select criteria to print specified or all records. Press the Ok key. If you included a *1* in any field, the message, `Sorting Data`, appears momentarily.

- The report starts printing.

LAST NAME	FIRST NAME	UNITED WAY	TITLE
Anderson	James	58.17	Managing Editor
Horst	Robert	13.29	Design Manager
King	Clara	48.36	Vice President
Manning	Joe	29.15	Systems Manager
Rose	George	15.29	Research Manager
Wilson	Gloria	35.17	Sales Manager

Note that all fields are left-aligned and that the decimals are lined up.

Copying Reports

Press (F6) or (C) for the Copy Report Function. This function allows you to use portions of your records as part of a letter or a document that you write later. After copying the report into the buffer, you can move to the Word Processor program and *paste* the report in your document.

The Copy Report function allows you to store a report to be printed when a printer is not readily available (for instance, when traveling).

1. Press (F6). The layout form is displayed. The message, `{ Report Columns }`, appears at the bottom of the screen.

2. Determine the order of the fields that you want in your report by typing a number 1-9, in the appropriate field. Remember that the field marked *1* will be the sort field. Press the (F7) key to redo the numbering or to erase any choices made at another time.

3. Press (F5)–Ok. Respond to the `Sort order A/D?` prompt. Decide on any conditional criteria for choosing records if desired. Press (F5)–Ok again.

4. The message, `SORTING DATA`, appears if you used the number, 1, in any field. The records scroll on the screen. You can stop or restart scrolling by pressing the space bar.

5. Exit to the INTERACTIVE SOLUTIONS menu by pressing (F8)–Exit.

   Note: If you exit to the Main Menu (out of Interactive Solutions), the paste buffer is cleared.

6. Move to Word Processor. Open a text file. Give the file a name. (See the instructions in the Word Processor section.)

7. Paste the copied report into the text file. Examine the report file. Some report lines may *wrap around* and cover two lines. They will print normally. You can use all the TEXT editing functions on this pasted report.

Introduction to INTERACTIVE SOLUTIONS Data Calc

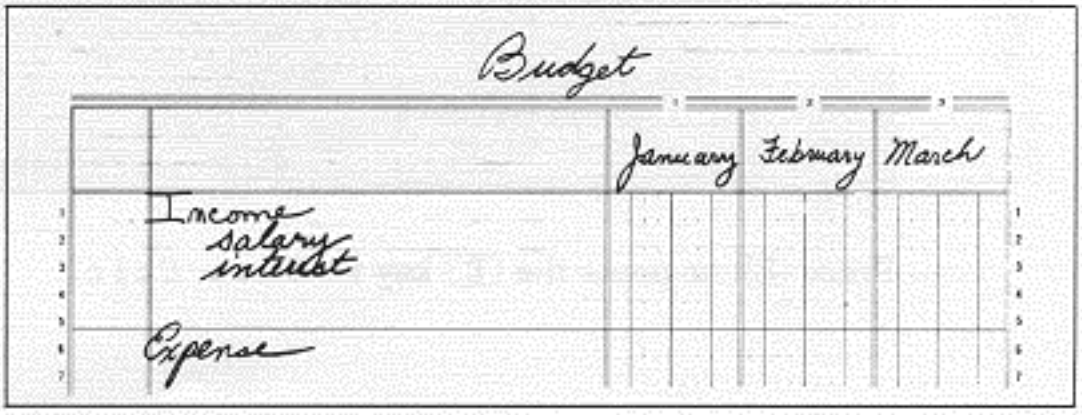
Data Calc is a computer worksheet program that gives your Model 100 a multifaceted spreadsheet capability.

Not only does Data Calc print spreadsheet results, but you can determine whether to print your results in decimal form or as integers.

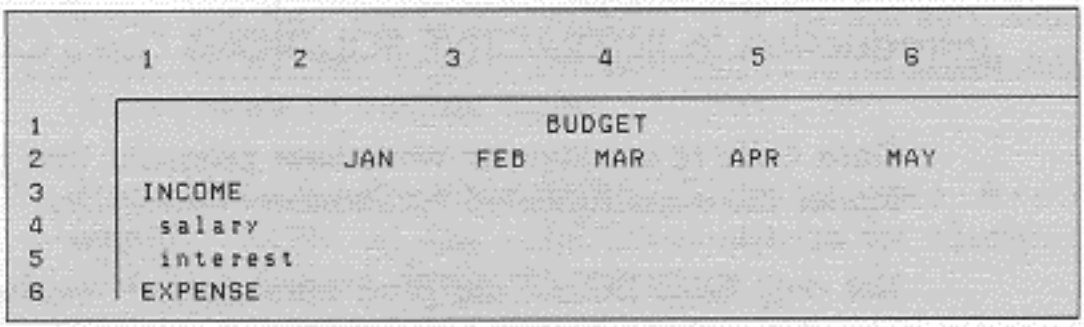
You can perform addition, subtraction, multiplication, division, and exponentiation, as well as devise complicated projections by combining math formulas and functions. You can save time typing information by utilizing the math functions that perform averaging, find square roots, find sine or cosine, and other tasks.

Data Calc information is organized in the same way as the worksheet pad that you have used in the past for record keeping or accounting tasks. As in the paper version, the Data Calc worksheet stores information in rows and columns and can have personally designed headings and titles. The worksheet can be a maximum of 99 rows long and 99 columns wide.

A typical spreadsheet on paper might look like the following:



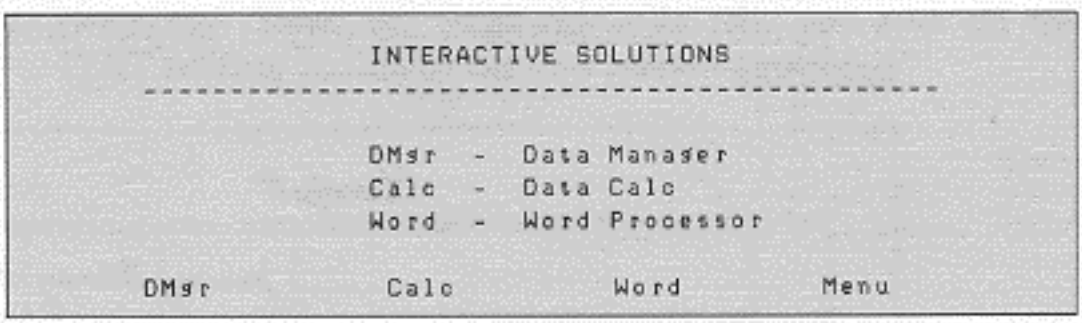
The same information in Data Calc would look like this:



Data Calc has the ability to use Data Manager fields as headings and can load data from Data Manager into the spreadsheet. Data Calc can also copy information into a paste buffer and incorporate that information into a text file.

Before you start using Data Calc, be sure that you have followed the instructions in the beginning of this manual for loading the INTERACTIVE SOLUTIONS program from ROM to the memory of the Model 100.

Turn on the Model 100. Position the marker over INTSOL.BA, and press (ENTER). You will see the INTERACTIVE SOLUTIONS copyright message for two seconds, followed by the INTERACTIVE SOLUTIONS Main Menu:



Press (F3) or press the (C) key for Data Calc.

INTERACTIVE SOLUTIONS prompts for a filename:

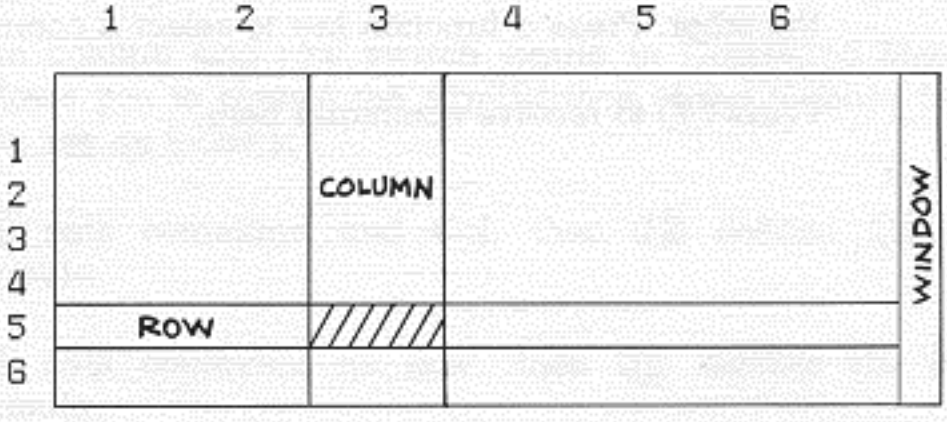
```
Calc: Enter File Name:.......
```

Respond with a filename of 6 or fewer characters. Use a name that identifies the type of file you will be using. The filename must start with a letter. Use BUDGET for this example.

If you have already used Data Calc and want to return to the file you were previously using, respond to the prompt with the old filename. If Data Calc includes the filename in the prompt, press (ENTER) to accept it, or type over it to change the name.

The Data Calc screen displays 6 rows and 6 columns. The segment of a column intersected by a row or the segment of a row intersected by a column is called a cell. You can adjust cell size, but a cell is 6 character spaces wide by default.

The entire display area of 6 rows and 6 columns is called a window.



