**PRO-COLOR-FILE *Enhanced* Version 2.0**

Dear Customer,

Thank you for purchasing PRO-COLOR-FILE *Enhanced* V2.0. You're going to find it to be a powerful and flexible piece of software. One of the best features is the ability to adapt the PRO-COLOR-FILE programs to perform special functions by being able to LIST and EDIT them. No special safeguards have been added to deter tampering with any of the programs. We'll happy to advise you on adapting programs but any revisions made are done so at your own risk.

Dennis Derringer, President

**NOTICE:**

This software is sold on an as-is basis and will be replaced only if found to be defective in manufacture, labeling or packaging if returned within two weeks after date of receiving. Except for such replacement, the use and handling of this software is without warranty or liability even though defect, damage, or loss is caused by negligence or other fault.

**SALES CONTRACT:**

The purchaser hereby agrees not to distribute, give, sell, lease or duplicate any of the PRO-COLOR-SERIES packages in any part or whole except for personal archival purposes. Any breach of this covenant will be considered a breach of the sales contract and the author, Dennis Derringer, has all remedies provided to him under the laws of the United States and the various states.

**BE HONEST**

Help us to continue developing and marketing products for the Color Computer by being true to yourself. When someone wants to "borrow" a copy of software that you've purchased, show them what it will do and then encourage them to buy their own - no matter how much or little it costs. You'll feel good about yourself and they'll respect you for taking a stand against something you both know is wrong. Piracy is illegal and hurts us all.

**UPGRADING**

If you're upgrading from an older version of PRO-COLOR-FILE then you need to perform the following procedure.

Place a BACKUP copy of the new PCF in drive 0 and then: RUN "REVISE" [ENTER]

Remove the new PCF diskette and place your working copy of the older version in drive 0 and press [ENTER]. This routine will change the PROGRAMS/SYS file on the system disk so that some added information can be stored by the new version. Perform this on all your copies of the PCF system disks including PRO-COLOR-DIR and PRO-COLOR-FORMS.

# P R E F A C E

When any data base is designed, no matter what kind, its purpose is to allow information to be entered, stored, searched, updated, or obtained on a printed report. Aside from special analysis of data, these functions will be the same. The information is entered in a field such as "LAST NAME", "ADDRESS" and is displayed on the screen in an orderly fashion. While typing in the information for each field a cursor can be moved to any position within these fields to allow correction of errors. After all information is entered a key is pressed to signal the program to store the record on disk. Searching through this information later, the program can display records that contain certain information within a field. A printed report can display this information in columns and can be sorted into alphabetical or numerical order for easy reference. As in the searching function, the report can be used to obtain a listing of records that meet certain criteria. Even though there are different kinds of data bases such as mailing lists, accounts payable or inventory, they all allow information to be entered, stored, reviewed, and reported. **Pro-Color-File** supplies these and other operations and will let you create cosmetic differences like screen and report formats to suit your needs.

**PRO-COLOR-FILE (PCF)**, has two general sections. The first is refered to as the **DEFINE SECTION** and is comprised of different routines that will allow you to design your own information storage and retrieval program. The second section of PCF uses your design and will let you enter records for storage on disk, search the records for updating and generate a printed report of them.

## BEFORE USING THE PROGRAM

BACKUP the master copy of PRO-COLOR-FILE and put it away! Never use the master copy for setting up a data base.

## TERMINOLOGY

Listed below are terms that are used throughout this manual.

1. **FILENAME** - This is a name that you will assign to a data base. This can be any name upto 8 characters in length. The FILENAME will be the single most identifying entry of a data base and will be asked for at the beginning of each routine that is accessed from the main menu.

Example: CHECKS, MAILOUT, STOCK.

2. **FIELD** - Refers to single entry of information that will be in a record.

3. **FIELD NAME** - A name that you have given to a FIELD, such as FIRST NAME, LAST NAME.

4. **FIELD LENGTH** - The amount of spaces that you want to have available for entering information into the corresponding FIELD NAME.

5. **SEGMENT** - Identifies a group of FIELDS. There can be 4 segments with each one having upto 15 FIELDS.

Throughout this manual, a key or name of a key to press will be enclosed with []. If two or more keys need to be pressed together, they will be joined with a + symbol. Example: [ENTER], [UP ARROW], [A], [SHIFT]+[CLEAR].

## GETTING STARTED

Place a PRO-COLOR-FILE system diskette in drive 0, type: **RUN "M"** and then press [ENTER].

There are several BASIC programs that comprise the PRO-COLOR-FILE program, each will be accessed by this one **"M"** program.

The **"M"** program will display the master menu for PRO-COLOR-FILE:

```
PRO-COLOR-FILE  *ENHANCED*  V2.0

   A.  DEFINE DATA SEGMENT
   B.  DEFINE SCREEN FORMAT
   C.  DEFINE EQUATION
   D.  DEFINE REPORT FORMAT
   E.  DEFINE LABELS FORMAT
   F.  PRO-COLOR-FILES
   G.  ENTER/UPDATE RECORDS
   H.  INDEX RECORDS
   I.  PRINT REPORTS
   J.  PRINT LABELS
   K.  POST ACCOUNTS
   X.  EXIT PROGRAM

   ▒▒ S E L E C T   A - X ▒▒

(C) 1984 BY DERRINGER SOFTWARE
```

## USING THE MAIN MENU

Selections are made by pressing the letter that corresponds with the task that you want to do. This is a single key entry and does not require [ENTER] to be pressed. [F] can be pressed to see the list of file names currently on the disk. These will be filenames that you assign to your data base programs.

## HOW TO USE THIS MANUAL

The flow of this manual follows the order in which procedures should be accomplished in setting up a data base program. Selections A - E are the areas of PRO-COLOR-FILE that allow all the parameters of a data base to be defined. Selections G - K use the parameters that have been defined and allow the data base to be used.

PRO-COLOR-FILE has many features that can only be learned if you take your time in reviewing the manual and try a little experimentation. Your first, permanant data base should not be set up until you understand and feel comfortable with using the features of PRO-COLOR-FILE.

Included in the back of this manual are several data base formats that can be used in experimenting with PRO-COLOR-FILE. Their formats are shown in the order that they should be defined. They are only suggestions, changes can be made to suit more specific needs.

## SETTING UP A DATA BASE

The first step in setting up a data base is to define exactly what it is you want to store in the file. All of this should be done on paper first to eliminate a lot of unecessary steps. PRO-COLOR-FILE doesn't care what type of information you want to store, it only needs to know the number entries per record you'll have, how much space to allow for each entry and on what disk drive you want the information stored.

### MAKE A LIST

List on a piece of paper the type of information you want to keep track of and how many spaces are needed for each piece of information. Take a MAILING LIST for example:

FILENAME: MAILIST

| No. | Field name | length |
|---|---|---|
| 1. | LAST NAME | 15 |
| 2. | FIRST NAME | 12 |
| 3. | ADDRESS | 30 |
| 4. | CITY | 18 |
| 5. | STATE | 2 |
| 6. | ZIP CODE | 5 |
| 7. | PHONE | 12 |
| 8. | COMMENTS | 30 |

TOTAL 124 spaces per record

This is all that is necessary to begin setting up the data base. A mailing list program is probably the most simple example to use. The more complicated your needs are, the more time you should spend with paper and pen in defining the exact format.

With the format of the data base organized on paper, it's only a matter of starting with selection [A] of the PRO-COLOR-FILE main menu and progressing through the alphabet until you're up and running.

### THE MINIMUM REQUIREMENTS

To actually use a format for entering records ([G]), will require only selections A, B and C to be accomplished. Selection [C] is only applicable if you are going to have mathematical equations performed on each record. PRO-COLOR-FILE has to have the segment information ([A]) to know the file structure, and data cannot be entered unless there is a screen format ([B]) to display it.

Report Formats ([D]) and Label Formats ([E]) do not perform any kind of file maintenance and can therefore be defined or re-defined at any time.

## DEFINE DATA SEGMENTS

Each database that is created has up to 1020 bytes (spaces) available in which to store information for each record. These 1020 bytes can be divided into 60 fields of information such as Last Name, Address, Check Number, Amount. The 60 fields are divided into 4 segments of 15 fields each. Each segment has 255 bytes available for its fields, thus giving the 1020 (4 x 255) bytes available for each record.

Not all 15 fields in each segment or all 4 segments for a record have to be defined for a database. Being able to define your fields in different segments will allow you to store a piece of each record on different disk drives (thus giving you more record capacity). Even if you will be working with a single disk drive, you can go ahead and break your information into multi-segments in the event you acquire other drives.

The data segment(s) for your database will set the file structure of your records and should therefore be arranged with care. The amount of space that you will need for each field of information should be determined before you begin. Using the least amount of space that a field requires will result in more record capacity.

After you have organized your database on paper, select [A] to **Define a Data Segment** and enter the filename that you've assigned. The filename cannot be greater than 8 characters and cannot contain any spaces. The number of segments already defined for the file will be indicated and then you will be prompted to enter the segment number that you want to define or update. Segments must be defined in order; however, you can go back and update any segment after it has been defined.

## SCREEN DISPLAY

The field numbers are displayed down the left side of the screen followed by the corresponding field name. The number of spaces allocated for each field is displayed between the two black columns.

The top right of the screen indicates the segment number being displayed and the drive that will hold the segment when data is entered later. Below that is the printer default values and indication for extra line feeds.

The bottom line of the screen shows how many spaces are left in the segment and how many have been used. These numbers will change automatically when the field length is entered for each field name.

## EDITING FEATURES

The position of the cursor is indicated by the flashing blue box.

**[ARROW KEYS]** - Moves cursor in the direction of arrow
**[SHIFT]+[UP ARROW]** - Deletes line that the cursor is in and moves any that are below it up one line.
**[SHIFT]+[DOWN ARROW]** - Moves line that the cursor is in and any below it down one line to allow inserting a field.
**[SHIFT]+[LEFT ARROW]** - Deletes the character that the cursor is on and moves any that are to the right over one space to the left.
**[SHIFT]+[RIGHT ARROW]** - Inserts a blank space where the cursor is located.

## [CLEAR] MENU

Pressing [CLEAR] while working on a segment will cause a prompt to appear on the bottom line of the screen: RES STORE DEF NXT PRE EXT HARD

[R] - Will let you resume editing the segment currently displayed.
[S] - Stores the segment currently displayed and then lets you resume editing.
[D] - Allows the changing of the drive number that will hold the segment, a default printer baud rate and the need for extra line feeds. A black box will appear beside DRIVE: located at the top right of the screen. Press 0, 1, 2 or 3 to change or press [ENTER] to leave it set and continue. The drive number can be changed even after data has been entered. The next prompt allows you to define your printer BAUD rate. Press 1 - 5 to select or press [ENTER] to leave it set and continue. If your printer requires a line feed (CHR$(10)) then answer the ADD LF: prompt by pressing [Y]. Press the [ENTER] to leave it set as is and continue with editing the segment.
[N] - Will advance to the next segment.*
[P] - Gets the previous segment. If segment 1 is displayed, then the program will exit back to the main menu.*
[E] - Exits the Define Segments section and returns to the main menu.*
[H] - Will generate a hardcopy of the segment being displayed.

*Selections [N], [P] and [E] will cause another menu to appear on the bottom of the screen before the selection is initiated: STORE THESE HEADINGS (Y/N/C)? [Y] will have the segment stored before the selection is carried out. [N] will continue with the selection without recording the segment. [C] will cancel the selection and let you resume editing the segment currently displayed.

## FIELD NUMBERS

The numbers down the left side of the screen are the actual field numbers that you will use in other sections of PRO-COLOR-FILE. These numbers will be used by you to indicate which information you want printed on the screen, used in math equations, printed on a printer and used in the selection of records for sorting and printing. The field names are there to help you remember the type of information you're going to enter into the field.

Segment 1 will always start with field #1. The following segments will start with the number after the last field in the previous section. For example, if you've defined 8 fields in segment 1 and then access segment 2, segment 2 will start with field #9.

## FIELD LENGTHS

The length of a field will determine how many spaces will be allocated for entering information. Defining execessive spaces will only decrease the number of records that can be stored in the file. Equally hazardous is the defining of a field with not enough spaces. Once you've entered data, the field lengths should not be changed or errors will occur.

## FORMATTING FOR DATES

Dates that will be entered should be broken down into 3 separate fields. The fields are defined with a length of 2 and should be defined in the sequence of year, month and day. This allows for accurate sorting over a span of years and also allows for records to be searched by the month or day. It may be difficult at first since most of us are use to entering the date as MM/DD/YY, but entering it as YY/MM/DD will be more useful. The section on Defining Data Screens will show how the date fields can be displayed with " / / " on the screen for easier entry.

## MULTI-SEGMENT / MULTI DRIVE FILES

Although a single disk drive can be used to store all of the segment information, using more than one disk drive will allow you to store the segments on different disk drives to increase record capacity. Even if don't need more than one segment, you might want to consider splitting your information up into more than one segment.

Consider the sample format found in the back of the manual called CLUBDUES. It's an 11 field database that requires 105 spaces per record. This would give a total record capacity of about 1300 records. The same file can be set up in 2 segments to increase the capacity.

DEFINED DATA FOR SEGMENT 1
STORED ON DRIVE 0

| NO. | FIELD NAME | LENGTH |
|---|---|---|
| 1. | LAST NAME | 15 |
| 2. | FIRST NAME | 12 |
| 3. | CITY | 18 |
| 4. | STATE | 2 |
| 5. | ZIP CODE | 5 |
| | TOTAL | 52 |

DEFINED DATA FOR SEGMENT 2
STORED ON DRIVE 1

| NO. | FIELD NAME | LENGTH |
|---|---|---|
| 6. | ADDRESS | 30 |
| 7. | PHONE | 8 |
| 8. | DUES OWED | 6 |
| 9. | MONTHLY DUES | 5 |
| 10. | POSTED MONTH | 2 |
| 11. | POSTED DAY | 2 |
| | TOTAL | 53 |

This format will give almost double the capacity compared to the single segment. Even though the order in which the fields are defined are not the same, the 2 segment format still has 11 fields for each "record" and still requires 105 spaces to store the information for each. The difference now is that 52 spaces are stored on drive 0 and 53 are stored on drive 1.

## NOTES

Defining the data segments is the single most important aspect of setting up a file. Each segment that is defined will be an individual filename on the diskette. The records in each file work together to give you one logical record. In other words, a multi-segment file will have a piece of each record stored in separate files on the disk. When a record is accessed, all the pieces are brought in from each file and then presented as one record. This allows for more record capacity by being able to store "segments" of each record on different disk drives.

If you've entered records in a file and then decide the segments must be changed, the following files should be KILLED using the BASIC command "KILL". Refer to your disk manual.

The data files for a database will have the extension(s) of "SG1", "SG2", "SG3" and "SG4". These correspond to segments 1 thru 4 respectively and will be present only if you've defined the segment. The filename will be the name that you've assigned to the database and will contain trailing *'s if the name is less than 8 characters. Example: MAIL****/SG1.

Killing these files will then allow you to change the segment information and then enter records again. This procedure will not have to be followed if you are only changing the field names. It is only necessary if you change the field lengths or the order of the fields.

## DEFINE DATA SCREENS

The purpose of this section is to format screens that will be used later for entering information into the data fields. Here, you need only to be concerned with the number that is assigned to each field. There is no correlation between the 4 data segments and 4 data entry screens. After entering the filename, you will be prompted to select the screen (1 - 4) that you want to define or update.