Marker Movement

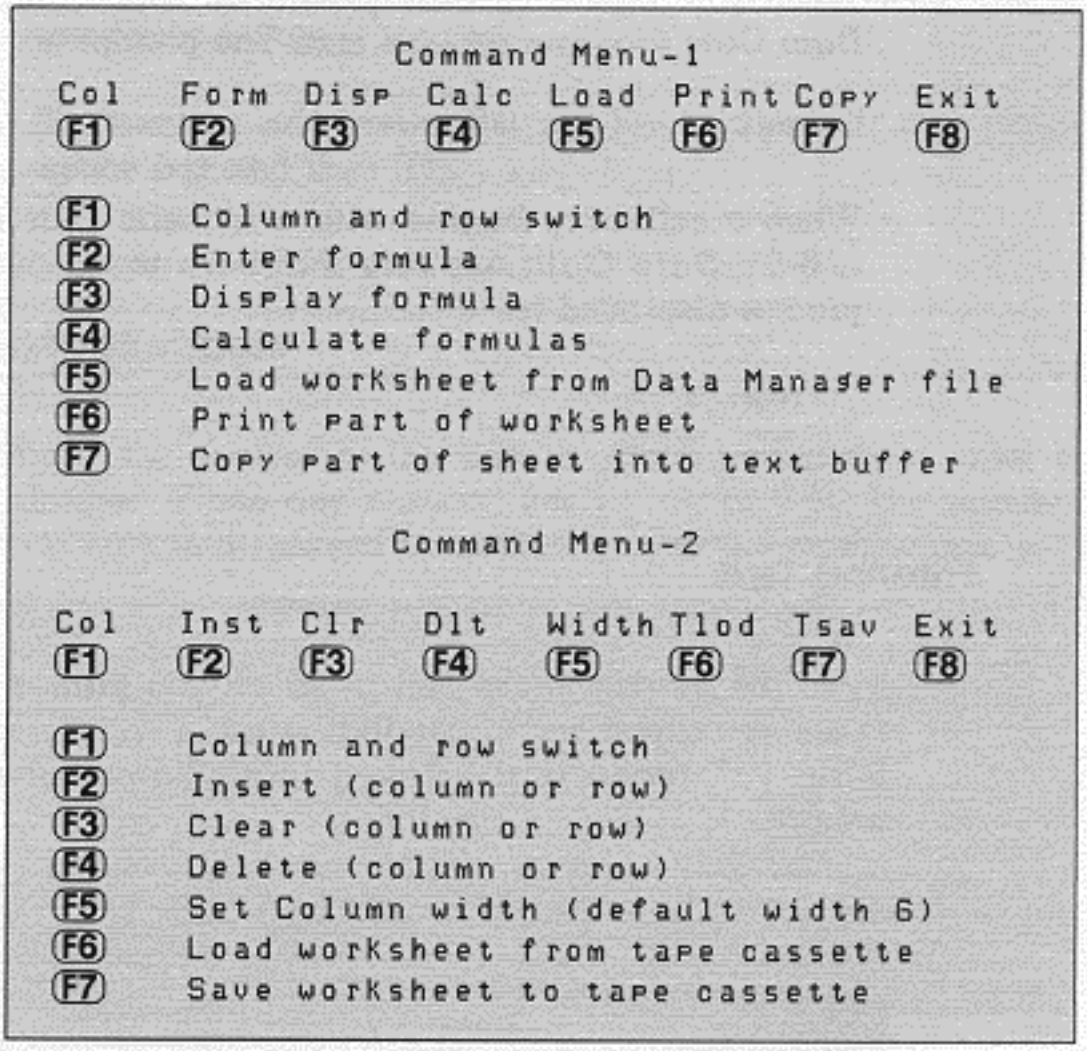
To move the *entry marker* (cursor) up, down, right, or left, use the four arrow keys. The entry marker moves to the next cell in the direction of the arrow pressed and does not erase the contents of a cell over which it passes. The worksheet scrolls in the direction of the arrow pressed until you reach the border of a screen, after which the next row or column appears. (For example, if you press (→) when the marker is on Column 6, Column 7 becomes visible, and Column 1 scrolls off the screen.)

To move the entry marker to the next window, hold down the (SHIFT) key and the arrow key simultaneously. The next window starts with the last row and last column number of the current window. For example, if the marker is currently on Row 1, and you press (SHIFT) (↓), the marker moves to Row 6, and Rows 6 through 11 become visible.

Command Menu

There are two command menus for the Data Calc program. The command labels are displayed just above the function keys. Press the (TAB) key to move from one command menu to the other. Press a function key to select a command.

Press (?) to receive command help.



- The column and row switch toggle in Command Menu-1 allows you to control the significance of the formula function key as follows:

  F1 sets command and Col, then F2 defines Column formula.

  F1 sets command as Row, then F2 defines the Row formula.

- When you start a cell entry with an alpha character, the Data Calc program expects text. The prompt is:

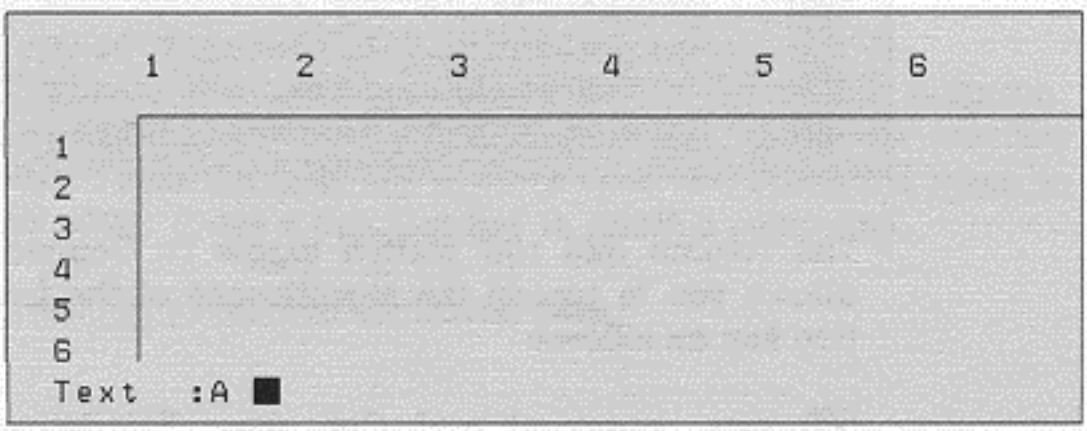
```
Text :
```

- When a cell entry begins with a numeric character (+, –, ., 0-9), Data Calc expects numbers to follow, and the prompt displayed is:

```
Num :
```

Entering Text

Move the marker to the cell in which you plan a text entry. Press any alpha key (a key that is not a +, –, ., or 0-9). The letter you typed is displayed immediately after the text prompt.



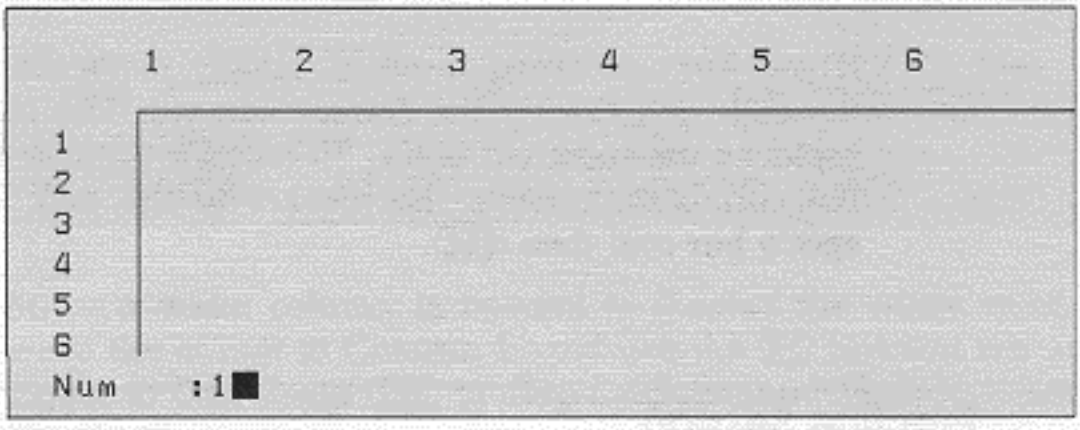
Enter the remaining text, using a maximum of 32 characters, and press (ENTER). You can use letters, numbers, or characters (uppercase or lowercase). If you want a number for text (for example, a title heading for an inventory program), type a letter, to display the text prompt, and backspace as through you are erasing an error. Type your correct entry. Text is left-justified; therefore, your number in text form is left-justified.

- To center text in a heading, simply press the space bar a few times before typing text.

- To blank a cell, move the marker to the cell, and press space bar and then (ESC).

Entering Numbers

Move the marker to the cell in which you plan to enter a number. Press any numeric key (+, –, or 0-9). The number you type is displayed immediately after the number prompt.



You can continue typing your numeric entry. After you press (ENTER), the numeric entry appears in the current cell. Numbers are right-justified.

- Use the backspace key to erase errors made while entering the information.

- If you have already pressed (ENTER) and find an error, simply retype the information.

- You can enter numbers of as many as 14 digits (plus a decimal point). The default setting for column width is 6. To change the column width to see numbers containing more than 6 digits, see "Changing Column Width."

- To see a number entered with the number command, be sure the column width is 1 plus the number of characters the entered number contains. For example, if the column width of a cell is 6, you can enter a number containing 4 digits plus a decimal point and still see the entire number. The first space of a cell containing a numeric entry is always left blank so that numbers on the worksheet do not run together and are clearly separated.

- You can enter negative numbers and exponential powers ranging from –64 to 62. Precede an exponent with either an **E** for a single-precision number or a **D** for double-precision. (See your Model 100 *Owner's Manual* regarding numeric data for details.)

- If you enter a wrong number, simply move the marker to the cell, and reenter the correct number. The new number replaces the incorrect entry. To erase a number (and leave the cell blank), move the marker to the cell, and press space bar and then (ESC).

Practice Session

To become acquainted with the Data Calc portion of Interactive Solutions, you will design a budget that can be used by an individual. The procedures and functions you use in this practice session are described in greater detail later in this section. Enter the following example, following the step-by-step directions.

Move the marker to Cell 1,3 (Row 1, Column 3) and type **BUDGET** (ENTER). Move the marker to Cell 2,1. Type ------- (ENTER). Be sure to use the text underline character rather than the numeric minus sign. Use (→) to move one column to the right. Type the underline characters. Press (ENTER). Continue underlining for 14 columns.

Move the marker to Cell 3,2. Press the space bar twice, and then type **JAN** (ENTER). Move right one column by pressing (→). Type the names of the remaining months of the year, using the space bar to center the names. Use the underline character as described to underline Columns 1-14 in Row 4.

Move the marker to Cell 5,1. Type **INCOME** (ENTER). Use (↓) to move to Cell 6,1. Press the space bar twice, and type **salary** (ENTER). Enter the monthly salary **2400**, into cells 6,2 through 6,13 without dollar signs and commas. Only part of the word "salary" appears on the screen, as shown below;

```
    1       2       3       4       5       6
1                        BUDGET
2   ------------------------------------------
3              JAN     FEB     MAR     APR     MAY
4   ------------------------------------------
5   INCOME
6     sala   2400    2400    2400    2400    2400
```

Since a wider column is needed to display the entire word, move the cursor to Column 1, and use the (F1) function key to toggle to Col. Press (TAB) to display Command Menu-2. Press (F5)–Width.

The screen displays:

```
Width:
```

Enter the appropriate number of spaces you need for the column width. Use 15 for this example. Press (ENTER). The column width changes, and the entire word is displayed. Move the marker to Cell 2,1, correct the number of underline characters by typing 15 underlines, and then press (ENTER). Correct Cell 4,1 so that it too contains the correct number of underline characters.

To continue designing the budget example, type the following text in Column 1 and the appropriate figures in Columns 2-13:

INCOME	
salary	2400
interest	50
TOTAL INCOME	
EXPENSES	
rent	450
gas/elec	180
phone	80
auto	300
food	300
insurance	125
records/books	60
recreation	125
medical	75
miscel	100
TOTAL EXPENSES	
SAVINGS	

Move the marker to Cell 3,14. Type **YEARLY TOTALS**. Change the column width to 15. Correct the number of underline characters in Cells 2,14 and 4,14.

The next step is to write some simple formulas to add each month's income and each month's expenses. The expenses are subtracted from the income to determine the amount of savings.

Move the marker to Cell 9,2. Press (F1) to toggle from Col to Row. Press (TAB) to display Command Menu-1. Press (F2)–Enter Formula. The screen displays:

```
RForm:
```

Type **SUM(R6)** (ENTER). Press (F4). The screen displays:

```
COMPUTING
```

When the computation is complete, the entire row displays the totals for each column.

Place the cursor on Cell 23,2 and compute the total on the expense line by pressing (F2)–Enter Formula. Enter the formula **Sum(R12)** (ENTER), and then press (F4)–Calculate formulas. To check the written formula, place the marker anywhere on the formula row and depress (F3)–Display formula.

To subtract the expenses from the income, move the marker to Cell 25.2. Press (F2)–Form. Type **R9–R23** (ENTER). Press (F4)–Calc. The amounts available for saving are displayed on Row 25.

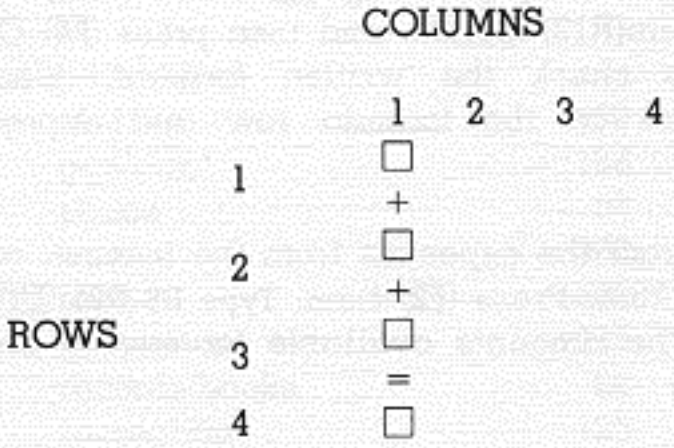
It is possible to change the amounts in any location. You must then recalculate the total column by pressing (F4)–Calc.

Move the marker to Cell 6,13. The owner of the budget has received a salary increase of 10% to start in December. Change the salary to 2640. Move the marker to Cell 9,13. Press (F4)–Calc. Notice that Total Income has changed to 2690. Move the marker to the Total Expenses, Row 25. The amount for savings has increased by the same amount.

Move the marker to the Yearly Totals, Cell 6,14. Toggle (F1) to Col. Press (F2) for formula. Type **SUM(C2)** (ENTER). Press (F4)–Calc. The entire column of yearly totals is displayed.

Row Formula Entry

A row formula specifies the way that values in the row in which the entry marker is currently positioned are calculated from data in preceding rows. For example, suppose you want to enter a row formula for Row 4 to add the numbers in Rows 1, 2, and 3. The calculated value in Cell 4,1 is the total of the numbers in Cell 1,1; 2,1; and 3,1. The calculated value in Cell 4,2 is the total of the numbers in Cells 1,2; 2,2; 3,2; and so on.



To enter a row formula, move the entry marker to the column in which you want the calculated value to appear. (The entry marker can be on any cell in the row.) Press (TAB) until you see the menu with the formula command ((F2)–Form) at the bottom of the screen.

If the (F1) switch is on Col, press (F1) to select Row. Press (F2) to select the Enter Formula function, and enter the row formula.

The operators and the functions are:

Operators: + – * / ( )

Functions: SQR SUM SMT MIN MAX AVE SIN COS TAN ATN EXP LOG ABS SGN FIX INT and RND

Type I or D before the formula to specify integer or decimal results.

All mathematical operations are performed from left to right. Multiplication and division operations are performed first, followed by addition and subtraction (unless enclosed in parentheses). Parentheses tell the computer to perform the enclosed operation first. When parentheses occur within another pair of parentheses, operations are performed beginning with the innermost set of parentheses and working outward.

Multiplication is indicated by an asterisk, *, while division is indicated by a slash, /.

There are 17 different functions you can use when entering formulas. (See "BASIC Keywords" in your Model 100 *Owner's Manual* for more details on these functions.) To include a function within a formula, type the three-letter abbreviation for the function followed by the row number within parentheses.

SQR tells the computer to take the square root of the values following the letters, **SQR**, in the specified row.

For the next 5 functions described below, **SUM**, **SMT**, **MIN**, **MAX**, and **AVE**, position the entry marker on the row in which you want the calculation to be displayed. (The marker must be on a row below the last value to be used in the calculation.) Then enter the formula, using the desired function followed by the row number from which you want to perform the function. (This is the row containing the first value to be used in the calculation.)

SUM (sum) adds the values starting from the specified row to the row in which the entry marker is positioned or to the row in which text is entered. (See the note below for a detailed explanation.) For example, if the entry marker is positioned on Row 5 and you enter the formula, **SUM(R1)**, Data Calc adds the numbers in Rows 1-4. (This is a short cut way of entering the formula, **R1+R2+R3+R4**.) After you use the Calculate command, the total is displayed in Row 5.

SMT (summation) tells the computer to give the cumulative totals along with the final computed total value of one specified row. For example, if the entry marker is positioned on Row 3 and you enter the formula, **SMT(R1)**, followed by the Calculate command, Data Calc calculates and displays the cumulative sum of the numbers in Row 1. The calculated value in Cell 3,1 is the same value as in Cell 1,1. The sum of Cell 1,1 and Cell 1,2 is displayed in Cell 3,2. Cell 3,3 contains the sum of Cells 1,1; 1,2; 1,3; and so on.

MIN (minimum) gives the minimum value of the numbers starting from the specified row following the letters, **MIN**, to the row in which the entry marker is positioned or the row in which text is entered. **MAX** (maximum) gives the maximum value of the numbers starting from the specified row following the letters, **MAX**, to the row in which the entry marker is positioned. **AVE** (average) gives the average value of the numbers starting from the specified row following the letters, **AVE**, to the row in which the entry marker is positioned.

Note: To indicate the last row you want included in a calculation, use the Enter Text command to enter some text such as spaces, dashes, or an asterisk (*) in the next row. For example, suppose you wanted to display the average value of the numbers in Rows 1-4 in Row 8. You would enter text in Row 5 to use the numbers through Row 4 for the calculation. Then you would move the entry marker to Row 8 and enter the formula, **AVE(R1)**. Even if there were numbers entered in Rows 6 and 7, these numbers would not be used when the average was calculated. The average of the numbers in Rows 1-4 would be displayed in Row 8 when you used the Calculate command.

To use the following trigonometric functions, you must express the values of the angles in the row in radians (rather than degrees) when you use the Enter Number command. **SIN** gives the trigonometric sines (in radians) of the values in the specified row following **SIN**. **COS** gives the cosines of angles in the specified row following **COS**. **TAN** gives the tangents of the values in the specified row following **TAN**. **ATN** gives the arctangents of the values in the specified row following **ATN**.

EXP gives the exponentials (natural antilog) of the values in the specified row following **EXP**. The opposite function, **LOG**, gives the natural logarithms (base "e") of the values in the specified row following **LOG**.

ABS gives the absolute values of the numbers in the specified row following **ABS**. **SGN** (algebraic sign) gives a –1 for negative numbers, 0 for zero, and 1 for positive numbers for the values in the specified row following **SGN**.

FIX (truncate real numbers) gives the whole number portions of the values in the specified row following **FIX**. (Numbers to the right of the decimal point are dropped. For negative numbers, **FIX** simply truncates and does not round up to the nearest whole number.) **INT** (get whole number representation) gives the whole number representations of the values in the specified row following **INT**. (For both negative and positive numbers, **INT** gives the nearest whole number.)