The top 15 lines are available for designing a screen. Any titles, notes or other information can be typed on the screen that might be needed when entering data. A non-destructive cursor can be moved to any position on the screen for accomplishing this. This free form approach will enable you to play with screen formats until they suit your particular needs. In general, a screen will have a "title" at the top and then headings such as Last Name, First Name, Check Number, Amount will be displayed to indicate the type of information that will be entered in the field that is beside, above or below it. The fields can be printed anywhere on the screen where you feel they should be and they don't have to be in the order you defined them.

## DISPLAYING DATA FIELDS ON THE SCREEN

There are three steps to follow when you want to indicate where on the screen a particular field is to be printed.

**Step 1** - Indicate the beginning position of the field. The position where a field is to be printed is indicated by a [ ([SHIFT]+[DOWN ARROW]). For example: LAST NAME: [

**Step 2** - Indicate the type of information to be entered. Directly following the [ will be one of five characters. They are: ($ # . ! D) These are used to indicate which keys can be used when entering the information in the field. For example: LAST NAME: [$ or ZIP CODE: [#. The "D" is for a date formatting feature.

**$** - The dollar sign indicates that any of the keys on the keyboard can be used in entering information. This is the general purpose type.

**#** - The number sign will allow only whole numbers to be entered in the field. They can contain a - (minus) sign but not a decimal. This is for phone numbers, social security or any field that should only be whole numbers.

**.** - The decimal indicates that only numbers can be entered, with or without a decimal. This is used primarily for dollars and cents fields. A minus sign can also be accepted.

**!** - The exclamation mark is a field protector. When this field is reached as data is being entered, the cursor will **not** stop in it but will advance to the next field on the screen. This is used to enable fields to be repeated on following screens for identification purposes only; such as a person's name entered on screen 1. The ! is also used on fields that will contain calculated results from equations.

**D** - Indicates that the following field number is the first of three fields that have been defined for a date. The second and third field numbers for the date do not have to be indicated. This will cause the three fields to be displayed in the format of " / / " when data is entered. (See related information in Defining a Data Segment)

**Step 3** - Indicate the number of the field that is to be printed there. Here again, it is important that you don't get confused by screen numbers and segment numbers. There might be 3 segments of data in a database but with only 20 fields defined. It's the number of the field, 1 2 3...20, that you need to be concerned with at this point. For example: LAST NAME: [$1 or ZIP CODE: [#6

## EDITING FEATURES

**[ARROW KEYS]** Moves the cursor in the direction of the arrow.
**[SHIFT]+[LEFT ARROW]** Deletes a character.
**[SHIFT]+[RIGHT ARROW]** Inserts a blank space.
**[SHIFT]+[@]** Inserts a blank line on the sceen.
**[BREAK]** Deletes line that the cursor is in.
**[SHIFT]+[CLEAR]** Generates special graphic characters. (See [C] below)

## COLORING THE BACKGROUND OF THE SCREEN

This feature can be used anytime a screen format is being worked on. It is envoked by pressing **[SHIFT]+[UP ARROW]**. This will cause a selection to appear on the bottom line of the screen: Line Below Space Code Exit

This first selection is to indicate exactly what you want to color.

**[L]** Selects the line that the cursor is currently in.
**[B]** Selects the line the cursor is in and all lines below it.
**[S]** Will change the color of the spacebar when used.
**[C]** Selects special code selection (See Below).
**[E]** Exits this selection and resumes editing without changing anything.

The selection of L, B or S will cause another selection to appear on the bottom line of the screen: Select 0 - 8 or Exit

Pressing the color of your choice will cause the background to change color. If you select [S], nothing will occur until you use the spacebar. This is used to add black spaces between lower case words or to frame in the screen in a different color.

The colors 0 - 8 will produce the following background colors:

| | |
|---|---|
| 0 - Black | 5 - Buff |
| 1 - Green (CLS) | 6 - Cyan |
| 2 - Yellow | 7 - Magenta |
| 3 - Blue | 8 - Orange |
| 4 - Red | |

Any screen that is designed should have a background color other than 1; this is the standard CLS color. The reason for this is to help the data fields stand out when entering data. The recommended color for most use is 3 - Blue.

**SPECIAL CODE** - Selecting [C] after the **[SHIFT]+[UP ARROW]** will display the following. prompt: SELECT CODE A-N OR ENTER:

Pressing any letter from A to N will display a graphics block in the lower right corner of the screen. The color of the block will match that of the color background that is currently being used. When you have selected the code to use, Press **[ENTER]** to return to the edit mode.

These codes are generated whenever [SHIFT]+[CLEAR] is pressed while editing the screen and are used to customize the appearance of the data entry screen. They can only be used with colors 2 thru 8.

## [CLEAR] MENU

Pressing [CLEAR] while working on a screen format will cause a prompt to appear on the bottom line of the screen: Resume Store Delete Exit Hcopy

[R] Resumes formatting the screen currently displayed.
[S] Stores the screen on disk. It will replace any other format that was previously stored with the same screen number. *
[H] Generates a hardcopy of the format for future reference. A printer not ready feature will detect if a printer is not online.
[D] Deletes the format entirely from disk. You will be prompted again to make sure you want this selection before it continues.
[E] Exits from the screen format **without** recording the screen on disk. Use this if you don't want to record over a screen already stored with same screen number. A second prompt will make sure you want to exit without recording the screen format or if you want to cancel the selection.*

*After [S]toring or [E]xiting you will be returned to the ENTER SCREEN 1 - 4 prompt so that another screen can be loaded and/or created for the same file.

## PASSWORD PROTECTION

A 5 letter password can be assigned to a screen format to limit its access. After the screen is stored, you will be prompted if a password is desired. Press [Y] to enter a password or [N] to bypass it. The password will be required if the screen is called up again for changing. Re-storing a screen that has a password will give you the opportunity to [K]eep [R]eplace or [E]liminate it.

## CHANGING A SCREEN FORMAT

Screen formats can be re-defined at anytime; even after data has been entered. The manner in which a screen is defined does not have any bearing on the way information is stored on disk. All of the fields do not even have to be displayed on a screen for the data to be stored.

## NOTES

1. There cannot be more than 30 fields defined on any one screen.

2. There must be at least one space separating fields.

Example: [#3[#4[#5 is not acceptable. It should be: [#3 [#4 [#5

3. There must be at least one field that is accessable for entry on a screen. Don't define a screen format will all fields protected with the ! mark.

4. Be sure to leave enough blank spaces after placing a field on the screen before placing a second one on the same line.

Example: NAME: [$1 PHONE: [#8

There are only nine spaces from the [ of NAME to the beginning of the word PHONE. If NAME has a length of 20, then it will erase the PHONE field on the screen.

Also, fields with more than 32 spaces will wrap around to the next line.

## DEFINE MATH EQUATIONS

There are a total of 28 equation lines that can be used for setting up mathematical equations. The equations that are set up can be used by either the ADD/UPDATE RECORDS routine and/or the POST ACCOUNTS routine. In the ADD/UPDATE routine, the calculations will be performed whenever a record is stored on disk. The POST ACCOUNTS routine will scan through the entire file and perform the calculations on all or selected records and store the updated fields.

## SCREEN DISPLAY

On the left side of the = sign is the field number which will contain the result of the equation on the right side. Field numbers are used within the equation to specify the variables to be used within the equation. For example, "20=18+19" indicates that the sum of the values in fields 18 and 19 will be stored in field 20.

There is a specific manner in which the calculations can be employed. The calculation starts by setting the field that will be holding the answer equal to the first field in the equation. It then checks to see what operation is being called on following the field number. The operation is then performed using the value of the field number following the operation. The calculations progress in this fashion until the end of the equation. This may cause some difficulty at first but experimentation will result in accurate results.

## EDITING FEATURES

The cursor position is indicated by the flashing blue box.

**[ENTER]** - Moves the cursor from the left to right side of the = sign.
**[ARROW KEYS]** - Moves cursor in the direction of the arrow.
**[SHIFT]+[LEFT ARROW]** - Deletes characters.
**[SHIFT]+[RIGHT ARROW]** - Inserts a blank space.
**[SHIFT]+[UP ARROW]** - Deletes entire equation line.
**[SHIFT]+[DOWN ARROW]** - Opens up equation and inserts a blank line.
**[●]** - Pages between equations 1 - 14 and 15 - 28.

## COMMENT LINES

Comments about the equations can be typed after an equation or on un-used lines with no adverse affects. This can help with later updates or changes.

## [CLEAR] MENU

While defining equations, **[CLEAR]** can be pressed to access the following menu that will appear on the bottom line of the screen: RESUME EXIT STORE HARDCOPY

**[R]** - Lets you resume formatting the equations.
**[E]** - Exits the equation section without recording the equations. You are prompted a second time to verify that you don't want the equations stored on disk.
**[S]** - Stores the equations on disk and then returns to the main menu.
**[H]** - Generates a hardcopy of the equations.

## OPERATIONS

There are five operations that can be performed in an equation.

1. + Addition: 20=18+19
2. - Subtraction: 20=18-19
3. * Multiplication: 20=18*19
4. / Division: 20=18/19
5. , Special total indicator: 20=10,19

Operations 1 thru 4 are used as you would commonly use them in any application. The fifth operation is a special feature of PRO-COLOR-FILE.

## TOTALS ON SEQUENTIALLY DEFINED FIELDS

The (,) operation is a shorthand method of obtaning a total from sequentially defined fields.

Example: You've defined 5 fields that will contain "ITEM COST" information and you want to store the sum of these in a "TOTAL SALE" field. Assume for the moment that the 5 "ITEM COST" fields are 11 - 15 and "TOTAL SALE" is field 16. The shorthand method for obtaining the total is:

16=11,15 (This is the same as 16=11+12+13+14+15)

This operation must always be the first one of the equation line, but additional calculations can follow this in the same line.

## USING A CONSTANT VALUE

Each number that is within an equation will be viewed as a field number. However, there may be times that a "constant value" will be needed within an equation. Placing a number between double quotes " " will have PRO-COLOR-FILE use it as a contant value instead of a field number.

Example: You've defined 5 fields that will contain "ITEM COST" information and you want to calculate a 4% sales tax on the sum. Assume for the moment that the 5 "ITEM COST" fields are 11 - 15 and "TAX" is field 17. The shorthand method can be used to obtain the total and then the 4% is calculated:

17=11,145".04"

## EXTENDING AN EQUATION

An equation can contain as many operations as needed to arrive at the solution. There is a limit of 29 spaces that can be used in each equation, but you can continue an equation on the next equation line by first letting it reference itself.

Example: 12=16+18+20.....(end of line)

The next line would start: 12=12*"2.2"+20...

The value as calculated in the first equation is used to start the second equation. This has in effect extended the equation. One application of this feature could be to set up a "COUNTER" field that would track how many times a particular record is accessed: 15=15+"1" would ADD 1 to the value already contained in field 15 each time it is accessed.

## SCRATCH PAD FIELDS

Field numbers higher than those defined in the data segments and up to 70 can be used to hold temporary values that don't need to be stored. This can be used within the equations to hold temporary results or the higher field numbers can be used on the screen formats for entering values from the keyboard. The numbers for these fields is the "number of fields defined + 1" to 70. Fields 61 thru 70 CANNOT be stored in the file.

## SETTING SCRATCH PAD FIELDS EQUAL TO 0

Scratch pad fields are set to null automatically while entering new records, but are not when records are being updated. There are two ways by which the scratch pad fields can be set to null.

1. 30="0" - This will set field number 30 equal to zero.
2. 00=30,40 - This will set field numbers 30 thru 40 equal to zero.

NOTE: If a scratch pad field is not set to null then its current value will be used on following records that are updated.

## DEFINING THE NUMBER TYPE

Some equations might return numbers that contain too many decimal places. This is especially true if division is used. Therefore it is important that you indicate the type of number that you want returned. There are three types of numbers that can be calculated. One of the following symbols can be placed directly following an equation.

1. ! - An exclamation mark indicates to return only the whole number portion, no decimals: 20=25*26+".5" !
2. % - A percent symbol indicates to return the number carried out to two decimal places. This is used for dollar and cent amounts: 22=18*".04" %
3. - Leaving off the field type will return the number as calculated.

## OVERFLOW ERROR

If a calculated number contains too many digits to fit within the field defined for it, an "OV" will appear in that field. This will be more apt to happen if you use division within an equation and don't define the number type with either an "!" or "%".

You must allow space for the - (minus) sign if the equation is going to be returning negative numbers.

## RELATIVE EQUATION

The following feature allows a single equation to be used on multiple sets of data provided each set relates to the same type of entry. The example will be that of an invoice program which allows the entering the purchaser's name, date, and up to 5 items purchased, with each to include: quantity, stock number, unit price and extension amount. It will also calculate the sub-total, tax, total bill, amount paid and amount due.

**FIGURE 1 - FILENAME: INVOICE***

| Segment 1 | | Segment 2 | |
|---|---|---|---|
| FIELD : HEADING | LEN | FIELD : HEADING | LEN |
| 1. NAME | 30 | 15. QUANTITY-4 | 2 |
| 2. DATE | 8 | 16. STOCK#-4 | 10 |
| 3. QUANTITY-1 | 2 | 17. UNIT PRICE-4 | 6 |
| 4. STOCK#-1 | 10 | 18. TOTAL-4 | 7 |
| 5. UNIT PRICE-1 | 6 | 19. QUANTITY-5 | 2 |
| 6. TOTAL-1 | 7 | 20. STOCK#-5 | 10 |
| 7. QUANTITY-2 | 2 | 21. UNIT PRICE-5 | 6 |
| 8. STOCK#-2 | 10 | 22. TOTAL-5 | 7 |
| 9. UNIT PRICE-2 | 6 | 23. SUB-TOTAL | 7 |
| 10. TOTAL-2 | 7 | 24. TAX | 6 |
| 11. QUANTITY-3 | 2 | 25. TOTAL BILL | 7 |
| 12. STOCK#-3 | 10 | 26. AMOUNT PAID | 7 |
| 13. UNIT PRICE-3 | 6 | 27. BALANCE DUE | 7 |
| 14. TOTAL-3 | 7 | | |

Notice how the format of QUANTITY, STOCK#, UNIT PRICE and TOTAL have been repeated 5 times. The total of each item will be arrived at by using the same equation of QUANTITY * UNIT PRICE. Since the equation will be the same, only the values of the Field Numbers used will be changed. Figure 2 demonstrates how this is accomplished in equation 1.

**Figure 2**

```
DEFINED EQUATIONS FOR: INVOICE


NO.   EQUATION

 1.   06=03*05:05+04 %
 2.   22=06+10+14+18+22 %    (SUB-TOTAL)
 3.   24=22*".04" %    (SALES TAX)
 4.   25=24+22 %   (TOTAL SALE)
 5.   27=25-26 %    (BALANCE DUE )
```

Equation 1 has been set up to calculate the extended price of the first item. Note the ":". The ":" indicates that the equation is to be used in additional calculations using different Field Numbers. The 05 following the ":" indicates that the equation is to be performed 5 times starting with the Field Numbers that are in the equation. The +04 indicates the relative spacing of the group of Fields. This will add 4 to the Field Number values each time it performs the calculation. If you study figure 1 you'll see that QUANTITY starts on every fourth field number.

Figure 3 shows how this would look to the program when the calculations are performed.

Figure 3

```
1.  (1) 06=03*05 %
    (2) 10=07*09 %
    (3) 14=11*13 %
    (4) 18=15*17 %
    (5) 22=19*21 %
```

Looking down each column you'll notice that the numbers change in increments of 4 each time. Comparing the 5 equations to the Field listing shows that the equations act on each set of "ITEMS PURCHASED".

It's important that you include the leading 0's or an error may occur. The + sign serves no purpose other than to serparate the two numbers. This feature should always be used starting with the first occurance of the equation. The rest of the equations in Figure 2 are of the standard PRO-COLOR-FILE form.

The equation can be of any form and can be repeated as many times as necessary. The example invoice database could have been expanded to allow 10 "ITEMS PURCHASED" to be entered. The equation would then be: 06=03*05:10+04 %. Or, the Fields could have been specified differently, like having all of QUANTITY Fields specified consecutively followed by the STOCK#s, UNIT PRICES and then EXTENSIONS. This would place the Relative spacing of each item to 1 and the equation would reflect the first Quantity being multiplied by the first Unit Price with :05+01 placed on the end.

## EQUATIONS FOR POSTING ACCOUNTS

Equations can be set up to post charges or perform other math functions to the entire file. Since these equations will be used for posting only, they are coded so as not to be used when entering or updating individual records. Placing ;P after the equation will indicate that it should be used only when posting. Consequently, only those equations with ;P will be used in the posting routine. If the same equation is needed in both the DATA ENTRY and POSTING routines, then a ;B can be used to have the equation used in both programs.

```
Example:  08=07*".015"+".005" % ;P
          09=08+11 % ;B
```

## KEYBOARD ENTRY OF VALUES FOR POSTING

In some cases, values may need to be entered at the time of posting. Up to 9 input prompts can be defined to receive input from the keyboard at the time of posting. These values are then passed to undefined fields that are used within the equation. An input prompt can be typed on the equation line followed by the field number (within parenthesis) that will receive the input from the keyboard. The field number used must be one that is not being stored in the data file. Two question marks (??) are placed on the left side of the equal sign to indicate that an input line follows. Since this can only be used in the POST ACCOUNTS routine, ;P does not have to be used.

Example: ??=LATE CHARGE (30)

When the POST ACCOUNTS program is used, this input will be asked for and displayed exactly as typed. In the preceding example, undefined field 30 could be used to add a late charge to the BALANCE DUE field. The input prompt should be less than 20 characters.

Listed below is an example data file that could be used for charge accounts.

FILENAME: ACCOUNTS

Segment 1

| NO. | FIELD NAME - LENGTH | |
|---|---|---|
| 1. | LAST NAME | 15 |
| 2. | FIRST NAME | 15 |
| 3. | ADDRESS | 30 |
| 4. | CITY/STATE | 20 |
| 5. | ZIP CODE | 10 |
| 6. | PHONE | 8 |
| 7. | ACCT # | 5 |
| 8. | BALANCE DUE | 7 |
| 9. | FINANCE CHG | 6 |
| 10. | INT. YTD | 6 |
| 11. | YEAR | 2 |
| 12. | MONTH | 2 |
| 13. | DAY | 2 |

The equations could then be set up as follows:

DEFINED EQUATIONS FOR: ACCOUNTS

```
 1.  08=08+14-15 %
 2.  00=14,15
 3.  09=08*".015"+".005" % ;P
 4.  10=10+09 % ;P
 5.  ??=YEAR POSTED (16)
 6.  ??=MONTH " "   (17)
 7.  ??=DAY   " "   (18)
 8.  11=16 ;P
 9.  12=17 ;P
10.  13=18 ;P
```

**Equation 1 uses undefined fields 14 and 15 as charge and payment fields. These two fields would be placed on a data entry screen for input. Equation 2 sets the charge and payment fields equal to zero. Equation 3 uses the BALANCE DUE field (08) and calculates a 1.5 percent finance charge for placement in the FINANCE CHG field (09). Notice how .005 was added to round up to the next 1/100th. Equation 4 takes the FINANCE CHG (09) and adds it to the current BALANCE DUE. Equations 5 - 7 will accept input from the keyboard when the POSTING program is used to obtain the date the posting is being performed. Equations 8 - 10 pass the values of the date inputs to their respective fields stored in the file.**

## IF THEN ELSE

In some applications, it may be necessary to have any one or more equations performed depending on the entry that is made. The IF-THEN-ELSE function allows the testing of a field for either a "value" or "word" before the next equation is performed. This feature is quite advanced and may take some experimentation to become proficient in its application.

The IF-THEN-ELSE has the following syntax:

IF=[FIELD NUMBER][$] [OPERAND] ["COMPARATOR"] ([SKIP NUMBER]

The word IF is placed on the left side of the "=" to indicate the equation line is a logic test. A field number **must** follow on the right side of the "=" sign indicating the field that is to be tested. Following the field number (no spaces) is the operand that is to be used. Following the operand is the comparator (within quotes) that is to be used. An ELSE function takes the form of (n where n=skip factor for jumping to another equation.

## STRING$ TESTING

By placing a dollar sign after the field number will indicate that the test is to be a "word" comparison. The same number of letters in the field is compared to the "comparator".

## VALUE TESTING

Using just the field number will indicate that the test is to be a "value" comparison.

## OPERANDS

Comparisons can be made using = <> <= >= < >

Using >< => or =< will not function properly.

## SKIPPING LINES

Placing a number after a ( will indicate the relative lines to skip from the current equation line. This takes on two forms: 1 - When the equation is an "IF" function then the skip is made when the condition tested for is FALSE. 2 - When the equation is an operation then the skip is made AFTER the equation is performed.

**WHEN THE "IF" IS TRUE**, the next line is accessed and performed.

**WHEN THE "IF" IS FALSE**, a search is made to find a ( symbol so that the relative jump can be made to another equation line. IMPORTANT: If there is not a relative skip contained in the line then the next equation line is accessed.

**POSTING ACCOUNTS** - The same ;P or ;B can be added to the end of any equation to have it perform only in the POSTING routine or both.

**RESTRICTIONS** - A field can only be compared to a numeric or word constant. It cannot be compared to another field number. The equation must not contain any spaces unless they are part of a "word" comparator.

EXAMPLE APPLICATION:

```
  FIELD
    NO. = EQUATION
--------------------------------
 1.   IF = 02$="PAUL" (2
 2.   04 = 00+"400" % (3
 3.   IF = 02$="STEVE" (2
 4.   04 = 00+"375" %
 5.   IF = 04<"200" (2
 6.   05 = 04*".20" (2
 7.   05 = 04*".25"
 8.      =
```

In the example above: Field #2 would be a FIRST NAME field, #4 would be "SALARY" and #5 would be "W/H TAX".

Equation 1 performs a test to see if Field 2 equals PAUL. If the test is true then the next equation line is accessed. If the test is false, then the 2 following the ( is added to the current equation number and a jump is made to that equation. In this case, equation 3 would be accessed (2+1).

Equation 2 is accessed when the test in equation 1 is true. This performs a simple operation of setting field #4 to a value of 400 (Field number 00 is used as a dummy field so that the operation will be considered a math function). A (3 has been placed after this equation to jump over to equation 5 (2+3).

Equation 3 is accessed from equation 1 if the test there was FALSE.

Equation 4 performs the same operation as equation 2

Equation 5 checks to see if the VALUE in field 4 is less than 200. When it's true, then the next equation line calculates a 20% tax and then jumps over 2 lines to a blank equation line (This will in effect exit the equations). A return of FALSE will jump over 2 to equation 7.

Equation 7 is accessed when the condition in equation 5 returns a false. This equation calculates a 25% tax and then exits the equations.

Another aspect of how IF-THEN-ELSE functions is being able to let a field equal a string$ or word. This is used as follows:

```
  FIELD
    NO. = EQUATION
--------------------------------
1.    IF = 02$="FLO " (2
2.    02 = "FLORENCE" (28
3.    IF = 02$="MISS " (2
4.    02 = "MISSISSIPPI"
```

Equation 1 checks to see if field 2 equals "FLO ". When it does, then equation 2 sets it equal to "FLORENCE". Equations 3 and 4 function in the same way. Notice how an extra space is included after FLO and MISS. This is so that it won't return a "true" result if the entry has already been made and therefore won't be changed.

## DEFINE REPORT FORMATS

There are 8 formats available for defining different reports for a database. The format that you want to define or update is selected after entering the filename. All eight format titles will be displayed and the format desired is selected by pressing its corresponding number.

**Prompt: CHANGE TITLE OR PASSWORD?**

Each time a format is selected you will have the opportunity to change the title and add or delete a password. Respond by pressing [Y] to change or [N] to leave the title and password status as is and continue with setting up the format.

**TITLE**

The title can extend to the end of the screen and should give an idea of what kind of report it will print. Pressing [ENTER] without typing anything will leave the title the same.

**Prompt: PASSWORD PROTECT FORMAT?**

A 5 letter password can be assigned that must be entered later when the format is used to print a report or called up again for re-defining. Press [Y] to define a password or [N] to bypass. The password, if used, **must** be 5 characters long using capital letters A - Z. This is optional.

**Prompt: FINISHED OR CHANGE?**

After entering the title and/or password, press [F] to indicate you're finished or [C] if you need to change either one.

## SETTING UP A NEW FORMAT

The program will advance to the section **UPDATING A FORMAT** if the format selected has already been defined and stored on disk.

**Prompt: PRINTER OR SCREEN**

This entry will specify if the report will be sent to the screen or printed out on a printer. Respond by pressing [P] or [S].

**Prompt: COLUMN WIDTH OF REPORT**

Report formats can be looked at as a straight line of spaces that will have data printed within them. The question is how many of these spaces will you need to print all the fields necessary for the particular report format you're designing? Of course, consideration must be given to the number of characters your printer can print per line. Multi-line reports can be created but single line formats are advised if you're just beginning.

To arrive at the number of spaces needed, add up the field lengths of the fields you want printed on the report. Adding to this the number of fields selected will then give you the **minimum** number of spaces needed. The number of characters your printer will be printing per line should be used if this number comes out to be less. Numbers higher than you printer's capability indicates the need to eliminate some fields or design a multi-line format. The column width of the report can be any number between 32 and 255.

Screen Report formats must have a column width that is evenly divisible by 32 (e.g. 32, 64,...224).

Prompt: PRINTER WIDTH

The width of the printer is the **maximum** number of characters that your printer will print per line for the format being defined. Depending on your printer's capability, this number can range from 40 to 255. In any case, this number should match the character set that will be used.

Screen Report formats will have 32 set as the column width automatically.

## UPDATING A REPORT FORMAT

After selecting the format number and repsonding to the "CHANGE TITLE OR PASSWORD" prompt, the screen will show: **GETTING FORMAT: N.** N will be the format number selected.

Prompt: CURRENT COLUMN WIDTH

A new column width can be entered to either enlarge or decrease the number of spaces needed to format the report. Pressing **[ENTER]** without typing in a number will leave the entry set to its current value.

Prompt: CURRENT PRINTER WIDTH

A new printer width can be entered that will indicate a change in the maximum number of characters the printer can print per line. Keep in mind that this value should reflect the character set that will be used in printing the report.

Pressing [ENTER] without typing in a number will leave the entry set to its current value.

## SCREEN DISPLAY

There are three major parts to a format. Each part has its function and each will offer something different from the others. These parts are: **TITLE OF REPORT, COLUMN HEADINGS** and **FIELD SPECIFIER/IDENTIFIER**

In all, there are seven lines displayed on the screen. The top three lines are used for placing main titles at the top of the report, lines 4 and 5 are used to label the columns of data that will be printed below them, 6 is used for "blocking" out spaces for the fields to be printed in and 7 is used to identify the information that is to be printed within each blocked out space.

## SCALE

The scale at the top of the screen shows the column postion (from left to right) being displayed. The + marks are at every fifth space. The first digit of each number is located at that postion of scale. >< or >X< indicates the center of the format.

## EDITING

**[ARROW KEYS]** moves cursor in direction of arrow pressed.
**[SHIFT]+[LEFT ARROW]** deletes character.
**[SHIFT]+[RIGHT ARROW]** inserts space.
**[ENTER]** returns the display window to the left side of the format.
**[BREAK]** returns cursor to the left side of the screen.
**[SHIFT]+[@]** moves display window to the last 32 spaces of the format.

All keys are auto-repeat if held down.

## [CLEAR] MENU

Pressing [CLEAR] while a format is being displayed will access the following:

Prompt: **STORE RES DEL EXIT HCOPY CODES**

**[S]** - Stores the format being worked on.

**[R]** - Lets you resume editing the format displayed.

**[D]** - Deletes the format being worked on. A second prompt will appear to verify that a format deletion is wanted.

**[E]** - Exits the format being worked on **without** storing it on disk. A second prompt will verify that you do not want the format stored. Pressing [Y] on the second prompt will have the format stored, pressing [N] will not. Pressing [C] will cancel the selection and resume editing.
This is used if you have made changes to a format and then decide not to have the changes stored.

**[H]** - Lets you obtain a hardcopy of the format being worked on. This is a suggested practice as you're working on a format. A **PRINTER NOT READY! ABORT(Y/N)?** message will appear if a printer is not hooked to the computer or not turned on. If this message appears, check your printer or press [Y] to abort the printing selection and return to the **[CLEAR]** menu.

**[C]** - Lets you define or change the printer control codes. (See PRINTER CONTROL CODES for more information)

## TITLE LINES

The top three lines of the format are for placing any titles that need to be printed at the top of a report. These titles can appear on each page of the report or just on the first page.

## CENTERING A TITLE

A title can be automatically centered by placing the title between the < > symbols and then pressing **[SHIFT]+[CLEAR]**. The centering of the title will be based on the **printer width** that was entered previously.

Example: **<DERRINGER SOFTWARE> [SHIFT]+[CLEAR]**

## AUTOMATIC PAGE NUMBERING

Page numbers can be printed at the top of each page by placing an # anywhere within any of the three title lines. It can be by itself or have "PAGE" placed before it.

Example: PAGE # or # or PAGE ##

One # can be used if less than 10 pages are going to be printed. More than 10 pages will require two ## symbols.

```
----+----10---+----20---+----30---+----><---+----50---+----60---+----70---+----8

                                DERRINGER SOFTWARE                      PAGE ##
                                  P.O. BOX  5300
                                FLORENCE, SC 29502
```

## COLUMN HEADINGS

Field headings will label the column of information that will be printed below it. There are two lines available for placing the column headings.

```
----+----.0---+---20---+----30---+---><---+----50---+----60---+----70---+----8

                                DERRINGER SOFTWARE                      PAGE ##
                                  P.O. BOX  5300
                                FLORENCE, SC 29502

                                                                        ZIP
LAST NAME       FIRST NAME  ADDRESS                 CITY            ST  CODE
```

## FIELD SPECIFIER LINE

The field specifier line is used to "block" out sections of the line for each field. There are two different "blocks" that you can use for printing the data within; alphanumeric or numeric.

## ALPHANUMERIC SPECIFIER

Any field can be printed by using the alphanumeric specifier. A "block" of this type is allocated by placing a **%** symbol at its beginning and ending. The amount of space the "block" occupies should reflect the field length of the data that will be printed within it. For example: If you were going to "block" out an area for a field that has a field length of 12, then you would place % % on the line. The beginning and ending % symbols are included with the length so there are only 10 blank spaces between the %'s. There must **always** be two % symbols blocking out an alphanumeric field. Therefore, %% is the smallest "block" that can be specified.

## NUMERIC SPECIFIER

If the data that is going to be printed within a "block" is numeric, then you would want to specify a "block" that will align decimals and print the numbers right justified. This type of "block" is created by using the # symbol. There must be one # for each digit that will be printed within the "block". The decimal is placed at its proper position and even ,'s can be used. For example: If you were going to "block" out an area for a field that has a length of 9 (8 digits + decimal) then you could use ###,###.## . This would print 923.1 as 923.10 - 5763 as 5,763.00 - 35455.23 as 35,455.23 .