RND (return pseudo-random number) returns a pseudo-random number between 0 and 1 for the values in the specified row following **RND**. If a row value is non-zero, then **RND** returns a new random number. If a row value equals 0, then **RND** returns the last random number generated.

You can also specify whether you want the calculated value to be expressed as an integer or decimal number. Simply type **I** or **D** before the formula. If you specify **I**, the calculated value is displayed, showing only the numbers to the left of the decimal. If you choose **D**, the value is carried out to 14 significant digits. Data Calc automatically deletes trailing 0s.

If you don't specify **I** or **D**, the computer automatically calculates the formula, using a dollar and cents form, by carrying out the values to two decimal places. (This is particularly useful for financial data.)

Type the formula, and press (ENTER). You can enter as many as 36 characters per formula. When you are finished entering row formulas, press (ENTER) to return to command mode.

If the entry marker is on a cell in which both a row and column formula have been entered, the row formula takes precedence. The numbers in the specified rows under each column are used to arrive at the computed values.

The `Syntax error` message appears if you enter a formula incorrectly. Press (ENTER) to continue, and then press the (BACKSPACE) key to backspace and type over the mistake.

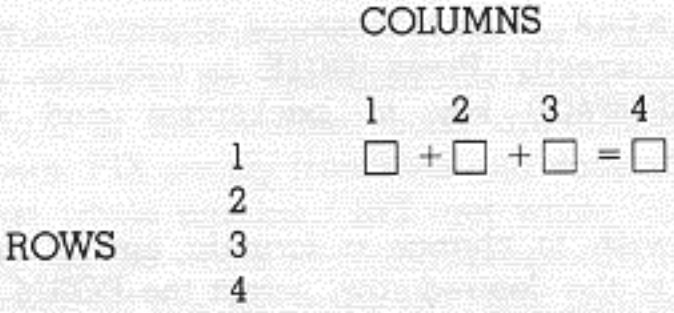
If you wish to change a formula entry, simply move the marker to the desired row, select the **FORM** command, and enter the new formula. The new formula replaces the old formula. To delete a formula, move the marker to the desired row, select the **FORM** command, and press (ESC).

To review and be sure that formulas are entered correctly, use the **DISP** (Display Formula) command. Display the formula entered in the row in which the entry marker is currently positioned. (See "Displaying Formula" for details.) After entering formulas, use the **CALC** (Calculate) command to see the computed value(s).

Prior to inserting or deleting a column or row, press (F4) in Menu 1 to recalculate all formulas. (This will prevent the loss of formulas.)

Column Formula Entry

A column formula specifies how values in the column in which the entry marker is currently positioned are calculated using data in preceding columns. For example, suppose you want to enter a column formula for Column 4 to add the numbers in Columns 1, 2, and 3. The calculated value in Cell 1,4 is the total of the numbers in Cells 1,1; 1,2; and 1,3. The calculated value in Cell 2,4 is the total of the numbers in Cells 2,1; 2,2; 2,3; and so on.



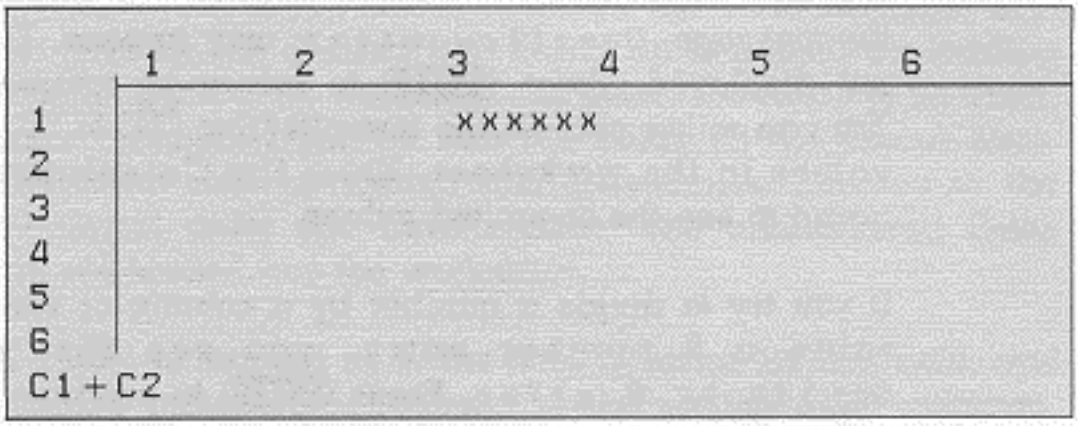
To enter a column formula, move the entry marker to the column in which you want the calculated value(s) to appear. (The entry marker can be on any cell in the column.) Press (TAB) until you see the menu with the **FORM** (Col/Row Formula) command at the bottom of the screen. Press (F1) to select Column (if the switch is on Row), press (F2) to select the Enter Formula function, type the formula, and press (ENTER).

Column formulas are entered in the same way as are row formulas. If you wish to change a formula entry, simply move the marker to the desired column, select the **FORM** command, and enter the new formula. The new formula replaces the old formula. To delete a formula, move the marker to the desired column, select the **FORM** command, and press (ESC) (ENTER).

Displaying A Formula

If a formula has been entered for a column, the column number is displayed in reverse video. Similarly, if a row has a formula, the row number is displayed in reverse video.

To display a column formula, locate the cursor in the correct column, and press (TAB) to return to the menu with DISP (Display Formula function). Press (F3). The formula is displayed at the lower left corner of the screen. Review the formula, and press (ENTER) to return to command mode.



If you entered both a column formula and a row formula for a cell, after you press (F3), the column formula is displayed first. To see the row formula, press (ENTER). Press (ENTER) again to return to command mode.

Calculation

Note: Do not reset or turn the computer off during the calculation process. If you do, all files currently in RAM might be lost.

To have Data Calc calculate and display the values in all formula-defined columns and rows, press (TAB) until you see the menu with the **CALC** (Calculate) command at the bottom of the screen, and then press (F4). The message, COMPUTING, is briefly displayed, and then the calculated results are shown. The command is executed automatically. You stay in command mode.

If both a row and column formula are entered for the same cell, the value for the row formula is displayed. Data Calc automatically adjusts the column width to display the entire calculated value.

If a calculated value is greater than 10^{62} or less than 10^{-64}, the message, `Overflow error`, may appear. The value is not displayed. Press (ENTER) to return to command mode. You can either change the formula from "D" to "I" or use the values in the worksheet. Enter the Calculate command again to see the computed values.

If you try to divide a number by a column or row that contains a 0 number entry, you see the message, `Divide by 0 error`. Press (ENTER) to continue, and then either change the appropriate column and/or row entry to a non-zero number, or change the formula.

If the formula would result in an invalid mathematical operation (such as taking the square root of a negative number), the message, `Illegal function`, is displayed. Press (ENTER) to continue, and then change either the entered number(s) or formula.

Inserting Data From Data Manager

This function allows you to use information from the files you create in the Data Manager Program. The Data Manager fields are loaded into the columns of the Data Calc worksheet (one field per column).

Press (TAB) to return to the menu with the LOAD function. Position the marker on the cell into which you want the data loaded. Press (F5). The following prompt is displayed:

```
DMgr: Enter File Name.....
```

The name of the Data Manager File used last is also displayed (if you had previously used this function). You can overtype to select a different Data Manager file.

INTERACTIVE SOLUTIONS displays the Data Manager layout form for the desired file. Select up to 9 fields for loading into the Data Calc worksheet. To select the fields to be used, enter numbers from 1-9 into the fields on the layout form. The fields will be loaded into consecutive columns in the numerical order you have chosen. The unnumbered fields are not loaded into the worksheet.

If a field is marked as 1, the data is sorted by that field, and you are prompted to respond to the sorting order question. Respond with (A) (ascending), or press (ENTER) if the A is already displayed on the screen. Respond with (D) if you choose descending order.

If you have not entered 1 in any field, the records are loaded into the worksheet in the same order in which they appear in the data file.

After selecting the fields, you are prompted with the layout form again. Specify selection conditions (if desired) for the data records. The conditions are identical to those explained in Data Manager:

=	exact match	alpha and numeric
/=	not exact match	alpha and numeric
#	partial match	alpha
/#	no match at all	alpha
>	greater than	numeric
/>	not greater than	numeric
<	less than	numeric
/<	not less than	numeric

The records are then selected from the data file, matched for the selection conditions, and sorted. The specified fields are extracted and loaded into the worksheet.

The column width in the Data Calc worksheet is automatically modified to accommodate full data and title size.

Define the area that you want to print. Take into consideration the width of your columns. Move the entry marker to the first cell to be printed. On the printed copy, this cell appears in the upper-left corner. Next, press (TAB) until you see the menu with the PRINT command, and then press (F6). Move the entry marker to the last cell to be printed, and then press (ENTER) to start printing. On the printed copy, this cell appears in the lower-right corner. Use (SHIFT) with the arrow keys to quickly move the entry marker to the next window. After printing, you return to command mode automatically.

For example, suppose you want to print data between Cells 3,1 and 10,8. You would move the entry marker to Cell 3,1, press (TAB) until you see the menu with the PRINT command, and then press (F6). Position the entry marker on Cell 10,8 and press (ENTER). After you press (ENTER), the printing begins.

If the message, `Printer not ready`, appears on the screen after you select the PRINT command, check all cables and plugs. Be sure that the printer is ready and on-line, and then press (ENTER) to continue. Move the entry marker to the last cell to be printed, and then press (ENTER) to start the printer.

If you can't get the printer ready or you have selected the PRINT command by mistake, press (SHIFT) (PAUSE). The command menu previously displayed reappears.

To center a worksheet on a page, use the Insert Column command at Column 1 to create some blank columns on the left of the page. Usually, 3 columns are sufficient.