Leading zero's are not printed when a field is specified as numeric and placed within the # type of block. **Entries that have leading zero's such as ZIP CODE or SOCIAL SECURITY NUMBER, should be specifed as alphanumeric fields and placed in alphanumeric blocks: % %.**

## FIELD IDENTIFIER LINE

The line below the field specifier is used to indentify the type of field specified and what field number to print within the "block". **A [, [SHIFT]+[DOWN ARROW],** is placed below the start of each "block". Following the [ symbol, another symbol is placed to indicate the type of "block" that has been used above it. Alphanumeric (% %) "blocks" are indicated with the $ symbol, numeric (##) "blocks" are indicated with the # symbol. The field number of the data that is to be printed within the "block" is then indicated:

```
----+----10---+----20---+----30---+----><---+----50---+----60---+----70---+----8

                                DERRINGER SOFTWARE                      PAGE ##
                                  P.O. BOX  5300
                                FLORENCE, SC 29502

                                                                        ZIP
LAST NAME        FIRST NAME  ADDRESS                 CITY           ST  CODE

%              % %         % %                   % %             % %% %   %
[$2              [$1         [$3                   [$4             [$5 [$6
```

## FIELD TOTALS / AVERAGES

A total or total and average can be obtained for any field after a report is printed. When you block out the field for the number, you must take into consideration the maximum number of digits that will be needed for the final total. A field defined with a length of 7 might result in a 10 digit total. Therefore, you must allow for a 10 digit total to printed.

## TOTALS

Totals are obtained by identifying the field with an equal (=) sign. Below is an example of obtaining a field total using a field length of 7 for a field named AMOUNT with a field number of 5:

```
      AMOUNT          <-----COLUMN HEADING
#,###,###.##          <-----FIELD SPECIFIER
[=5                   <-----FIELD IDENTIFIER
```

Notice that three addtional #'s have been added to allow for a larger number in the total and also that commas have been added to properly format the number.

## AVERAGES

Averages are obtained by identifying the field with the (@) "at" key. A total for the field will be printed first with the average right below it. Below is an example of obtaining a field average using a field length of 7 for a field named AMOUNT with a field number of 5:

```
      AMOUNT          <-----COLUMN HEADING
#,###,###.##          <-----FIELD SPECIFIER
[@5                   <-----FIELD IDENTIFIER
```

Although the average for the field will not contain more digits than the original field length of 7, the three addtional #'s have been added to allow for a larger number in the total.

The word "AVG:" will be printed before the average when the report is printed. For this reason, you should not call for an average on a field that is either within 5 spaces of the left margin.

## LINE NUMBERING

To allow for a number to be printed before each line of the report, leave at least the first five spaces of the Field Specifier line blank.

```
Example:    ----+----10---+----20---+----30---+----40

            LAST NAME          FIRST NAME
            %              %   %              %
        [$1                    [$2
```

Notice how the first field indentifier ([$1) starts in the first position. PRO-COLOR-FILE will not let you store the format unless the first [ is in the first column of the format. Leaving at least the first 5 spaces blank will allow for a four digit number + decimal to be printed. In the example above, 7 spaces are left blank. This will leave 2 spaces after the decimal before the report line is printed:

```
          LAST NAME          FIRST NAME
-----------------------------------------------
   1.  Smith                 Al
   2.  Young                 Bill
    .
  100.
 1000.
```

## PRINTING THE RECORD NUMBER

When at least the first 5 spaces of the Field Specifier line are left blank for line numbers, PRO-COLOR-FILE will prompt whether the numbering is to be sequential (1 2 3...) or the actual record number of the record being reported. This happens when the report format is being used to print a report, not when being defined. There may be times when both the sequential numbering and the actual record number is desired. This is accomplished by specifying a field within the report format and identifying it as field number zero.

```
Example:    ----+----10---+----20---+----30---+----40---+----50

                 LAST NAME          FIRST NAME         REC#
                 %                % %                % ####
           [$1                      [$2                [#0
```

This will then allow you to obtain a sequential numbering of the report as well as the record number. The record number will be the physical disk record number of the record reported.

Sample printout of line number + record number:

```
        LAST NAME          FIRST NAME          REC#
-------------------------------------------------
   1.   Smith              Al                    35
   2.   Turner             Tom                   19
   3.   Young              Bill                 101
```

## SUMMARY FORMATS

Summary formats are designed in much the same way as a standard report format. The difference is that instead of one record being printed on each line, an analysis of a group of records that have something in common in one particular field will be printed. The following example is that of an EXPENSE database, but it could apply to any database that would lend itself to this type of application.

The segment information is:

SEGMENT 1: EXPENSE*

| | FIELD | LENGTH |
|---|---|---|
| 1. | PAID TO | 30 |
| 2. | CHECK# | 4 |
| 3. | AMOUNT | 7 |
| 4. | CATEGORY | 8 |
| 5. | YEAR | 2 |
| 6. | MONTH | 2 |
| 7. | DAY | 2 |
| 8. | COMMENTS | 30 |
| | TOTAL | 85 |

The purpose of a summary report in this example will be to obtain totals and other information on the AMOUNT field. For example: A list of each CATEGORY that is entered (e.g. CAR, LOAN, FOOD, ELECTRIC) along with the total number of entries each, the total amount spent, the average, and, the lowest and highest amounts. The analysis can also be for each MONTH instead of each CATEGORY.

## SUMMARY FUNCTIONS

One of the following symbols can be placed after the [ symbol to indicate the type of summary information you want.

1 **N** - Number of records that were used in the analysis.

2. **-** - Total for the records selected.

3. **@** - Average of the records selected.

4. **L** - Lowest value found.

5. **H** - Highest value found.

6. **$** - The related field information that is summarized.

A question mark (?) placed on one of the field heading lines causes the field name to be printed.

Here is a sample format:

```
----+----10---+----20---+----30---+----><---+----50---+----60---+----70---+----8

                                DERRINGER SOFTWARE
                                    EXPENSES


      ?                 NO.       TOTAL      AVERAGE      LOWEST      HIGHEST
      %          %      ###    ##,###.##     #,###.##    #,###.##    #,###.##          S
[$                    [N     [=3            [@3          [L3         [H3
```

Notice that 6 blank spaces are left at the beginning of the format to allow for a line number to be printed.

A question mark (?) is place on the field heading line to have the FIELD NAME that is being summarized printed. Since, in this example, a summary can be obtained either by CATEGORY or MONTH, this will have either of the two printed automatically. Right below the ? is an alphanumeric field that is allowing for up to 8 characters to be printed. This corresponds to the field length of CATEGORY and will, at the same time, be enough for the MONTH field. The alphanumeric field is then identified with the [$ (Note that it is starting in the first column). A field number is not used here because it may be either the CATEGORY or MONTH field that is being summarized.

The rest of the report is then set up to obtain the number of records, total, average, lowest value and highest value of field number 3, AMOUNT.

**NOTE THE "S" IN THE LAST COLUMN!** This is what tells PRO-COLOR-FILE that you have designed a **SUMMARY FORMAT**. The **S** must be in the **last** column of the field specifier line!

Here is a sample printout:

DERRINGER SOFTWARE
EXPENSES

| | CATEGORY | NO. | TOTAL | AVERAGE | LOWEST | HIGHEST |
|---|---|---|---|---|---|---|
| 1. | BOOKS | 3 | 48.95 | 16.31 | 9.69 | 22.95 |
| 2. | CAR/GAS | 10 | 215.50 | 21.55 | 11.00 | 25.60 |
| 3. | POSTAGE | 9 | 65.00 | 7.22 | 2.80 | 18.75 |
| | | 22 | 329.45 | 14.97 | 2.80 | 25.60 |

This example is a universal format for a summary report (with the exception of the report title and field numbers). There may be summary reports that don't require all of the information shown. The specific sequence of events that must be followed in preparing to print a summary report is covered in the section: PRINTING SUMMARY REPORTS

## MULTI-LINE REPORTS

Multi-line reports can be created for reports requiring more information to be printed than your printer is capable of printing per line. It's obvious that a file with record lengths of 85 cannot be printed on an 80 column line. Therefore, you need to create a report line that can handle all the fields but also has a carriage return somewhere to start the second line.

## CARRIAGE RETURN

Placing a / mark within the field specifier line will have a carriage return + line feed sent to the printer at that point. The EXPENSE file used in the summary format section will be used for an example.

## COLUMN WIDTH OF MULTI-LINE REPORT

The same technique as mentioned at the beginning of the Define Reports section is used here also.

```
1.  Total data space        85
2.  Number of Fields         8
3.  Allow for line numbers   6
                            ---
          minimum needed =  99
```

105 will be used for this example.

## COLUMN WIDTH OF PRINTER

The column width of the printer will **always** be the number of characters the printer is able to print per line. This of course will depend on the character set used. 80 will be used for this example.

Here is the format:

```
----+----10---+----20---+----30---+----40---+----50---)(---60---+----70---+----80---+----90---+----100--+

                              DERRINGER SOFTWARE
                                  EXPENSES

     PAID TO                        NO.    AMOUNT CATEGORY YY-MM-DD
     %                           % %  % ##,###.## %      % %%-%%-%%/     %                          %/
[$1                               [$2  [=3       [$4     [$5[$6[$7      [$8
```

Notice the / mark after the DD field specifier. This will cause a carriage return + line feed to be executed before the rest of the format is printed. The COMMENTS ([$8) field is then started 6 spaces to the right so that it will start printing under the PAID TO field. Note also that a / has been placed in the last column of the field specifier line. This is essential if the format is to be printed properly.

Here is a sample printout:

DERRINGER SOFTWARE
EXPENSES

| | PAID TO | NO. | AMOUNT | CATEGORY | YY-MM-DD |
|---|---|---|---|---|---|
| 1. | Radio Shack<br>Diskettes, book | 1022 | 44.95 | SUPPLIES | 83-08-15 |
| 2. | Micro Works<br>Macro editor assembler | 1023 | 99.95 | SOFTWARE | 83-08-16 |
| 3. | Cognitec<br>Telewriter-64 | 1024 | 59.95 | SOFTWARE | 83-08-16 |
| | | | 204.85 | | |

RECORDS REPORTED: 3

Since you can define a column width of up to 255 spaces, you can create 2, 3, 4 or as many line formats that you need. The importantance lies in the placement of the / marks for carriage returns. They cannot be within a field specifier.

```
For example: %      /% %     %
                [$5       [$6
```

This would cause an FC ERROR to occur when the format is used in the actual printing of a report.

You must also remember to place a / in the very last column of the field specifier line. Failure to do this may cause the report columns to be printed out of alignment and or cause the top-of-form feature not to operate properly.

## TITLE CENTERING

When a title is centered by using the <> feature, it is done so using the printer width. Even though the column width may be 105 spaces, the printer width of 80 will be used in the centering. You may note this on the previous page. If the column width has twice the number of spaces (160) than the printer width (80), then advancing the cursor past the 80th space will cause the 81st to 160th column used for centering.

See related information in the **PRINTER CONTROL CODES** section on **INDICATING LINE LENGTH**

## SEPARATING WITH A ---- LINE

Some multi-line reports may require some sort of separation between each record reported for easier legibility. One technique could be to place two / symbols at the end of the format to cause a double space to occur, leaving one blank line between the records. Another method could be to have a dotted line separating them. Placing a - (minus sign) in the very **last** position of the field specifier line will indicate to PRO-COLOR-FILE that a dotted line is to be generated after each record is printed. The length of the dotted line will match the number of the **PRINTER WIDTH** that was indicated for the format.

```
----+----10---+----20---+----30---+----40---+----50---)(---60---+----70---+----80---+----90---+----100--+

                          DERRINGER SOFTWARE
                              EXPENSES

    PAID TO                     NO.    AMOUNT CATEGORY YY-MM-DD
    %                         % %  % ##,###.## %      % %%-%%-%%/     %                          %-
[$1                            [$2  [=3       [$4     [$5[$6[$7      [$8
```

Notice how the - was placed in the last position in the format. This will be recognized by PRO-COLOR-FILE as an indication to generate the dotted line. The - will be replaced by PRO-COLOR-FILE with a carriage return to ensure the format is printed properly.

Here is a sample printout:

DERRINGER SOFTWARE
EXPENSES

| | PAID TO | NO. | AMOUNT | CATEGORY | YY-MM-DD |
|---|---|---|---|---|---|
| 1. | Radio Shack<br>Diskettes, book | 1022 | 44.95 | SUPPLIES | 84-10-15 |
| 2. | Derringer Software<br>Pro-Color-Series | 1023 | 99.95 | SOFTWARE | 84-10-16 |
| 3. | Cognitec<br>Telewriter-64 | 1024 | 59.95 | SOFTWARE | 84-10-19 |
| | | | 204.85 | | |

## JOINING FIELDS TOGETHER

Some report applications, such as a list of names and phone numbers, could be made more attractive by being able to put two fields together. Commonly, this would be FIRST NAME, LAST NAME fields but it could be used on others.

A MAILING LIST database will be used for this example that has the following segment structure.

SEGMENT 1: MAILING*

| | FIELD | LENGTH |
|---|---|---|
| 1. | LAST NAME | 14 |
| 2. | FIRST NAME | 14 |
| 3. | ADDRESS | 30 |
| 4. | CITY | 20 |
| 5. | STATE | 2 |
| 6. | ZIP CODE | 10 |
| 7. | PHONE NUMBER | 8 |
| | TOTAL | 98 |

A report format will be created to generate a listing of each person followed by their phone number. Having the FIRST NAME and LAST NAME fields placed on the format as separate fields would leave a big gap between them. The aim then is to specify the two fields to be printed within one specified field on the report format. The field "blocked" out should represent the combined field lengths of the two fields that will be printed together plus 1. The field that is to be joined to the end of another is placed on the field identifier line directly following the first with the [ of the second field followed by a <.

Using the FIRST NAME and LAST NAME fields, the field would be blocked out as:

```
NAME                              PHONE
%                              %  %       %
[$2 [<1                           [$9
```

This would have someone's record printed as:

```
          NAME                                PHONE
-------------------------------------------------
          PAUL KUSH                           555-5555
```

Only two fields can be joined together to form one field.

## PRINTER CONTROL CODES

Some printers have the ability to change character size to allow the printing of 132 condensed characters or 40 to 66 elongated characters per line. Control codes can be pre-defined for a format to allow the titles of a report to be printed in elongated letters and then have the report printed in a smaller set. There are six control code lines that can be utilized. The first three lines correspond to the three TITLE lines. the fourth and fifth correspond to the COLUMN HEADING lines and the sixth corresponds to the FIELD SPECIFIER LINE.

The control codes are accessed while working on a format by pressing [CLEAR] and then [C] for CODES.

The screen display changes and shows three blank lines (if codes have not already been defined) where the TITLE LINES are, two lines in place of the COLUMN HEADINGS and one where the FIELD SPECIFIER was.

Your printer's manual should be referred to for a table of printer control codes that it can accept. Almost all printers will print elongated and normal, others may also have bold, compressed, condensed or whatever.

## SPECIFYING THE CODES

The ASCII codes that you want sent out before each line are placed within corresponding control code line separated by commas. The entire 32 space line can be used in defining the numbers that are required. These numbers will be sent out as CHR$ codes before that line of the report is printed.

For example: 27,19 would represent the same BASIC statement, PRINT#-2,CHR$(27);CHR$(19); when that line is printed.

## USING ELONGATED CHARACTERS

If you are going to specify the title lines of a report to be printed in elongated letters, you will need to have that line shortened before it's printed. This is because an 80 column format printed out in elongated letters will actually print 2 report lines. This will cause the top-of-form function not to work properly if not corrected. This problem is remedied by shortening the line.

## INDICATING LINE LENGTH

Since different character sets can be used for the titles and column headings, the length of each line must be indicated. For example, an 80 column line being printed in elongated characters would need to be shortened to 40 characters so that it only prints one line. Placing /40 after the control codes will tell PRO-COLOR-FILE to use only the first 40 spaces of the line. The Radio Shack DMP-200 uses 27,14 to start elongation. Here is how it would be set up.

27,14/40 <---shortens line to 40 characters.

Not indicating the line length will suppress the line from being printed.

Once control codes are sent out to the printer, the printer will stay in that mode until new codes are sent out. Therefore, after the first line of the TITLES has been set to the elongated character set, the second and third lines need only have /40 placed in them to shorten them as well. Example:

```
27,14/40      <----Title line 1 (set elongation, shorten line)
/40           <----Title line 2 (shorten line)
/40           <----Title line 3 (shorten line)
```

The line shortening function should also be used on multi-line formats to shorten each of the title and column heading lines to the printer width. A 240 column width on an 80 column printer will actually generate 9 lines (3 each) for the titles and 6 lines for the column headings. If you do not shorten these lines then you have to indicate how many addtional lines will be printed. In the case of a 240 column format, a "+2" will need to be placed in control codes for each line.

## SWITCHING CHARACTER SETS

For most applications, the Column Headings will be printed in the same character set as the report. The first line of the Column Headings will contain the control codes for switching back to the final character set. The codes for the Radio Shack DMP-200 for ending elongation are 27,15. Here is how it would be set up:

```
27,15/80      <----Column Heading 1 (end elongation, set normal line length)
/80           <----Column Heading 2 (specify line length)

/80           <----Report line (specify line length)
```

## ADDING EXTRA LINES

Extra lines are not placed between the Title of the report and the Column Headings, this is left to the user to decide. Placing 13's in the control code line of the Column Headings will cause extra spaces to be printed between them and the titles. Also, extra lines may be generated when a multi-line format is being used. These extra lines must be accounted for or the top-of-form function will not operate properly.

Any time a control code line will be generating extra lines, a plus (+) symbol must be placed at the end followed by the number of extra lines. The example below is of the elongation procedure mentioned in the previous section.

```
27,14/40              <----Title line 1
/40                   <----Title line 2
/40                   <----Title line 3

13,13,27,15/80+2      <----Column Heading 1
/80                   <----Column Heading 2

/80                   <----Report line
```

Notice how two 13,'s have been placed in the first position of the first Column Heading line. The line is then followed by +2 to indicate that when these control codes are sent, two additional line feeds will be sent also. This lets PRO-COLOR-FILE keep up with the number of lines printed on the report so that the top-of-form function works properly.

## LINES/PAGE

The LINES/PAGE entry will indicate the total number of lines that can be printed per page.

## PRINT/PAGE

The PRINT/PAGE entry will indicate the total number of lines that will be printed per page before a top-of-form is executed. This entry will always be less than the lines/page entry.

NOTE: If you will be using single sheets for obtaining a report, the lines/page entry should be less than or equal to the number of lines your printer will print before an "out-of-paper" error occurs. The print/page entry should then be 1 less than the lines/page.

## OBTAINING A HARDCOPY

A hardcopy of the codes can be obtained by pressing [H] anytime they are displayed.

## EXITING THE CODES

The codes can be exited at anytime by pressing [X]. This will return the report format and allow additional editing. These codes are sent to the printer when you obtain a hardcopy of the report format. This is a good way to make sure the codes are working properly.

## SCREEN REPORT FORMATS

Screen report formats are extremely useful in obtaining totals or summaries for a file without having to print the data on the printer. Since each report line is only 32 spaces (screen width), careful consideration must be given to the fields that you **need** to have printed. Any field having a length of 32 or more can be used, however the field specified should not be greater than 31 spaces. Specifying a field that is less than the length of the field to be printed within it will cause only the first part of the field to be printed. It **will not** eliminate the data from the file!

If a screen format is going to be multi-lined, a carriage return (/) **must** be placed, at most, every 32nd space. This would mean that a format with a width of 96 should have a carriage return (/) placed at the 32nd, 64th and 96th position. These are needed by PRO-COLOR-FILE in order to calculate how many lines will be generated for each record reported. This in turn will assure that the printing will stop each time the maximum number of records that can be printed on the screen has been reached.

The features that are not used by screen reports versus printer reports are Titles, Column Headings and printer control codes. Examples of single and multi-line screen report formats are given in the sample database formats in the back of the manual.

## CREATING VERTICAL LINES

Pressing the [SHIFT]+[UP ARROW] key will generate a CHR$(124) (revesed video back slash) which is interpeted by most printers as a vertical line. A solid black box will be generated if the format is a screen report.

## FORMATTING FOR A TEXT FILE

Whenever a report is printed, you will have the option of sending it to a TEXT FILE. If the report is then going to be read by a word processor or transmitted over a modem, a carriage return (/) must be placed at the end of the field specifier line.

## DEFINING A LABEL FORMAT

After entering the filename, the six Label titles are shown for the file that you've indicated. Labels not yet defined will have "Undefined label" for the title. This "menu" will be used later in the selection of the format wanted for printing labels. Select the number (1 - 6) of the format that you want to define.

**Prompt: CHANGE TITLE OR PASSWORD?**

After selecting the format number, you will be prompted: "CHANGE TITLE OR PASSWORD?" Press [Y] if you need to change any of these two or [N] to continue formatting.

**TITLE**

The title can extend to the end of the screen and can be anything that you desire. Pressing [ENTER] without typing in any text will leave the title as is. Titles should indicate what type of label the format was set up for (e.g. 2 across, 1 across).

**Prompt: PASSWORD PROTECT?**

A 5 letter password can be defined that will have to be entered for the format to be used. Press [Y] to define a password or [N] to continue setting up a label. The password must be 5 letters and only from letters A - Z. A password is optional.

**Prompt: FINISHED OR CHANGE?**

After entering the title and/or password, press [F] if you're finished or [C] to you need to change either one.

## SETTING THE LABEL PARAMETERS

The following entries set the parameters based on the type of label used.

**Prompt: NO. OF SPACES LABEL-LABEL**

This entry will indicate the number of spaces from the inside left edge of one label to the outside left edge of the label next to it. This entry is critical only for 2 or more across label formats. For 1 up label formats, this entry can be 1. This number can be any number from 1 to 100.

**Prompt: NO. OF LINES LABEL-LABEL**

This entry indicates the number of lines that are from the top, inside edge of one label to the top, outside edge of the next label down. This entry can be any number from 1 to 30. You can double this number if you'll want to have a return address printed for each label. (See Printing a return address)

**Prompt: NO. OF LABELS ACROSS**

This will reflect the number of labels across that will be used for the format. This entry can be any number from 1 to 10.

*These entries can be changed by calling up the format for updating and responding to the prompts.

Shown below is a method that can be used for determining the number of spaces and lines for the standard 80 column character set. The same template can be made for other character sets as well.

```
          5    10    15    20    25    30    35    40    45
          !    !     !     !     !     !     !     !     !
      XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
      X
      X
      X
  5 - X
      X
      X
      X
      X
      X
 10 - X
```

Step 1 - Place the top of edge of the sheet of labels so that the first "X" is lined up with the left, inside edge of the first label. Count the number of X's that fall from this point to the **outside** edge of the label next to it. This will be the **NO. OF SPACES LABEL-LABEL.**

Step 2 - Move the sheet of labels to the right so that the X's can be seen at the left side of the sheet. Position the sheet to align the first row of X's up with the first line of the label. Count the number of X's from this point to the top, **outside** edge of the label below it. This will be the **NO. OF LINES LABEL-LABEL.**

## SCREEN DISPLAY

The screen displays 7 lines of the format at a time. Below the format display is the PRINTER CONTROL CODES lines. On the bottom line of the screen, **LINE** lets you know which line the cursor is presently in, **WIDTH** is the spaces from label to label and **LENGTH** is the number of lines from the top of one label to the next one down. Seven lines will be displayed even if less lines are used.

## EDITING

**[SHIFT]+[UP ARROW]** accesses the PRINTER CONTROL CODES line.
**[LEFT ARROW]** moves cursor left.
**[SHIFT]+[LEFT ARROW]** deletes character.
**[RIGHT ARROW]** moves cursor right.
**[SHIFT]+[RIGHT ARROW]** inserts a space.
**[UP ARROW]** moves cursor up one line.
**[DOWN ARROW]** moves cursor down one line.
**[SHIFT]+[CLEAR]** - This will display a selection on the bottom line of the screen that will let you Add a line, Delete a line or Exit from this editing function.

A character can also be changed by placing the cursor on top of it and typing the new one.

## DESIGNING A FORMAT

Starting with the top line, place the field number of the field that you want to be printed on the top line of the label. Additional fields can be printed on the same line by placing a comma (,) between the field numbers. Subsequent fields defined on the same line will automatically have one space between them and the previous field. Always keep in mind the number of characters that can be printed on each line.

Here is a sample data segment for a file called "MAIL".

```
SEGMENT 1   FILE NAME: MAIL****

NO. FIELD NAME       LENGTH
---------------------------
1.  LAST NAME            15
2.  FIRST NAME           15
3.  ADDRESS              30
4.  CITY                 18
5.  STATE                 2
6.  ZIP CODE              5
---------------------------
                   TOTAL 85
```

The label lines could be set up as follows:

```
      2,1          <-----Line 1
      3            <-----Line 2
      4,5,6        <-----Line 3
```

This would have the label printed as:

```
¦-O-¦-----------------------------¦-O-¦
¦ O ¦ FIRST NAME LAST NAME        ¦ O ¦
¦ O ¦ ADDRESS                     ¦ O ¦
¦ O ¦ CITY STATE ZIP CODE         ¦ O ¦
¦ O ¦                             ¦ O ¦
¦ O ¦                             ¦ O ¦
¦-O-¦-----------------------------¦-O-¦
```

You should also keep in mind that if you are using the "peel and stick" labels, the bottom line of the label format will actually be the space between the two labels. Some of the "lick and stick" labels are joined at the perforations and can therefore have each line used.

## PRINTER CONTROL CODES

Pressing **[SHIFT]+[UP ARROW]** while creating a format lets you access the PRINTER CONTROL CODES line. Place the decimal value of the CHR$ codes that you want sent to the printer before the labels are printed. Separate codes with a comma (,).

Example: 27,19

This sets the DMP-200 in the standard 80 character set.

## LEFT TAB SETTING

Some printers don't allow the sheet of labels to be placed far enough to the left in the carriage which results in data being printed at the extreme left edge of the label. Placing a [ followed by a number will indicate the number of spaces to allow as a left margin on each label. For example, [4 would have the data start printing 4 spaces in on the label.

Pressing **[ENTER]** or either the **[UP]**, **[DOWN]** arrows while the cursor is in the PRINTER CONTROL CODES line will let you resume editing the label format.

## [CLEAR] MENU

Pressing [CLEAR] while a format is being worked on will display the following:

Prompt: **STORE RESUME EXIT HARDCOPY DEL**

**[S]** - Stores the format on disk.
**[R]** - Used after a hardcopy has been generated (or if [CLEAR] is pressed accidently) to resume editing a format.
**[E]** - Exits the format **without** storing it. A second prompt, STORE THIS FORMAT (Y/N)? will appear to make sure you **don't** want the format stored. Respond to this prompt by pressing [Y] or [N].
**[H]** - Prints the format as if it were being used on the actual labels. Pressing [R] after the hardcopy is generated will let you resume editing the format.
**[D]** - Changes the title of the format back to "UNDEFINED LABEL" and will delete the format from the directory completely. A second prompt, DELETE THIS FORMAT (Y/N)? will make sure that you want to delete the format. Respond to this prompt by pressing either [Y] or [N].

## PRINTING A RETURN ADDRESS

A return address can be printed for each label by doubling the number of lines from label to label. The standard 15/16" label requires 6 lines (5 for the label and 1 blank between each one). Entering 12 will give you access to 2 labels at once. Whenever a line is to be printed "as is", place quotes at the beginning of the line and then type the "title"

Here's an example:

```
-------------------------------------------------(Perforation)
 1 -  "Derringer Software, Inc.
 2 -  "P.O.  Box 5300
 3 -  "Florence, S.C.      29502-2300
 4 -
 5 -  "Return Postage Guaranteed
-6-------------------------------------------------(Perforation)
 7 -  2,1
 8 -  3
 9 -  4,5,6
10 -
11 -  "        DO NOT BEND
12-------------------------------------------------(Perforation)
```

Notice how the DO NOT BEND was added to the address label. The only restrictions are that you can't have "titles" and field numbers on the same line and that you only have 31 spaces per line for typing the "title".

This format will then produce the following label:

```
|-O-|----------------------------|-O-|
| O | Derringer Software, Inc.   | O |
| O | P.O. Box 5300              | O |
| O | Florence, S.C.  29502-2300 | O |
| O |                            | O |
| O | Return Postage Guaranteed  | O |
|-O-|----------------------------|-O-|
| O | FIRST NAME LAST NAME       | O |
| O | ADDRESS                    | O |
| O | CITY STATE ZIP CODE        | O |
| O |                            | O |
| O |         DO NOT BEND        | O |
|-O-|----------------------------|-O-|
```

## SUGGESTIONS

Label formats can be used for applications other printing on a label:

For example, a label format can be set up with the SPACES LABEL-LABEL set to 40, LINES LABEL-LABEL set to 1 and the LABELS ACROSS set to 2. Placing the FIRST NAME,LAST NAME fields on the single line will then let you obtain a 2 column roster of the names on file.

Using a 132 column printer would allow you to obtain 3 to 4 column printouts.

## RETURNING TO THE MAIN MENU

After you've finished with a format and have stored it, you'll be returned to the beginning of the DEFINE LABELS program. Pressing [ENTER] when the filename prompt appears will return you to the Main menu.

## ENTER/UPDATE RECORDS

Place the PRO-COLOR-FILE system diskette in drive 0 and RUN "M" if you haven't done so already. Select the ENTER/UPDATE RECORDS option and then enter your filename when prompted to do so. Proper entry of the filename will then display LOADING SYSTEM FILES.

### SCREEN VERIFICATION

This display screen will only appear if you've defined a password for any of the data entry screens. The status for each of the 4 screens will be shown in regard to being active (meaning it has been defined) and if it can be accessed. If a password is required, five question marks (?????) will be displayed under the heading PASSWORD.

Typing in the password will replace each ? with an X. Entry of the last character then reveals if access is allowed. If you make a mistake in entering the password and access is denied, then you'll need to press [CLEAR] to start again.

The program will exit back to the filename prompt if access to at least one screen is not obtained.

### LOAD DATA DISK

PRO-COLOR-FILE requires a lot of disk space for storing the system files. For this reason, it is recommended that you use blank, initialized diskettes for storing data.

The screen display indicates which drive(s) the segment(s) has/have been specified for storing the records. Remove the system diskette from drive 0 (if necessary) and load the data disk(s). Press [ENTER] when you're ready to continue or [CLEAR] to exit the program.

### SELECT INDEX

If any indexes have been created for the file, a listing of their names will be given and can be selected by pressing the corresponding letter. This selection will allow you to use an index file in searching the file for key records. Pressing [ENTER] will not select any index. Further explanation can be found in the INDEX SCAN section.

## ADD/UPDATE/REVIEW RECORDS - MENU

The screen displays the menu that is utilized for file maintenance:

```
ADD/UPDATE/REVIEW RECORDS
    FILENAME: filename
 -------------------------
 1.  ADD RECORDS
 2.  FILE MAINTENANCE
 3.  SELECT INDEX
 4.  SWAP DATA DISK
 5.  EXIT
 -------------------------
CURRENT ACTIVE RECORDS: nn
TOTAL CAPACITY: nn

   SELECT ********
```

If you are adding records to a new file, the SELECT prompt will be followed by: "1, 4 or 5". If there aren't any records, you can't update or review them. After records have been entered, the SELECT prompt will be followed by: "1 - 5".