Copying to Paste Buffer

This function copies part of the worksheet into the paste buffer for insertion (pasting) into a text file in the Word Processor of INTERACTIVE SOLUTIONS. For example, you can save data from a worksheet to be included in a letter to investors.

Before selecting the Copy command, move the entry marker to the first cell to be saved. Then press (TAB) to get to the Command Menu-1. Press (F7) to select the Copy command. Move the entry marker to the last cell to be saved, and press (ENTER). The control returns to command mode.

Commands in Menu-2

```
                    Command Menu-2

Col    Inst   Clr    Dlt    Width  Tlod   Tsav   Exit
(F1)   (F2)   (F3)   (F4)   (F5)   (F6)   (F7)   (F8)

       (F1)   Column and row switch
       (F2)   Insert (column or row)
       (F3)   Clear (column or row)
       (F4)   Delete (column or row)
       (F5)   Set Column width (default width 6)
       (F6)   Load worksheet from tape cassette
       (F7)   Save worksheet to tape cassette
```

The column and row switch toggle in Command Menu-2 allows you to control the significance of the formula function key as follows:

(F1) sets command as Col, then (F2) defines Insert a Column, (F3) defines Clear a Column, and (F4) defines Delete a Column.

(F1) sets command as Row, then (F2) defines Insert a Row, (F3) defines Clear a Row, and (F4) defines Delete a Row.

Note: Always recalculate formulas prior to using the insert or delete commands.

Inserting Rows

To insert a blank row, move the entry marker to the desired row. Press (TAB) until you see the menu with the INST (Insert Row) command. Be sure that (F1) is displaying ROW. If so, press (F2) to insert a row.

The data and formula originally in that row (and all succeeding rows) shift downward one row. The row numbers in formulas are changed so that the same values are used in calculations. You stay in command mode, and the menu line remains on the screen.

Inserting Columns

To insert a blank column, move the entry marker to the desired column. Press (TAB) until you see the menu with the INST (Insert Column) command, and then press (F2).

The data and formula originally in that column (and all succeeding columns) shift to the right one column. If the column did not contain data, another blank column is created. You stay in command mode, and the menu line remains on the screen.

Deleting Rows

To erase text and numbers in a row and any formula associated with that row, you must first position the entry marker on that row. Press (TAB) until you see the menu with the DLT (Delete Row) command at the bottom of the screen, and be sure that (F1) is displaying Row. Press (F4).

Next you are asked, `Delete row? (Y/N)`. Press (Y) if you are sure you want to delete all contents of the row. Press (N) if you change your mind.

The data (and any formula, if entered) in that row is erased. The data (and formula) in the row below shifts up to the row in which the entry marker is positioned. The row numbers in formulas are changed so that the same values are used in calculations. Data (and formulas) in succeeding rows also shifts up one row. You return to command mode with the previous menu line displayed on the screen.

Deleting Columns

To erase data in a column and any formula associated with that column, move the entry marker to that column. Press (TAB) until you see the menu with the `DLT` (Delete Column) command. Be sure that (F1) is displaying `COL`. Press (F4).

Next you are asked, `Delete row? (Y/N)`. Press (Y) to delete the column. Press (N) to keep the contents of the column intact.

The data in the column to the right shifts left to the column in which the entry marker is positioned. Data (and formulas) in all succeeding columns shifts one column to the left. You return to command mode with the previous menu line displayed on the screen.

Clearing Rows

To erase calculated values in a row, move the entry marker to the desired row. Press (TAB) until you see the menu with the CLR (Clear Row) command at the bottom of the screen. Be sure that (F1) is displaying Row. Press (F3).

Only calculated numbers are erased — if a formula has been entered for that row, it is not affected. Data in succeeding rows remains in the original rows.

The calculated data is erased, and you stay in command mode. You can now enter new formulas with the same data, or enter new data with the same formulas, and then use the Calculate command to see the computed values.

Clearing Columns

To erase calculated values in a column (leaving the column formulas intact), move the entry marker to the desired column. Press (TAB) until you see the menu with CLR (Clear Column) command at the bottom of the screen. Be sure that (F1) is displaying Col. Press (F3) to clear the column. Data in succeeding columns remains in the original columns.

Changing Column Width

You can change the column width (the number of spaces a column contains) from the default value of 6 to any value from 3-36. After the width has been changed, the worksheet is displayed using the new width.

Press (TAB) until you see the menu with the WIDTH (Change Width) command at the bottom of the screen, and then press (F5).

There are three ways to change column width:

1. Position the marker in the desired column. Type the width of the column. Press (ENTER).

2. Type the column number, a comma, and the column width. Press (ENTER).

3. To change the column width of all the columns, type **ALL**, a comma, and the column width. Press (ENTER).

   The worksheet displays the changes automatically and returns to command mode.

Be careful when using this command. If you make the width smaller, and the data (numbers or text) contains more characters than the newly specified width, some of the characters are not displayed. Don't worry, however, because the original data is still in the computer's memory. If you change the width again to the original value, the data in its entirety is displayed.

Loading From Tape

Note: The worksheet screen must be blank when you use this command. You cannot load a worksheet over another worksheet or attached to a worksheet. You will hear a beep if you try to use the TLOD command when there is data in the current worksheet. Return to the Model 100 Main Menu to restart with a blank worksheet.

When you load a worksheet from tape, the worksheet is saved automatically as a RAM file under the most recent filename you specified in response to the `Worksheet filename?` prompt.

To load a worksheet from tape back into memory, press (TAB) until you see the menu with the `TLOD` (Load from Tape) command at the bottom of the screen, and then press (F6). The menu is replaced with an input line so that you can enter the name of the file you want to load.

Place the cassette tape containing the worksheet file you wish to load in the tape recorder. Rewind the tape, and put the recorder in "Play" mode. Type the filename of the worksheet, and press (ENTER).

If the cassette contains several files or programs, Data Calc skips over them until the specified file is found. `FOUND:` *`filename`*, is displayed, once the filename has been located. The worksheet saved under that filename soon appears on the screen. You return to command mode, and the previous menu line reappears at the bottom of the screen. If the filename is not found and you wish to terminate the loading procedure, press (SHIFT) (PAUSE). Do not press RESET from the loading screen, as it could result in a loss of all the data stored in memory.

Saving to Tape

To save the worksheet currently on the screen onto a cassette tape, press (TAB) until you see the menu with the TSAV (Save on Tape) command at the bottom of the screen, and then press (F7). You return to command mode, and the previous menu line reappears at the bottom of the screen. The menu is replaced with an input line so that you can enter a filename under which you want to save the worksheet.

Place a cassette tape in the tape recorder. Either rewind the tape to the beginning, or position the tape to a blank area at which you want the copy to start. Put the recorder in "Record" mode, type a filename (up to 6 characters), and press (ENTER). After the worksheet has been saved and the recorder has stopped running, you return to command mode, and the previous menu line reappears at the bottom of the screen.

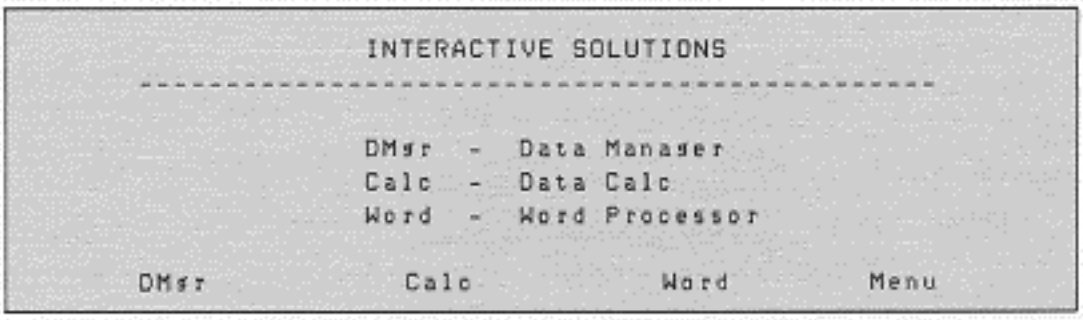
Introduction to INTERACTIVE SOLUTIONS Word Processor

INTERACTIVE SOLUTIONS Word Processor uses your Model 100 text editor to give you many of the word processing features of the larger word processing programs along with a special feature called mail-merge. Mail-merge will help you in multiple mailings and mailing list applications.

Data from the Data Calc program and selected fields from the Data Manager program can be included in text written in the Word Processor program. You have the opportunity to include in your text files information stored in and utilized by the other parts of the INTERACTIVE SOLUTIONS program.

If you are already familiar with the Model 100 Text program, you are well on the way to knowing how to use this special word processing system that allows you to perform text preparation and editing, format printing, editing the control parameters of formatted printing, and mail merging.

To begin using INTERACTIVE SOLUTIONS Word Processor, position the cursor over INTSOL at the Main Menu and press (ENTER). The INTERACTIVE SOLUTIONS menu is displayed:



Press (F5) or the (W) key for Word Processor.

The screen displays the prompt:

```
Word:  Enter File Name:.....
```

Respond to the prompt by typing the name of the file in which you intend to prepare your text or generate letters. To practice, call the file **PRCTCE**. A filename should represent the contents, and contain no more than 6 characters. The first 3 characters must be unique. For example you cannot have files named TEXT1 and TEXT2.

If you had already used the INTERACTIVE SOLUTIONS Word Processor, the filename prompt displayed after pressing (F5) or (W) would have included the name of the last file. Press (ENTER) to use that file, or type over it with a new name.

Preparing and Printing Text

After you enter the filename, you see the Word Processor menu on the screen:

```
                TEXT-WRITER
-----------------------------------------
Text - Create/Update
Prnt - Format & Print
Merg - Mail Merge
Cntl - Edit Controls

Text     Prnt     Merg     Cntl     Exit
(F1)     (F3)     (F5)     (F7)     (F8)
```

Press (F1) to prepare and edit your text.
Press (F3) to print your text.
Press (F5) to generate letters that can merge with other files.
Press (F7) to change the default printer settings and format parameters.