## SELECTIONS

[1] - Displays the first accessable screen format and will allow data to be entered immediately. (See ENTERING DATA)

[2] - Accesses another menu for updating or reviewing records. (See FILE MAINTNEANCE)

[3] - Will return to the LOAD DATA DISK prompt for loading different data disks. (See SWAPPING DATA DISKS)

[4] - Will return to the SELECT INDEX prompt for selection of another INDEX file.

[5] - Exits the file completely. (See EXITING THE PROGRAM)

## EDITING DATA ENTRIES

The following editing commands are used while entering data:

**[ENTER]** - Moves the cursor to the start of the next field. This movement will be from left to right and top to bottom.
**[RIGHT ARROW]** - Moves the cursor right one space.
**[LEFT ARROW]** - Moves the cursor left one space.
**[SHIFT]+[LEFT ARROW]** - Deletes character under cursor.
**[SHIFT]+[RIGHT ARROW]** - Adds a blank space at the cursor's position.
**[UP ARROW]** - Moves the cursor up the screen to the first field that is more than 32 spaces away.
**[DOWN ARROW]** - Moves the cursor down the screen to the first field that is more than 32 spaces away.
**[SHIFT]+[DOWN ARROW]** - Accesses the next available data entry screen.
**[SHIFT]+[UP ARROW]** - Accesses the previous data entry screen displayed.
**[ ]** - Any character can be changed by placing the cursor on top of it and typing the correct one.
**[SHIFT]+[@]** - Duplicates a field. Anytime a record is stored in the file, its fields are placed in a temporary buffer. Pressing the [SHIFT]+[@] key on the next record being worked on will duplicate the same field from the previously stored record. This is useful in a mailing list file where you might be entering the same CITY, STATE and ZIP CODE for a lot of records.

## ENTERING DATA

Data is entered by simply typing the information. The editing features can be used to move the cursor through a field for correcting and/or deleting. There is also a auto key repeat feature that will repeat any key that is held down and a key board "click" that is heard through the monitor's speaker. The screens can be switched at anytime to enter information on or just for reviewing the entries already made.

## SCREEN DISPLAY

The screen will display your format exactly as it was defined. Starting at each position where a [ bracket had been placed will be green boxes of differing lengths; depending on the field length that was defined for each. Of course these "fields" will only be visible if the background color of the screen is something other than the standard CLS(1) color. A flashing blue cursor is located in the first available field. The bottom left side of the screen indicates the record number that is being worked on along with the prompt: PRESS CLEAR TO STORE.

## [SHIFT]+[CLEAR] MENU

Pressing [SHIFT]+[CLEAR] while working on a record will access a menu that will be displayed on the bottom line of the screen: DUPE RECORD CALC RESTORE EXIT

[D] - Will allow another record to be duplicated to the record being worked on. This selection will have the prompt DUPE RECORD: appear on the bottom line of the screen. The record number that you want duplicated is typed in and then [ENTER] is pressed. Entering a number higher than the number of records on file, or less than 1 resumes editing.

[C] - Will have any calculations performed that where defined and then will let you resume editing. This is used when you want to check the figures before storing the record. The calculations will be performed again when the record is stored.

[R] - Restores the record to its original contents. If you are adding a new record when this selection is made then you'll be returned to the ENTER/UPDATE main menu. If you are in the FILE MAINTENANCE mode, then the record will be restored to its original contents.

[E] - Will cancel the [SHIFT]+[CLEAR] selection and let you resume editing.

## [CLEAR] MENU

Pressing the [CLEAR] key will store the record in the file. Don't worry if the disk drive does not start up. The record is placed in a buffer which is stored only when it is full. Depending on how much data is being stored per record, this may happen on each record or every other one. Once stored, the following prompt will appear at the bottom of the screen.

Prompt: UPDT DEL EXT NXT HARD ADD

[U] - Lets you update the record that was just entered.

[D] - Deletes the record that was just entered. Another prompt will appear to let you verify that a record deletion is wanted. Press [Y] if it is or [N] if you change your mind.

[E] - Returns to the ENTER/UPDATE RECORDS MAIN MENU if your in the ADD mode or to the file scan menu if you're in the FILE MAINTENANCE mode.

[N] - Will continue searching the file for the next match with the TARGET if you used the segment search method. If the record was accessed using the INDEXED SCAN then the next record in the index order will be accessed. If the record was accessed using the RECORD NUMBER mode or if you're in the ADD records mode then the next physical record in the file will be accessed.

[H] - Generates a hardcopy of the screen format that is displayed.

[A] - Allows the addition of another record to the file.

[DOWN ARROW] - Accesses the next record in the file. If the record was accessed using the INDEXED SCAN then the next record in the index order will be accessed. If the record was accessed using the RECORD NUMBER method then the next physical record in the file will be accessed. If you're in the ADD mode then the first record will be displayed.

[UP ARROW] - Works the same as the [DOWN ARROW] except it accesses the previous record.

**[RIGHT ARROW]** - Works the same as the **[DOWN ARROW]** except it jumps forward 5 records at a time.

**[LEFT ARROW]** - Works the same as the **[UP ARROW]** except it jumps back 5 records at a time.

**[SHIFT]+[UP ARROW]** - Displays the previous data entry screen for the record displayed.

**[SHIFT]+[DOWN ARROW]** - Displays the next data entry screen for the record displayed.

## FILE MAINTENANCE

There are three different ways by which records can be accessed for updating or reviewing. They are, INDEXED SCAN, GLOBAL SEARCH, or RECORD NUMBER.

## INDEXED SCAN

This method of searching a file is available only if you have created an index using the INDEX RECORDS routine. This selection will be accessed when you select [2] for FILE MAINTENANCE. It will be bypassed if the file has not been indexed.

The screen displays INDEXED FIELD: followed by the name of the main field that was used for indexing the records, the INDEX NAME which you assigned and the number of records that are indexed. Above this is the prompt TARGET: with a black box following (see black box below). The position of the black box indicates the length of the fieid that your are searching.

**Prompt: TARGET:**

The key word that you want to find is typed and then **[ENTER]** is pressed. The data entry screen that was used last in updating the file is displayed and then the disk drive will start. The bottom of the screen indicates the record that is being accessed and compared to the TARGET that you've entered. When the first occurrance of the TARGET is found, the record is then displayed on the screen and the **[CLEAR]** MENU prompt is displayed.

**Example:** If a file is indexed by a LAST NAME field and SMITH is entered as the target, then the first SMITH is located and their record will be displayed.

## THE BLACK BOX ■

As explained in the INDEX RECORDS routine, a file can be indexed on up to 3 fields at the same time. For example, the first sort field could be LAST NAME and the second sort field could be FIRST NAME. This would put the file in alphabetical order by LAST NAME and within each LAST NAME in order by FIRST NAME. Suppose you want to find the name: JOHN SMITH. Consider for the moment that the LAST NAME field has a length of 15 and that the FIRST NAME field was defined in the DATA SEGMENT right after LAST NAME. Placing the cursor on the black box will indicate that the end of the INDEXED field has been reached and that the next field will be used in the scan also, if another character is typed.

The screen would then display TARGET: with a black box 16 spaces from the blinking cursor.

**Prompt: TARGET:** ■

To find JOHN SMITH, you would enter:

TARGET: SMITH JOHN

Notice that JOHN starts at the position of the black box. This will have the first JOHN SMITH located. Other factors such as a middle initial could also be used. Leaving off the OHN and entering just the J would have the first SMITH located that has a first name starting with J.

The field that starts at the black box will always be the next field in the DATA SEGMENT. If the fields where defined in the order of FIRST NAME then LAST NAME, then this feature would not work in the example given.

Pressing **[ENTER]** at the TARGET: prompt without typing any text will bypass the IDEXED SCAN and access the next method of searching the file.

## SEGMENT SEARCH

Not having a file indexed or bypassing the indexed scan routine will then access the SEGMENT SEARCH feature. The screen displays:

**Prompt: ENTER SEGMENT 1 - N TO SEARCH:**

**N** will be the number of segments that were defined for the file. This feature allows you to search an entire segment for one key entry or to locate blank (deleted) records.

Pressing **[ENTER]** will advance to the next method of searching the file.

Pressing the number of the segment you want searched will then display:

ENTER TARGET OR ! TO
LOCATE BLANK RECORDS

TARGET:

Enter the target word or phrase you want to locate within the segment selected. The first accessable data entry screen is displayed and then the searching begins with record 1 and continues until it finds the TARGET, reaches the end of the file, or exits if you press **[CLEAR]**.

As the searching is taking place, the TARGET that you enter is looked for **anywhere** in the segment you selected. If the TARGET was **GREGG**, then any record that had the word GREGG in it would be displayed on the screen. GREGG may be someone's first name, last name, or the name of their street.

When an occurrance of the TARGET is found, the record is then displayed on the screen and the **[CLEAR]** MENU prompt is presented.

## BLANK RECORDS

Whenever a record is deleted, blank spaces are placed within that record on the diskette. The [UP ARROW] can be entered as the TARGET in the segment search to find blank records so that new information can be placed in them.

## PULL RECORD NUMBER

This feature allows a record to be accessed directly just by knowing its record number on the disk. This is the number that is located on the bottom left side of the screen when the record is being worked on. The screen will show the current number of records on file and will wait for the number to entered.

Pressing [ENTER] without typing a number will return to the main ADD/UPDATE/REVIEW menu.

Entering a record number will have the data entry screen that was used last in updating the file displayed. The record number indicated is displayed on the screen and the [CLEAR] MENU is presented.

## SELECT INDEX

This option allows you to select another index file that has been created. On a check book data base you might have an index for CHECK NUMBER and one for PAID TO. This will allow you to search by either.

NOTE DISK BASIC 1.0 OWNERS - Because of a bug in Disk Basic 1.0, you will have to elect to swap data disks whenever you want to change indexes. This will simply close all data files and then access the SELECT INDEX menu again. Do not use the SELECT INDEX option from this menu.

## SWAPPING DATA DISKS

Since data files should be placed on a separate disk, one system disk could be used for any number of data disks. You might have a CHEKBOOK routine that could be used for different checkbooks. Once the SYSTEM files are loaded, the data disks can be switched to perform file maintenance on other files.

DO NOT REMOVE THE DISKETTE UNTIL AFTER YOU SELECT [3]!!!!

It is very important not to remove the data disk until the LOAD DATA DISK prompt is displayed. The data files are left opened the entire time while performing file maintenance and are not closed until you either elect to swap data disks or exit the file completely.

FAILURE TO DO THIS COULD RESULT IN LOST DATA!!!

Selecting [3] will close the data files and will then return to the LOAD DATA DISK(S) prompt. The data disk(s) can be replaced at this point and then you can continue as before. The SELECT INDEX menu will appear each time you open a the data files.

## EXITING THE FILE COMPLETELY

Selecting [5] to exit the file completely will close all data files and return to the ENTER FILENAME prompt at the beginning of the ADD/UPDATE/REVIEW program **Never** remove your data disk(s) unless this option or the SWAP DATA DISK option is selected. **Failure to do this could result in lost data!**

When the ENTER FILENAME prompt appears, you can enter another system disk and perform file maintenance on another data base or press [ENTER] to exit.

Pressing [ENTER] will display a menu which gives access to all other PRO-COLOR-FILE programs except those that are used in creating a data base. Press the number of your choice.

## MAKE BACKUPS

This procedure can't be emphasized enough. If you are entering records for an extended period of time, say 3 or 4 hours, then you should stop every half hour or so and make a backup copy of the data disk(s). This will guarantee that if a power failure or something occurs you'll only have to re-enter a half hours worth of data - not a weeks worth

## INDEX RECORDS

The indexing of a file is method by which an alphabetical order can be obtained for any field. Indexing records allows the ENTER/UPDATE routine to access records very quickly, a SUMMARY REPORT to be obtained and REPORTS or LABELS printed in an alphabetical order.

An index can be re-created anytime new records are added to the file and up to 16 indexes can be created at one time.

At the prompt, type in the filename and then press [ENTER]

## LOAD DATA DISKS

The screen will indicate which disk drive each data segment was stored on and will wait until they are loaded. The bottom of the screen indicates:

ENTER-CONTINUE CLEAR-EXIT

**[ENTER]** - Continues with the indexing.

**[CLEAR]** - Exits back to the filename prompt.

## SELECT INDEX

A listing of the indexes will be displayed with the last one being *NEW*. Select the letter of the index file which you are going to create or press the letter for *NEW* if a new index is to be made. *NEW* will be the only selection if there aren't any indexes.

**INDEX NAME** - This name can be upto 8 characters in length and should reflect the type of index you're creating. For example, a check book file could have an index for CATEGORY, CHECK# or MONTH. This same menu of indexes will be displayed in other programs for selection. Type in the name and press [ENTER].

**OTHER OPTIONS** - The bottom of the screen displays Q - QUIT X - KILL.

**[Q]** - Pressing [Q] will exit back to the ENTER FILENAME prompt. Use this to abort indexing.

**[X]** - Press [X] if you want to kill an index from the diskette and the menu being displayed. After pressing [X], you'll be prompted for the letter of the index that you want killed. Pressing any key other than A - (last index) will abort the KILL option and return you to the SELECT INDEX prompt.

**EXISTING INDEXES** - If an index already exists on the disk, you will be prompted with:

APPEND TO EXISTING INDEX
NEW INDEX FILE
EXIT INDEXING

**[A]** - Appends index that is being created to the end of the one already stored on the disk. (This is discussed in more detail later in this section)
**[N]** - Replaces the old index with the new one.
**[E]** - Exits back to the SELECT INDEX menu

This display will not be shown if the index is a *NEW* one.

## SELECT SORT FIELD

After the index name is entered or selected, the field names for the first segment are displayed and the bottom of the screen indicates:

SORT FIELD A - * NEXT SEG XIT

The * will be the letter of the last field displayed for the segment. This first selection is the main field that the file is to be alphabetized with.

**[A] - [*]** - Selects the field by which to sort the file.

**[S]** - Displays the next segment if the field to use as the main sort field is not in the one displayed.

**[X]** - Exits back to the ENTER FILENAME prompt.

## SORT LENGTH

After the field by which to sort is selected, a prompt will appear:

SORT LENGTH OR ENTER FOR
LENGTH OF FIELD:

This entry defines how many characters to use from the field selected for sorting Pressing **[ENTER]** will indicate to use all the characters from the field.

There are approximately 10,000 bytes available for storing the needed information to index a file. Using a large length of characters to sort with may cause an OS ERROR or OM ERROR to occur if there are a lot of records to index. To find the approximate maximum number of characters that can be used, divide 10,000 by the number of records that will by indexed and then subtract 2.

Example:

```
                Spaces available  = 10,000
Divided by the Number of records =    500
                                 =     20
                              minus     2
Approximate maximum index length =     18
       (For up to 3 sort fields)
```

## OS or OM ERRORS

Perform the following procedure if an OS or OM ERROR occurs:

1. Type: CLOSE press **[ENTER]**
2. Place the SYSTEM diskette in drive 0
3. Type: RUN press **[ENTER]**
4. Try again with a smaller index length

Entering a number that is less than the length of the field will have only that many of the first characters used. This may be necessary if more than one field is going to be used for sorting.

Entering a number that is greater than the length of the field will have all of that fields characters used and then some from the field that comes after it in the segment.

For example, a DAY field is defined after a MONTH field in the segment; the MONTH field is selected as the index field; the lengths of the MONTH + DAY fields are entered for the index length; the file will then be indexed by MONTH and then within each MONTH by each day. This has in effect created an index within an index.

## SECOND AND THIRD SORT FIELDS

After the first index field is selected and the index length is entered, the bottom of the screen will show:

SORT ON FIELD 2 ENTER OR EXIT

This technique is used when the combined length of the fields (as mentioned above) cannot be used because of space requirements. It is also used if the next field to sort the file by is not defined after the previous field in the segment.

This allows a second field to be selected as a second order field. For example: If the first index field selected is a LAST NAME field, then the FIRST NAME field can be selected for the second order field. This would have the file sorted by LAST NAME and within each LAST NAME by FIRST NAME.

The letter of the next field to index on is selected which will then have the prompt for the SORT LENGTH appear again.

**[ENTER]** - Will use the INDEX FIELD(S) as selected and will continue to the next section.

**[X]** - Exits back to the INDEX FIELD A - * NEXT SEG OR XIT prompt.

*Up to 3 fields for indexing the file can be selected at one time.

## SELECT RECORDS

After the INDEX FIELD(S) have been selected, the field names in the first segment are displayed and the bottom of the screen indicates: SELECT RECORDS ALL RECORDS EXIT

Refer to the section SELECTING RECORDS, for details.

After the the SELECT records section is accomplished, the screen indicates: CONTINUE (Y/N)? Press [Y] to continue or [N] if changes need to be made with the entries made.

While the records are being selected, [CLEAR] can be pressed to interrupt the process. The bottom of the screen will indicate: CONTINUE WITH INDEXING (Y/N)? Pressing [Y] will continue, [N] will exit back to the ENTER FILENAME prompt.

After the records have been selected, the screen will indicate the number of records selected and will show: S O R T I N G.

## STORING THE INDEX

The index will be stored on the drive that is used for storing DATA SEGMENT 1. Each index that is created requires at least one GRANULE of disk space. Therefore, record capacity is decreased each time you create *NEW* indexes.

## INDEXING MORE THAN 750 RECORDS

Because a data file can be as large as the disk system will allow, files of 1000+ records are possible. It would not be possible to index a 3000 record file all at one time. Instead, progressive sections of a file can be indexed and then appended to each other.

The APPEND feature is quite powerful and will allow **any** size file to be indexed (sorted). The main sort field is divided up so that no more than 750 records will be selected at one time for indexing.

This is accomplished by utilizing the SELECT RECORDS feature to have certain ranges to be selected each time. Using a LAST NAME field as an example, the technique for files with 900 to 1200 records would be: Given, the INDEX NAME is "LNAME"

1. Select index name LNAME

2. Select **[N]** for a new index

3. Select the LAST NAME field to SELECT records by.

4. TARGET: A ↑ M is entered.

5. The records are selected, sorted and stored.

6. Select index name LNAME again.

7. Select **[A]** for append

8. Select the LAST NAME field again to SELECT records by.

5. TARGET: N ↑ Z is entered.

6. The records are selected, sorted and then appended to the index file already stored on disk.

In the first pass of the indexing, only those LAST NAMES from A to M were selected. That index is stored as a new one and then the second pass of the indexing selects LAST NAMES from N to Z. This second index is then appended to the end of the first resulting in a complete index from A to Z.

Larger files may require three or more passes to obtain a complete index. Using the same LAST NAME example, a three pass index could be:

Pass 1 - TARGET: A ↑ I (NEW INDEX)

Pass 2 - TARGET: J ↑ R (APPEND)

Pass 3 - TARGET: S ↑ Z (APPEND)

## INDEXING FOR A SUMMARY REPORT

A file must be indexed before it can be used in obtaining a SUMMARY REPORT. The field that is to be summarized (e.g. MONTH, CATEGORY) is used as the MAIN index field. A second and third order field will not be applicable in this routine.

(The FIELD NAME that is selected for indexing will be printed in the COLUMN HEADING lines during the printing of the summary if a ? was placed there when it was defined.)

This is where creating multiple indexes at one time is very beneficial. For a check book file, you could create an index for CATEGORY and one for MONTH. Then, when you go to print a summary report, one can be generated for CATEGORY and then one for MONTH without exiting the report program.

## EXITING THE INDEX ROUTINE

Pressing [ENTER] when the ENTER FILENAME prompt is displayed will display a menu that gives access to all other PRO-COLOR-FILE programs. Press the number of your choice.

## NOTE ABOUT INDEX FILES

The name that you give an index file will appear in the directory with the extension of /NDX. For example, if you name an index ZIPS then it will appear on the directory as ZIPS/NDX. It is important that you don't KILL these files with the BASIC command. Instead, access the INDEX RECORDS program and then remove it from the directory by using the [X] selection. This insures that it's removed from the disk as well as the custom menu.

## PRINTING REPORTS

Entering the filename will have the title of each report listed. The report format that is to be used is selected by pressing its corresponding number.

**Prompt: PASSWORD**

If a password was defined for the format selected, the prompt: PASSWORD: ????? will appear in the bottom area of the screen. Typing in the password will replace each ? with an X. The program will start over if the password is not entered correctly.

**Prompt: ADD LINE NUMBERS (Y/N)?**

If the blank spaces were left for line numbers, this prompt will appear and will wait for either [Y] or [N] to be pressed.

**Prompt: RECORD# OR SEQUENTIAL?**

This prompt will appear if line numbers are selected to be printed.

**[S]** - Numbers each report line in sequential order. (e.g. 1, 2, 3)
**[R]** - Prints the actual record number

**LOAD DATA DISKS**

The screen will indicate which disk drive each data segment was stored on and will wait until they are loaded. The bottom of the screen indicates: **ENTER**-CONTINUE OR **CLEAR**-EXIT

**[ENTER]** - Continues with the report program.
**[CLEAR]** - Exits back to the filename prompt.

**SELECT INDEX**

A menu of index names will be displayed if you've created any for the file. Select the index to be used by pressing its letter. Pressing [ENTER] will indicate not to use an index. [CLEAR] will exit to the ENTER FILENAME prompt.

## PRINT REPORTS MENU

The following menu appears after selecting the index:

1. PRINT ALL RECORDS
2. PRINT SELECTED RECORDS
3. SELECT INDEX FILE
4. SWAP DATA DISK
5. EXIT

[1] - Selects all records for the report and continues

[2] - Accesses the SELECT RECORDS option for reporting certain records. (See the section on SELECTING RECORDS for details)

[3] - Allows the selection of another index (Disk BASIC 1.0 must select [4] instead).

[4] - Allows the swapping of data disks and then accesses the SELECT INDEX menu.

[5] - Exits back to the ENTER FILENAME prompt. Verification of this selection will be required by pressing [Y] to confirm or

[N] to cancel the selection.

After the selection of [1] or performing selection [2], you will be prompted:

PROMPT: CREATE TEXT FILE

The report format as defined can be re-routed to a text file for use by a word processor, communications program or by DYNACALC (See ADAVANCED section). Press [Y] to create a text file; [N] or [ENTER] to continue without creating a text file and advance to the prompt:
HI/LOW LOW/HI

## CREATING A TEXT FILE

Prompt: FILENAME:

Type the filename that you want the text file stored under. If the selection was made for a disk file then you can include an extension and drive spec. Example: REPORT/TXT:1 Cassette filenames can be upto 8 characters in length. DYNACALC files have to have the extension of /DYN. Pressing [ENTER] without typing anything will access the CREATE TEXT FILE prompt again.

Prompt: DISK OR CASSETTE

Enter [D] for diskette or [C] for Cassette. Pressing [ENTER] without typing anything will access the CREATE TEXT FILE prompt again. You will then be prompted:

Prompt: HI/LOW OR LOW/HI

[H] - Generates the report in order from the highest to the lowest (e.g. Z to A).
[L] or [ENTER] - Generates the report in order from the lowest to the highest (e.g. A to Z).

Prompt: REPEAT TITLES (Y/N)?

[Y] - Repeat the title lines on each page of the report.
[N] or [ENTER] - Print the title lines on the first page only. COLUMN HEADINGS will be repeated automatically.

**Prompt: LABEL**

Allows the entry of a main heading that will be printed at the top of the report. This entry can be anything that may be appropiate for the report that is being generated.

Examples: CURRENT STATUS, MID-YEAR SUMMARY, FIRST QUARTER REPORT

Pressing [ENTER] without typing any text will bypass this option.

**Prompt: DATE**

Allows the placing of the date on the top of the report. This entry can be of any format that is desired and will be centered automatically.

Pressing [ENTER] without typing any text will bypass this option

**Prompt: PAUSE AFTER TOP-OF-FORM?**

This selection will cause the printer to wait after printing each page. This is used for reports to be printed on single sheets. Press [Y] if you want the pause or [N] if not.

**Prompt: CONTINUE WITH REPORT?**

**[Y]** or **[ENTER]** - Starts the report.
**[N]** - Exits back to the PRINT REPORTS MAIN MENU

**WHILE THE REPORT IS PRINTING**

The [CLEAR] key can be pressed to interrupt the printing. If done, the screen will display: *****CONTINUE (Y/N)?*****.

**[Y]** - Continues with the report
**[N]** - Exits back to the PRINT REPORTS MAIN MENU

**PRINTING A SCREEN REPORT**

When the maximum number of records that can be displayed on the screen at one time is reached, the following prompt will be displayed on the bottom line of the screen:

**Prompt: CONTINUOUS RESUME EXIT**

**[C]** - Restarts the report and will not stop again unless the [CLEAR] key is pressed
**[R]** - Resumes with the report and will stop again when the next set of records have been placed on the screen.
**[E]** - Exits the report and returns to the PRINT REPORTS MAIN MENU.

**PRINTING A SUMMARY REPORT**

If a SUMMARY REPORT is set up for the printer, the TITLES and COLUMN HEADINGS will be printed; SUMMARY REPORTS set up for the screen will start by clearing the screen. The disk drive will begin running and will scan through the files. Whenever the related information in the SUMMARY FIELD changes, the summary information as called for will be printed for the records that were just scanned. This process continues until the entire file has been scanned or until the [CLEAR] key is pressed.

See INDEXING FOR A SUMMARY REPORT, for more information.

## WHEN A REPORT IS FINISHED

**Printer reports** will return to the PRINT REPORTS MAIN MENU prompt as soon as the report is **finished** printing.

**Screen reports** will prompt: PRESS SPACEBAR TO CONTINUE before it exits. This will allow the information to be studied before exiting.

## IF YOU'VE CREATED A TEXT FILE

If you've sent a report to a text file and you have Disk BASIC 1.0, then **you have** to select the option of swapping data disks when the report is finished. We **know** this is a bothersome procedure but there was nothing we could do to avoid this **condition.** The problems are in the 1.0 ROMS.

## CASSETTE UTILITY

Sending a report to a disk text file requires a lot of disk space if the report is long. This will not be possible if all your drives are filled with data. For this **purpose**, the report can be sent to a cassette file and then read back in.

Exit **PRO-COLOR-FILE** and then RUN "CASSETTE". You will be prompted whether to send the **cassette file to the** disk, printer or screen. If sent to the disk, you'll be prompted for **a filename to store** it under.

**After making the** selections, you're prompted whether or not to continue. Press [Y] to **continue or [N]** to re-start.

**The data file** is then read in and sent to the output device as specified.

## EXITING THE REPORT PROGRAM

Pressing [5] at the PRINT REPORTS MAIN MENU and then [Y] will return to the ENTER FILENAME prompt. Pressing [ENTER] at the ENTER FILENAME prompt without typing any text will display a menu that will access any of the other PRO-COLOR-FILE programs.

## PRINTING LABELS

Entering the filename will have the title of each format listed. The format that is to be used is selected by pressing its corresponding number.

**Prompt: PASSWORD**

If a password was defined for the format selected, the prompt: PASSWORD: ????? will appear in the bottom area of the screen. Typing in the password will replace each ? with an X. The program will start over if the password is not entered correctly.

## LOAD DATA DISKS

The screen will indicate which disk drive each data segment was stored on and will wait until they are loaded. The bottom of the screen indicates: ENTER-CONTINUE CLEAR-EXIT

**[ENTER]** - Continues with the labels program.
**[CLEAR]** - Exits back to the filename prompt.

## SELECT INDEX

Select the letter of the index you want to use in printing the labels. Pressing [ENTER] will indicate not to use an index.

## PRINT LABELS MAIN MENU

This menu offers the same functions as in PRINT REPORTS.

**Prompt: HI/LOW OR LOW/HI**

**[H]** - Has the printout generated in order from the highest to the lowest (e.g. Z to A).
**[L]** or **[ENTER]** - Has the printout generated in order from the lowest to the highest.

**Prompt: ALIGN PRINTER**

This will send out five X's to the printer as if it were going to be printed on a label. This is repeated twice so that proper positioning of the labels can be assured.

**[Y]** - Sends out the test and then returns to the same prompt.
**[N]** or **[ENTER]** - Bypasses the align test.

**Prompt: NUMBER OF COPIES**

This allows any number of copies of each label to printed. Type in the number of copies you want or just press **[ENTER]** for one copy.

**Prompt: CONTINUE WITH PRINTING?**

**[Y]** or **[ENTER]** - Starts printing.
**[N]** - Exits back to the PRINT LABELS MAIN MENU

**WHILE THE LABELS ARE PRINTING**

The **[CLEAR]** key can be pressed to interrupt the printing. If done, the screen will display: *****CONTINUE (Y/N)?*****.

**[Y]** - Continues with the printing.
**[N]** - Exits back to the PRINT LABELS MAIN MENU

## POSTING ACCOUNTS

It is suggested that a BACKUP copy of the data file be made before using this routine in the event that posting is done incorrectly. Type the filename and then press [ENTER]

## LOAD DATA DISKS

The screen will indicate which disk drive each data segment was stored on and will wait until they are loaded. The bottom of the screen indicates: **ENTER**-CONTINUE **CLEAR**-EXIT

**[ENTER]** - Continues with the posting program.
**[CLEAR]** - Exits back to the ENTER FILENAME prompt.

### Select Index

Select the letter of the index you want to use in printing the labels. Pressing [ENTER] will indicate not to use an index.

The POST ACCOUNTS MAIN MENU is displayed and offers the same selections as in the PRINT REPORTS program. Refer to that section for more information.

## KEYBOARD ENTRY OF VALUES

After selecting [1] to post all records or performing selection [2], select records, the screen will clear and the first input prompt will appear. Type the entry and then press [ENTER]. Subsequent input prompts (if defined) will be displayed until the last one is entered.

Prompt: CONTINUE WITH POSTING?

**[Y]** - Starts the posting.
**[N]** - Exits back to the POST ACCOUNTS MAIN MENU

## WHILE POSTING IS BEING PERFORMED

The number records that remain to be read from the file will be displayed in the middle of screen. This is provided so that some sense of time can be established as to how long the posting may require.

The [CLEAR] key can be pressed to interrupt the posting. If done, the screen will display: *****CONTINUE (Y/N)?*****.

**[Y]** - Continues with posting
**[N]** - Exits back to the POST ACCOUNTS MAIN MENU

*Because of the extensive READ and WRITE functions, the posting of a large file (600 records) may require well over an hour to be accomplished. The speed at which the posting is performed will be slower if a lot of calculations are being performed.

## SELECTING RECORDS

This section applies to the selecting of records when using the **INDEX RECORDS**, **PRINT REPORTS**, **PRINT LABELS**, or **POST ACCOUNTS** routines. The following features will be used the same way for each. A detailed discussion on the other functions of each of these routines appears in their section.

A listing of the FIELD HEADINGS will appear for segment one and the following prompt will be displayed at the bottom of the screen:

**Prompt: SELECT A - * NEXT SEG EXIT**

The * will be the letter of the last field name defined in the segment. If the field that you want to base your selection on is displayed, then you press its corresponding letter.

**[S]** - Will advance to the next segment and display its fields. Selecting this when the last segment is displayed will return to segment 1.

A letter displayed in reverse video (lower case) indicates that it is the main field that the file was indexed by. See SELECTING BY THE INDEX FIELD.