To use Word Processor, be sure that you have connected your Model 100 to a parallel printer. (See your owner's manual for instructions.) Press (F1) to start using the text monitor.

All the features and options of the Model 100 Text program are available. (F1) is used for the *Find* function. It allows you to search for a particular string of characters. (F2) is used for *Load*, and (F3) is used for *Save*. Both these functions ((F2) and (F3)) allow you to load and save to a cassette and help save memory used for storage. The (F7) key *Selects* (with the cursor movement keys) specific portions of text, and the (F5) key (*Copy*) duplicates the defined text. The (F6) key (*Cut*) deletes text that has been defined by (F7). However, in the Word Processor program, the (F8) key returns you to the INTERACTIVE SOLUTIONS Word Processor Menu.

Type a short paragraph, such as the example in Appendix B, taken from the introduction to *TRS-80 MODEL 100 PORTABLE COMPUTER*, your owner's manual.

Press (F8) to return to the menu. Press (F3)–Prnt (or press (P)). The prompt at the bottom of the screen displays:

```
Press any key when printer ready     Exit
```

Press any key to start printing. If you changed your mind and decided to stop printing, you could have pressed the (F8) key.

As soon as you press any key to start the printing operation, you see the name of the file and the following three options displayed:

```
Hold     Resume        Cancel
[F5]      [F6]          [F8]
```

- Halt the printing process by pressing (F5).

- Resume printing by pressing (F6).

- Cancel the printing process by pressing (F8).

If you have activated *Pause between pages* (see "Control Parameters"), then after printing each page, the printing will stop with a prompt on the last line:

```
Press any key when printer ready     exit
```

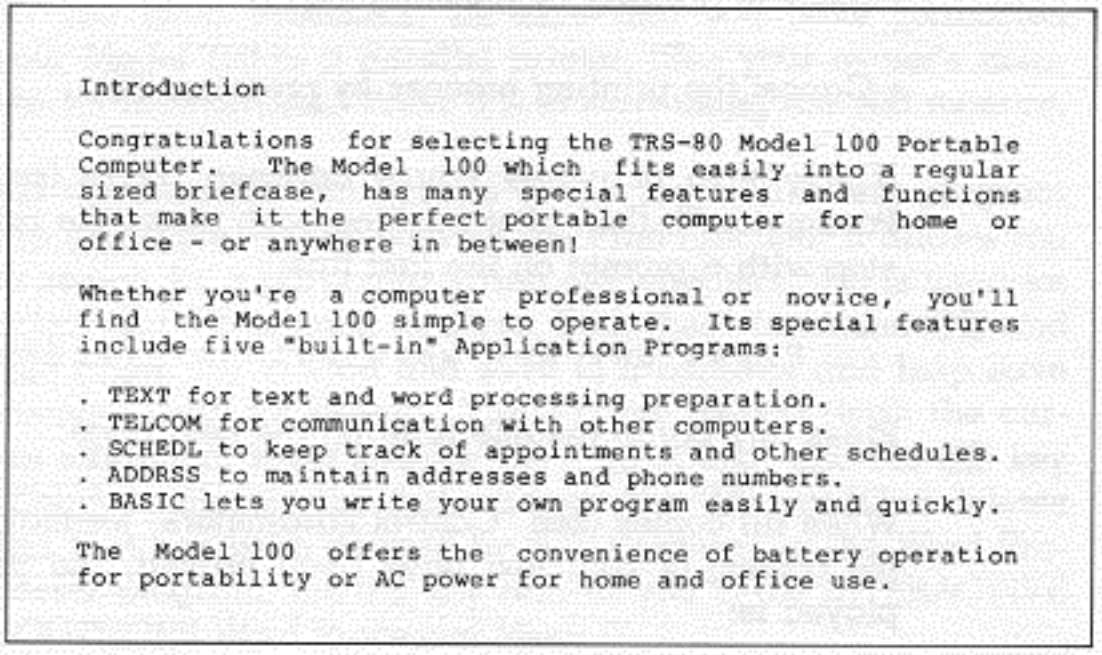
Press any key to resume printing the next page.

When all copies (see "Control Parameters" for making multiple copies) of your text have been printed, the prompt displayed is:

```
Page Feed Y/N?
```

Press (Y) if you want an extra blank page, or press (N) if you do not want a page.

As you can see by simply pressing (F3), your document will be printed with margin and default settings that meet most ordinary needs. For special or unusual documents, these and other print parameters can be changed.



```
Introduction

Congratulations  for selecting the TRS-80 Model 100 Portable
Computer.   The Model  100 which  fits easily into a regular
sized briefcase,  has many  special features  and  functions
that make  it the  perfect portable  computer  for  home  or
office - or anywhere in between!

Whether you're  a computer  professional or  novice,  you'll
find  the Model 100 simple to operate.  Its special features
include five "built-in" Application Programs:

. TEXT for text and word processing preparation.
. TELCOM for communication with other computers.
. SCHEDL to keep track of appointments and other schedules.
. ADDRSS to maintain addresses and phone numbers.
. BASIC lets you write your own program easily and quickly.

The  Model 100  offers the  convenience of battery operation
for portability or AC power for home and office use.
```

Control Parameters

Press (F7) or (C) at the Word Processor Menu. The Cntl function allows you to change the default parameters that format your print output. You see the following display on your screen:

```
Page Length:  66   Justification C/R/N: R
Page Width :  80   Para Spacing  0/1/2: 0
Right  Margin:10   Line Spacing  1/2/3: 1
Left   Margin:10   Starting  Page:     1
Top    Margin: 6   Pages to Print:    99
Bottom Margin: 6   Header/Footer  Y/N:  N
No of Copies : 1   Pause between pages: N
                     OK   Save Redo
```

Page Length: 66

The page length of 66 is the default value (the value to which the parameter automatically returns when you begin a new file). Normal letter-sized paper (8½" × 11") uses a page length of 66. You can change 66 to any number, 4-99.

Page Width: 80
The default value of 80 characters is the number of characters which can be printed across a letter sized sheet. Page width can be changed to any two-digit number, between 15-132.

Right Margin: 10
The number of spaces from the right margin to the right edge of the paper. The right margin can be changed from 0 to a figure that is less than half the value for page width. For example, on a page with a width of 80, a right margin can be 0-39.

Left Margin: 10
The number of spaces from the left edge of the paper to the left margin. The default is 10, and the margin can be changed from 0 to a figure that is less than half the value for page width.

Top Margin: 6
This establishes the number of lines that you want to leave between the top of the paper and the first line of text to be printed on the paper. The default is 6, and the top margin can be changed from 0 to a figure that is less than half the value for page length.

Bottom Margin: 6
Bottom margin determines the number of lines to leave between the bottom edge of the paper and the last printed line of text. The default of 6 can be changed from 0 to a figure that is less than half the value for page length.

No. of Copies: 1
By changing this parameter, you can print multiple copies of the text. You can change this parameter to a number 1-99.

Justification Code N/C/R: R
The value, R, means right-justification of your printing (alignment on the right edge). N means no right-justification; therefore, the right edge will be ragged. Type **C** for centering your text.

Para Spacing: 0
You can choose 0, 1, or 2 spaces between paragraphs. The default is 0.

Line Spacing: 1
The default value, 1, indicates single line spacing. This default can be changed to 2 (double line spacing) or 3 (triple line spacing).

Starting Page: 1
The value of this parameter indicates the page at which printing will start. If you give it the value, 10, the first 9 pages will not be printed, and printing will start at page 10. You can set this parameter to any value (1-99) based on the maximum number of pages to print.

Pages to Print: 99
This tells you the maximum number of pages that can be printed. You can alter the figure to any two-digit number.

Header/Footer Y/N: N
The default value, N, indicates that you do not want a header or footer to appear during printing. If you want a header or footer to appear, change this parameter to Y. You will have to specify details on the header or the footer when saving the control parameters.

If you specify Y for Header/Footer, then, when you press (F5)–Ok or (F6)–Save to save the new control codes, you are shown the following screen:

```
HEADER  Margin:  2 Justification N/C/R:  C

FOOTER  Margin:  2 Justification N/C/R:  C

First Page Number:    1
                    Ok   Save  Redo
```

Make any changes desired at the default character. The first two dotted lines are for the text of the Header.

Header Margin: 2
The header margin, 2, indicates that 2 lines will be skipped from the top of the page before the Header is printed. You can change the 2 to any single-digit number, but the value must be 2 less than the value assigned to Top Margin. (If the difference between Top Margin and Header Margin is not 2, the system automatically changes the Header Margin.)

Justification N/C/R: C
The header is centered during printing. You can change to right-aligned printing by typing **R**. The header can be printed at the left margin with no right alignment by typing **N**.

The text for the header can be a maximum of 80 characters, depending on the number of characters set for page width. Figure the number of characters that can be printed in header text as page width minus the total of the page margins. For example, if page width is 80, left margin is 10, right margin is 10, then header text is 60.

If you leave the dotted lines blank, there will be no header.

To print the date in a header, type @ wherever you want the date to appear, and leave 10 spaces after the @.

If you want the pages numbered in the header, type # in the position at which you want the page number to appear, and leave 2 spaces. A sample header might look like this:

```
HEADER Margin:  3 Justification N/C/R:N
INTERACTIVE SOLUTIONS Word Processor
@                Page:#
```

The @ and # must have a minimum of the required number of spaces stated, or those areas can be written over.

Footer Margin: 2
The footer margin, 2, indicates that 2 lines will be left between the footer and the bottom edge of the page. Just as in the heading codes, you can change the 2 to any single-digit number, but the value must be two less than the value assigned to the bottom margin. (If the difference between the Bottom Margin and Footer Margin is not 2, the system automatically changes the Footer Margin.)

Justification N/C/R: C
The footer is centered during printing. You can change to right-aligned printing by typing **R**. The footer can be printed at the left margin with no right alignment by typing **N**.

The same rules apply for the text in the footer as do for the header. Use the next 2 lines to write the footer text. You can use a maximum of 80 characters, depending on the number of characters set for page width.

If you leave the dotted lines blank, there will be no footer.

To print the date in a footer, type @ at which you want the date to appear, and leve 10 spaces after the @.

If you want the pages numbered in the footer, type # in the position at which you want the page number to appear, and leave 2 spaces.

First Page No: 1
This is the number that you want printed on your first document page. If you choose to use 5 rather than 1, then the subsequent pages will be 6, 7, 8, and so on. This is helpful when your text file has been broken up into more than one file.

Pause Between Pages: N
The value, N, determines that there will be continuous printing of your document, whereas changing this default to Y causes the printing to stop at the end of each page. The screen prompts you to strike a key to start printing again.

To see the results of changing the control parameters, reenter the word processing mode from the INTERACTIVE SOLUTIONS Main Menu. Press (F5) or (W), and recall the file called "PRCTCE", which was created earlier.

Press (F7). At the control parameter screen, do the following:

Change Right Margin from 10 to 16
Change Left Margin from 10 to 16
Change No. of Copies from 1 to 2
Change Justification from R to N
Change Para Spacing from 0 to 2
Type Y to Header/Footer
Type Y to Pause between Pages

Press (F6) to save your changes. Answer the Header/Footer screen as follows;

```
HEADER  Margin: 3 Justification N/C/R: N
Introduction to Model 100    @
Pg: #
```

Press (F6) to save the header changes. Print the "PRCTCE" file. Notice the date in the Header. Instructions for setting the date are in the Model 100 owner's manual.

```
Introduction to Model 100   Jan 10,1900 Pg: 1

Introduction



Congratulations for selecting the TRS-80 Model
100 Portable Computer.  The Model 100 which fits
easily into a regular sized briefcase, has many
special features and functions that make it the
perfect portable computer for home or office -
or anywhere in between!



Whether you're a computer professional or
novice, you'll find the Model 100 simple to
operate.  Its special features include five
"built-in" Application Programs:



. TEXT for text and word processing
preparation.

. TELCOM for communication with other
computers.

. SCHEDL to keep track of appointments and other
schedules.

. ADDRSS to maintain addresses and phone
numbers.

. BASIC lets you write your own program easily
and quickly.



The Model 100 offers the convenience of battery
operation for portability or AC power for home
and office use.
```

Press (F7) to return all control parameters to their default values. Press (F6) to save the default values.

Dot Commands

It is possible to change the parameter settings within formatted printing, temporarily. The process for these temporary changes is called *embedding dot commands*. The dot or period is followed by a letter and/or a number. The dot command precedes a paragraph. Dot commands do not appear in the printed text, but they appear in your screen text when you are editing it. The dot commands follow. Note that n following a letter stands for any number to a maximum of 99:

.P – Skip to a new page
.Pn – Skip to new page if 'n' number of lines do not fit on current page
.JC – Activate center justification
.JN – No justification
.JR – Right-justification (aligned right edge)
.Ln – Change left margin to 'n'
.Rn – Change right margin to 'n'
.n – skip 'n' lines
.Sn – Change line spacing to 'n' (1/2/3)
.Gn – Change spacing between paragraphs to 'n'
.HY – Activate header printing
.HN – Deactivate header printing

Go to INTERACTIVE SOLUTIONS Word Processor, request the "PRCTCE" file, and press (F1) for Text.

Start by centering "Introduction". The text editor allows you to insert text by merely typing it in. Move the cursor to the left of Introduction. Type **.JC** (ENTER).

Move to the first paragraph. Type **.JR** (ENTER) to return to right-justification. Type **.L15** (ENTER) for a change in left margin. Type **.R15** (ENTER) for a corresponding change in right margin.

Scroll to the second paragraph. Place the cursor to the left of "Whether", and type **.L10** (ENTER). Type **.R10** (ENTER).

Move to the left of ", TEXT". Type .1 (ENTER)
Move to the left of ", TELCOM". Type .1 (ENTER)
Move to the left of ", SCHEDL". Type .1 (ENTER)
Move to the left of ", ADDRSS". Type .1 (ENTER)
Move to the left of ", BASIC". Type .1 (ENTER)

Scroll to the final paragraph, and insert the dot commands to change the left and right margins to 15. Press (ENTER) after each dot command.

```
.JC
Introduction

.JR
.L15
.R15
Congratulations for selecting the TRS-80
 Model 100 Portable Computer.  The Model

 Model 100 Portable Computer.  The Model
 100 which fits easily into a regular
sized briefcase, has many special
features and functions that make it the
perfect portable computer for home or
office - or anywhere in between!

Find Load Save      Copy Cut  Sel  Exit


.L10
.R10
Whether you're a computer professional
or novice, you'll find the Model 100
simple to operate.  Its special features
 include five "built-in" Application
Find Load Save      Copy Cut  Sel  Exit

Programs:

.1
. TEXT for text and word processing
preparation.
.1
. TELCOM for communication with other
Find Load Save      Copy Cut  Sel  Exit

computers.
.1
. SCHEDL to keep track of appointments
and other schedules.
.1
. ADDRSS to maintain addresses and phone
 numbers.
Find Load Save      Copy Cut  Sel  Exit

.1
. BASIC lets you write your own programs
 easily and quickly.

.L15
.R15
The Model 100 offers the convenience of
Find Load Save      Copy Cut  Sel  Exit

 easily and quickly.

.L15
.R15
The Model 100 offers the convenience of
battery operation for portability or AC
power for home and office use.
Find Load Save      Copy Cut  Sel  Exit
```

Press (F8) to return to the Word Processing Menu, and press (F3) to print the document.

```
                        Introduction

     Congratulations for selecting the TRS-80 Model 100
     Portable  Computer.  The  Model  100  which  fits
     easily  into a  regular sized  briefcase, has many
     special  features and  functions that  make it the
     perfect  portable computer for home or office - or
     anywhere in between!




Whether you're  a computer  professional or  novice,  you'll
find  the Model 100 simple to operate.  Its special features
include five "built-in" Application Programs:


. TEXT for text and word processing preparation.

. TELCOM for communication with other computers.

. SCHEDL to keep track of appointments and other schedules.


. ADDRSS to maintain addresses and phone numbers.

. BASIC lets you write your own program easily and quickly.

     The  Model 100  offers the  convenience of battery
     operation for portability or AC power for home and
     office use.
```

Special Print Modes

A file has been included in your program called PRT.DO. PRT.DO includes the information necessary to print underlining and boldface on the Tandy DW and Tandy DMP printers that support those modes.

If you are using a different printer, and if your printer supports special printing such as underlining, boldfaced print, expanded letters, etc., you can include these special print features when using your Model 100.

Look in your own printer manual to find the codes available to you. Make a note of the code that turns a special selection on and the code that turns it off. Be aware that printers differ from one another in the codes that apply.

From the Model 100 Main Menu, enter TEXT. Call for the file, PRT. Decide on a letter that will remind you of the print mode, such as L for Under*L*ine or F for Bold*F*ace. These codes have been listed as U and B in the PRT file for the Tandy printers mentioned.

Write the code for turning on underline (using your own manual's code) by writing the letter, the on code, a slash, and the off code, for example, L0f/0E.

Write the code for turning on the boldface in the same manner, for example, F1B1F/1B1E.

If your printer supports underlined, boldfaced letters, then create another code with a new letter for the combination.

Use (F8) to return to the Main Menu, and return to INTERACTIVE SOLUTIONS and the Word Processor. Enter TEXT by pressing (F1).

Respond to the filename with **PRCTCE.**

To under line the word, "Introduction," type ^u before the word, and type ^ after it. To print the ^ character, type SHIFT 6. The ^u turns underline on, and ^ turns it off. If you designed your own codes, use the appropriate letters.

Scroll to the names of the application programs. Type ^B before TEXT, and ^ after. Put the Boldface on code before each application program name and the off code ^ after each. Again, if you designed your own codes, use the appropriate letters.

Mail Merge

If you want to generate the same letter for different persons, as is used in multiple mailings, the Mail Merge feature of INTERACTIVE SOLUTIONS will help you.

Enter the Word Processor TEXT section, and write a brief letter. Copy the following example:

A.B.C. Company
Office Memo
Re: United Way

TO: [First Name:] [Last Name:]
FROM: Sam Wittingham, V.P.

Dear [First name:],

The United way volunteer group is having a special get together for all employees who have donated more than $25 to United Way this quarter. Since you have donated $[United Way:] and since you live in [City:] you are invited to attend the meeting which is being held at the [City:] Public Library. Please let our United Way Rep know if you will attend.

Sincerely,
Sam

The mail merge will generate these letters using the field information from your INTERACTIVE SOLUTIONS Data Manager program. It is necessary to spell the field names in the letter exactly as they were spelled in Data Manager. In this example, you are sending the memo to selected employees.

Press (F8) to return to the menu. Press (F5) or (M) to select Mail Merge.

The following prompt is displayed:

```
Dmgr:Enter File Name:.....
```

Respond with the filename, **STAFF**. If the Data Manager prompt returns with a filename displayed, accept it with (ENTER), or rewrite the name.

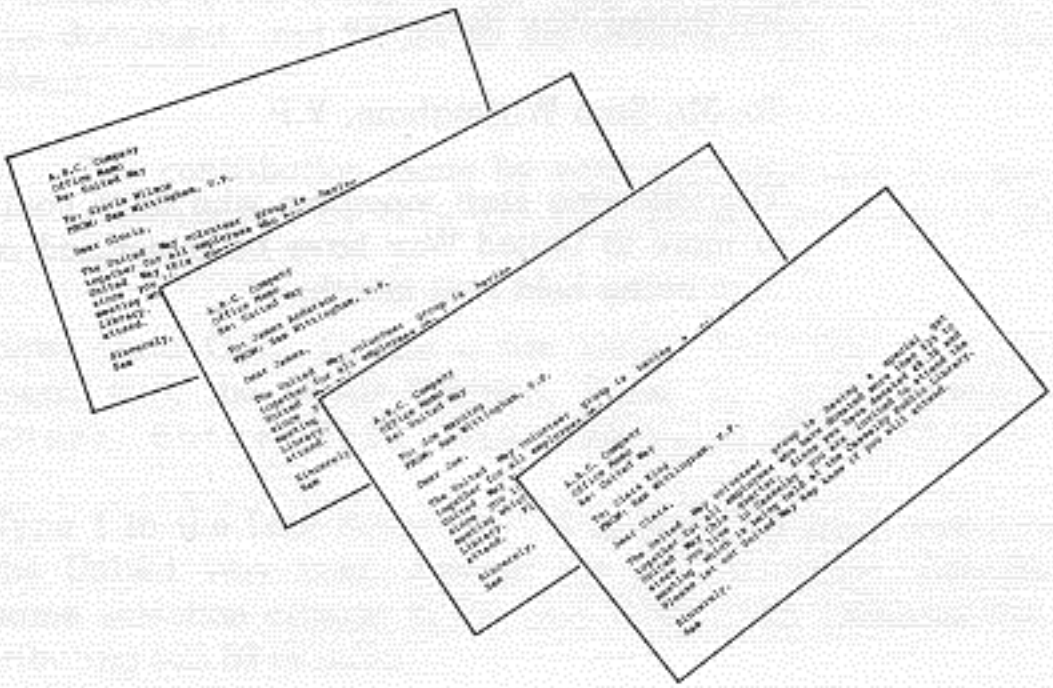
If the filename you request does not exist, the prompt is repeated. If necessary, return to Data Manager and develop a new file.

The layout form for your file will be displayed. Since this memo will be sent to only those employees who have donated $25 or more, use **>24.99** in the United Way field to make your selection.

Press the (F5)–Ok key.

Press the space bar (or any key) when your printer is ready.

The letters will be printed, one by one, for each of the staff meeting the selection criteria. Each person's first and last name, city, and donation amount will be included. Note how the spacing of the print changes with each individual letter.



Return to the INTERACTIVE SOLUTIONS Main Menu, and access Data Manager. Ask for the filename, STAFF.

When given the options in Data Manager, press (F6)–CR, or press the (C) key to enter the Copy Reports function.

Enter **3** in the Last Name field, enter **2** in the first name field, and use the selection symbols to choose all staff members who have donated $25.00 or more to United Way by typing **>24.99** in the United Way field. Press (F5)–Ok.

Exit to the INTERACTIVE SOLUTIONS Menu by pressing (F8)–Exit. Enter Word Processor with a new filename.

In Word Processor, write the following partial memo:

A.B.C. Company
Office Memo
Re: United Way Response

To: Mr. Sam Wittingham, V.P.

The following staff members who have contributed $25 or more to United Way have been notified of the meetings being held next month;

Press (ENTER) twice. Press the paste key. The names of the staff members will now be part of your document and will appear as follows:

```
A.B.C. Company
Office Memo
Re: United Way Response

To: Mr. Sam Wittingham, V.P.

The following staff members who have contributed $25 or
more to United Way have been notified of the meetings being
held next month:

Gloria          Wilson
Joe             Manning
James           Anderson
Clara           King
```

You can edit this text just as any other text can be edited. The memo is not complete yet. Add the following line, save the document, and return to the INTERACTIVE SOLUTIONS Menu:

> The contribution made by each employee and the total contributed by this division of the company is as follows;

Enter Data Calc. Create a file called "DONATE". Use the menu with the LOAD function. Press (F5) and respond to DMsr: Enter File Name: by typing **STAFF**.

Type **1** in the Last Name field, **2** in the Title field, and **3** in the United Way field. Answer the sort questions. Use the same selection criteria to list only those staff members contributing $25.00 or more.

On the Data Calc sheet, type **TOTAL** in the position two rows below the last title, and in the column left of the word "United Way".

In the row directly below the last United Way entry, type a series of underline characters ------ to fill the column, and in the row below the dotted line write the formula, Sum(R3), for adding the United Way column.

When the calculations are complete, return to the menu that includes Copy. Move the cursor to the first cell to be saved. Press (F7) to select the copy command. Move the cursor to the last cell to be saved, and press (ENTER).

Exit to the INTERACTIVE SOLUTIONS Menu, enter Word Processor, and return to the file you created for the memo.

Paste the Data Calc information into your letter. You can again use the text editor to organize your letter any way you want.

Add a closing to your memo, and print it.

```
A.B.C. Company
Office Memo
Re: United Way Response

To: Mr. Sam Wittingham, V.P.

The following staff members who have contributed $25 or more
to United Way have been notified of the meetings being held
next month;

            Gloria Wilson
            Joe Manning
            James Anderson
            Clara King

The contribution made by each employee and the total
contributed by this division of the company is as follows;

            Anderson    Managing Editor      58.17
            King        Vice President       48.36
            Manning     Systems Manager      29.15
            Wilson      Sales Manager        35.17
                                            ---------
                              TOTAL:        $170.85

Sincerely,

Gloria Wilson, Rep.
```

APPENDIX A

Names and other information to be used for Data Manager practice:

Wilson, Gloria Age 48
1752 Bluebonnet Circle
Fort Worth, Texas 76102
817-244-3298 Started 07/12/79
Sales Manager United Way 35.17

Manning, Joe Age 36
2134 Murray Hill
Fort Worth, Texas 76112
817-244-3732 Started 03/25/82
Systems Manager United Way 29.15

Rose, George Age 25
1234 Brown Trail Way
Benford, Texas 74902
817-345-5656 Started 08/12/83
Research Manager United Way 15.29

Anderson, James Age 32
261 East Bowen Circle
Brazosville, Texas 75012
817-322-4562 Started 08/12/83
Managing Editor United Way 58.17

King, Clara Age 50
989 Winthrop Row
Casselby, Texas 74021
214-324-6687 Started 12/02/78
Vice President United Way 48.36

Horst, Robert Age 41
89 West 15th Street
Fort Worth, Texas 76203
817-356-0209 Started 07/14/82
Design Manager United Way 13.29

APPENDIX B

Text to be copied for Word Processor practice session:

Introduction

Congratulations for selecting the TRS-80 Model 100 Portable Computer. The Model 100 which fits easily into a regular sized briefcase, has many special features and functions that make it the perfect portable computer for home or office - or anywhere in between!

Whether you're a computer professional or novice, you'll find the Model 100 simple to operate. Its special features include five "built-in" Application Programs:

. TEXT for text and word processing preparation.
. TELCOM for communication with other computers.
. SCHEDL to keep track of appointments and other schedules.
. ADDRSS to maintain addresses and phone numbers.
. BASIC lets you write your own programs easily and quickly.

The Model 100 offers the convenience of battery operation for portability or AC power for home and office use.

APPENDIX C

To save Data Manager files on cassette, you need a special BASIC program to access the files. Type the following BASIC program:

```
10 FILES: MAXFILES=2
20 INPUT "COPY FROM"; A$
30 INPUT "COPY TO"; B$
40 OPEN A$ FOR INPUT AS 1
50 OPEN B$ FOR OUTPUT AS 2
60 PRINT #2, INPUT$(1,1);
70 IF EOF(1) THEN CLOSE 1,2: PRINT "FINISHED":END
80 GOTO 60
```

Save this program as a memory file. Press (F3). When the `Save "` prompt is displayed, type:

```
COPY" (ENTER)
```

Press (F8) to exit to the Main Menu. COPY.BA appears in the Main Menu along with your other programs and files.

Using COPY.BA to Transfer Cassette or Memory Files

Be sure that your cassette is properly connected and is correctly positioned. Position the cursor over `COPY.BA` and press (ENTER). The names of all your files are displayed, as well as:

```
COPY FROM?
```

Respond with the appropriate name. If you are saving a file from memory to tape — answer with the filename, including the extension, and press (ENTER). If instead, you are loading a file from tape to memory — answer with CAS: and the name of the file as it is stored on tape, and press (ENTER).

```
COPY TO?
```

If you are saving a file from memory to tape — answer with CAS:FILENAME, including the extension, and press (ENTER). If you are loading a file from tape to memory, answer with FILENAME.

After the file is completely transferred, the message "Finished" appears on the screen.

To save the writer control file on cassette, make sure the cassette is properly connected and the tape is correctly positioned.

1. Position the cursor on BASIC, and press (ENTER).

2. Enter **LOADM "PRCCTL.CO"** (ENTER).

3. The screen displays
```
Top: 62600
End: 62805
OK
```

4. Type **SAVEM "Cas:PRCCTL.CO",62600,62805** and press (ENTER).

To load the control file from cassette be sure that the cassette is connected and that the tape is ready.

1. Position the cursor on BASIC, and press (ENTER).

2. Type **LOADM "CAS:PRCCTL"** (ENTER).

3. The file is loaded into memory, and the following is displayed:

```
Found:  PRCCTL
Top: 62600
End: 62805
OK
```

4. Type **SAVEM "Cas:PRCCTL.CO",62600,62805** and press (ENTER).

5. Press (F8)–MENU to exit BASIC.

Cat. No. 26-3844

Radio Shack

TRS-80

COMPUTER PRODUCTS

8749563-4/85-BCo

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