**[X]** - Exits back to the MAIN MENU of the routine that you're using.

## ENTERING THE TARGET

Selecting the letter of the field to base the selection on will have the following menu displayed:

FIELD SELECTED: (field name)
FIELD LENGTH: nn

TARGET:

The (field name) will be that of the one selected, The FIELD LENGTH (nn) of the field selected is displayed as an aid in entering the TARGET.

Once the field is selected, certain conditions can be employed to dictate what the field must or must not contain before it can be used.

## CONDITIONS

There are 8 different conditions that can be used when entering a target. The first 6 are used by placing them in front of the TARGET.

1. = **EQUAL TO**: The FIELD SELECTED has to be equal to the TARGET. Example:

   FIELD SELECTED: LAST NAME
   FIELD LENGTH: 15

   TARGET: =JOHN

This would select any record that contains JOHN in the first four spaces of the entry. **JOHN**, **JOHNSON** and **JOHNS** would all be selected.

2. <> **NOT EQUAL TO**: The FIELD SELECTED cannot equal the TARGET. Example:

   FIELD SELECTED: MONTH
   FIELD LENGTH: 2

   TARGET: <>10

3. >= **GREATER THAN OR EQUAL TO**: The FIELD SELECTED has to be greater than or equal to the TARGET. Example:

   FIELD SELECTED: MONTH
   FIELD LENGTH: 2

   TARGET: >=06

4. <= **LESS THAN OR EQUAL TO**: The FIELD SELECTED has to be less than or equal to the TARGET. Example:

   FIELD SELECTED: LAST NAME
   FIELD LENGTH: 15

   TARGET: <=N

5. > **GREATER THAN**: The FIELD SELECTED has to be greater than the TARGET. Example:

   FIELD SELECTED: LAST NAME
   FIELD LENGTH: 15

   TARGET: >N

6. < **LESS THAN**: The FIELD SELECTED has to be less than the TARGET. Example:

   FIELD SELECTED: LAST NAME
   FIELD LENGTH: 15

   TARGET: <J

7. **SPECIFYING A RANGE**: The highest and lowest TARGETS that the FIELD SELECTED can contain are indicated by separating them with an **[UP ARROW]**. Example:

FIELD SELECTED: LAST NAME
FIELD LENGTH: 15

TARGET: A↑N

This would indicate that only those records that have LAST NAMES that are in the range of A to N can be used.

Another example could be:

FIELD SELECTED: MONTH
FIELD LENGTH: 2

TARGET: 01↑06

8. **(none)**: When none of the first 7 seven methods are used, the TARGET is looked for anywhere within the FIELD SELECTED. Example:

FIELD SELECTED: ADDRESS
FIELD LENGTH: 30

TARGET: GREG

This would select records that have GREG anywhere within the ADDRESS field. All of the ones below would meet this condition.

1501 GREGG AVE, GREGG APTS - NO. 23, 2020 GREGG DRIVE, 1010 GREGORY ST.

## SELECTING NUMERIC VALUES

When a FIELD is defined as a numeric field on the screen, blank spaces are added in front of the number to make it right justified. The field is also stored in this format in the file. For example, a 3 digit number stored in a field that has a length of 6 will have 3 blank spaces placed in front of it. To select records that have "100" would mean the TARGET would have to have three blank spaces before the 100. This presents a problem if some records have "  100" and others have "000100".

Placing a ← **[SHIFT]+[UP ARROW]** after the TARGET will indicate that the FIELD SELECTED and the TARGET should be considered values and not alphanumeric strings. Example:

FIELD SELECTED: DUES OWED
FIELD LENGTH: 6

TARGET: >=100←

This would have any record that has a value in the DUES OWED field that is greater than or equal to 100. Any of the following would meet this condition: 000100, 001230, 100, 100.0, 100.12, 122.2, 150.95

This feature can only be used in conjunction with first 7 SELECTION METHODS previously described.

## AND / OR OPTIONS

After the first selection is made, the following menu will appear on the bottom line of the screen:

AND OR ENTER TO CONTINUE

**[A]** - Selects the AND option and then lets you make another selection from the same segment that the first selection is made. Using this option would mean that a record would have to meet the condition that was entered in the first selection **AND** meet the condition entered in the second. Example:

SELECTION 1

FIELD SELECTED: MONTH
FIELD LENGTH: 2

TARGET: >=06

Then the **AND** option is selected.

SELECTION 2

FIELD SELECTED: CATEGORY
FIELD LENGTH: 12

TARGET: =UTILITIES

This would indicate to select all records that have dates that are greater than or equal to 06 and that have UTILITIES in the CATEGORY field.

**[O]** - Selects the OR option and then lets you make another selection from the same segment that the first selection is made. Using this option would mean that a record could meet the condition that was entered in the first selection **OR** meet the condition entered in the second. If neither are met, the record will not be selected. Example:

SELECTION 1

FIELD SELECTED: CATEGORY
FIELD LENGTH: 12

TARGET: =CAR/MISC

The **OR** option is then selected.

SELECTION 2

FIELD SELECTED: CATEGORY
FIELD LENGTH: 12

TARGET: =CAR/GAS

A record would then be selected if it met any of the two conditions.

**[ENTER]** - Will by pass the AND / OR option and continue with the program that is being used.

## SELECTING ON THE INDEXED FIELD

Selecting the field that is the main INDEX FIELD will speed up the selection process by going to the beginning entry of the TARGET and progressing from there. The main index field is indicated by a reverse (lower case) letter.

Example:

Given: The file is indexed by LAST NAME

FIELD SELECTED: LAST NAME
FIELD LENGTH: 12

TARGET: >=S

This would cause only 8 to 12 records (out of a 1000) to be searched before the beginning of the S's would be found. This eliminates the time involved in starting with A and searching until if finds the first S.

A CHECKBOOK file could be indexed by the MONTH field which would then let the beginning of any month be accessed as quickly as possible.

Example:

Given: The file is indexed by MONTH

FIELD SELECTED: MONTH
FIELD LENGTH: 2

TARGET: =08

This would have the beginning of the eighth month accessed very quickly and would start the selection process at this point.

Note: This feature can be used only in conjunction with the =, >= or ! (range) conditions. It cannot be used with the numeric value function.

## INTRODUCTION

This section will deal with features of PRO-COLOR-FILE that will require a solid understanding of its basic operation. Other features will be referred to but only in context of how they relate to the advance use.

## REFORMATTING A DATA BASE

At times, you may find the need to have a sub-set of a data base that can be accessed independently, or you may need to add additional fields to an already active data segment. The use of "CREATE TEXT FILE" that is encountered when printing a report can be used for accomplishing just this.

Keep in mind that each segment is an individual file on the disk with a set number of spaces allocated for each record. If there are 100 records in a file and the segment uses 80 spaces per record, then there will be exactly 8000 (100*80) spaces in that file. Since each record starts at each 80th interval, you can realize why you'll get garbage if you change the lengths of any of the fields - it throws it out of kelter. If the records are read in and then put out into a separate file with new lengths for each field, then a new segment can be defined that will accurately access each record.

**TECHNIQUE** - Define a report format without using any titles or column headings, and without any spaces between field specifiers on the format.

Take the following format for an example:

```
----+----+----+----+----+----+----+----><---+----+----+----+----+----+----+----+

%              %%             %%                          %%          %%       %
[$1            [$2            [$3                          [$4         [$5  [<6
```

The report width was defined as 80 as was the printer width. Notice how there aren't any spaces between the sets of % % that are blocking out the fields. This could have been a format for a mailing list that only had 10 spaces defined for the first name ([$1) and last name ([$2). Looking at the format, you'll note that there are 15 spaces for each of these fields. Now, if this format is used for a report and sent out to the disk as a text file, the records will be re-written with the added lenghts. Then, only the length of the first and last name will need to be changed in the segment.

The limitations on using this feature is that fields with a length of 2 or 1 will be difficult to rewrite without allowing addition spaces for them. One technique to use is adding the next field in the segment to the end of it. Such is the case above for fields 5 (State) and 6 (Zip). Enough spaces where allowed for both fields with the zip code field being added to the end of the state field. This would still mean that one or the other fields will wind up having an additional space.

Even if you have multiple segments in a data base, each one can have its own format for re-formatting. You can even pull information from mulitple segments and create a new segment for a different data base. Keep in mind the format for filenames that is required for PRO-COLOR-FILE: Filenames with less than 8 spaces are padded with *'s; Extensions are SGn with 'n' being the segment number of 1 to 4.

When you set up the new data segment, keep in mind that the total data space used must equal the length of the report format that you define. Even if you don't have the field lengths right, a quick look at the data with the new segment will reveal if any lengths need to be changed. Also, don't include any (/) carriage returns in formats that are to be used in creating new data files.

MURPHY'S LAW: If you don't back it up - it will definitely crash.

## INTERFACING WITH DYNACALC

This section is intended for those who are owners of DYNACALC and PRO-COLOR-FILE. Data from PRO-COLOR-FILE can be formatted via the report formats which can be read directly in to DYNACALC. The technique is very easy and extremely powerful for compiling large amounts of data for use in DYNACALC.

The most obvious use that will be demonstrated is transferring data from a check book into DYNACALC. In the back of DYNACALC's manual is a dicussion on this technique under the heading: USING DATA FILES. You may want to read that section so that you'll gain a better understanding of this feature.

**TECHNIQUE** - Set up a report format **without** using any titles or column headings. Place a (/) carriage return after each field or group of fields to indicate each column of data and in the last three spaces of the format, place /@/. Preceed any field with an ' (apostrophe) that will have a number in the first space but isn't to be considered a 'value' by DYNACALC.

Use the CREATE TEXT FILE feature in PRINT REPORTS and **use /DYN** as the extension. It doesn't matter what you use for the filename - /DYN must be used to tell PRO-COLOR-FILE that you are creating a file for DYNACALC. Example: CHECKS/DYN

Suppose you wanted to transfer a listing of checks to DYNACALC for further analysis.

```
----+----+----+----+----+----+---><---+----+----+----+----+----+----+

'%%-%%-%%/%  %/%        %/%                          %/####.##   /@/
[$1[$2[$3[$4  [$5       [$6                            [#7
```

Given the segment information:

1 - DAY
2 - MONTH
3 - YEAR
4 - CHECK NUMBER
5 - CATEGORY
6 - DESCRIPTION
7 - AMOUNT

In the format, you'll see that an ' was placed in front of the first %%. The MONTH is going to be a number but we don't want DYNACALC to take it as a value. Since the next two fields (DAY and YEAR) are after that field and before the (/), they don't need to have the ' added. DYNACALC will receive all three fields as one entry in that cell.

Notice how the /@/ is in the last 3 spaces of the format. This is important to remember when setting up a format. Don't place this directly after the last field. The first / of /@/ is actually the one that would have followed directly behind the last field.

Now, this format can be used with the CREATE TEXT FILE function of PRINT REPORTS for creating a file that can be read by DYNACALC. Explanation in the DYNACALC manual will show that this type of file can only be read in using the /S#L command.

Here is a format that can be used for generating a summary report based on the CATEGORY field.

```
----+----+----+----+----+----><---+----+----+----+----+----+----+----+

%          %/ ### / #####.## / #####.## / #####.## / #####.##      /@S
[$            [N    [=7         [L7         [@7         [H7
```

By indexing on the CATEGORY field and sending the report to a text file, further analysis of the checks can be made. You could use the format and index the file on the MONTH field to analyze the file by month. Don't forget to add the ' in front of the first field so it's not used as a value.

You should also keep in mind the amount of space you have in DYNACALC. Obviously you couldn't read in 500 records. Once the file is read in by DYNACALC, you can change your column width settings to reflect those of the data they contain. Each record will be an individual ROW with each field being in individual COLUMNS. Once loaded, you can apply more computations to the information and generate graphs.

## CONVERTING A SPREAD SHEET FILE

This program can be used to read in an entire ASCII stored spread sheet for re-writing to a direct access file. This means you can utilize a spread sheet program to perform quick analysis and then turn each row of the sheet into a record that can be accessed by PRO-COLOR-FILE. The limitations are that you cannot have more than 15 columns (15 fields), there cannot be more than 100 rows and the combined lengths of the columns cannot be greater than 255 spaces.

All column and main titles should be removed from the spread sheet before you store it in the ASCII file or use the RANGE function of the spread sheet program to have only the data rows stored. The name of this program is: SPC/BAS and is on your PRO-COLOR-FILE diskette.

RUN "SPC" **[ENTER]**

You will be prompted to enter the PCF filename and then the filename of the spread sheet (including extension). You will also enter the record length (total data space) for segment 1. The spread sheet will be read and then you will be prompted to load your PCF data disk in drive 0. If the same file already extists you will be prompted whether to append to the old file or have the one just read put in its place. This way, you can use your spread sheet program for monthly file maintenance and then append all the months together for use in a master report.

The field lengths for the data segment in PRO-COLOR-FILE are set up to reflect the width of each column from left to right. Take a check book format for example. If the column widths of your spread sheet are A=4, B=8, C=30, D=12, and E=9 then segment 1 of PRO-COLOR-FILE is set up as:

| # | FIELD NAME | LENGTH |
|---|---|---|
| 1. | CHECK NUMBER | 4 |
| 2. | DATE | 8 |
| 3. | DESCRIPTION | 30 |
| 4. | CATEGORY | 12 |
| 5. | AMOUNT | 9 |

## INSTALLING A LIMITED MENU

Once a data base has been set up and no further formatting is necessary, a **LIMITED MENU** can be installed that will not allow any of the "DEFINE" functions to be selected.

Pressing [!] when the **M** menu is displayed will have the limited menu installed.

This routine "RENAMES" the "M/BAS" program to "MENU/MST" and then "RENAMES" the "MENU/LTD" program to "M/BAS".

You will still **RUN "M"** to start PRO-COLOR-FILE.

## RE-INSTALLING THE MASTER MENU

The master PRO-COLOR-FILE menu can be re-installed anytime further formatting is necessary by pressing [!] when the **M** menu is displayed.

This routine "RENAMES" the "M/BAS" program back to "MENU/LTD" and then "RENAMES" the "MENU/MST" program back to "M/BAS".

## KILLING AN ENTIRE FORMAT

An entire data base format can be eliminated while the main PRO-COLOR-FILE menu is displayed. This will kill **ALL** of the system files associated with the FILENAME that is entered.

Press [*] to select this option. You will be prompted for the FILENAME that you want to kill. Entering the FILE NAME will then present another prompt to verify that you're ready to kill the file. Press [Y] if you are sure or [N] to cancel and return to the main menu.

Pressing [Y] will then indicate that the SYSTEM files are being killed. After this, you'll be prompted to load each data disk into drive 0 and press **[ENTER]**. If all the segments are on one disk then press **[ENTER]** until you're prompted to LOAD SYSTEM DISK IN DRIVE 0 AND PRESS **[ENTER]**. Make sure a system disk is in drive 0 and then press **[ENTER]**.

TECHNICAL INFORMATION

PRO-COLOR-FILE Programs:

**M/BAS**

Main menu program used to access other programs.

FILES CREATED:

PROGRAMS/SYS - Stores FILE NAME and disk drive specifications for data files.

FILENAME/KEY - Field names and lengths

FILENAME/SCR - Screen formats.

FILENAME/EQU - Equation formats.

**CREATE/REP**

BASIC program that allows the defining of REPORT formats.

FILES CREATED:

FILENAME/TTL - Titles of each report format.

FILENAME/RPn - Report format n (n = 1 to 8)

**PRINT/REP**

BASIC program that generates reports of data files.

**LABEL/DEF**

BASIC program that allows the defining of LABEL formats.

FILES CREATED:

FILENAME/LTL - Titles of each label format.

FILENAME/LBn - Label format n (n = 1 to 6).

**LABEL/PRT**

BASIC program that generates labels from a data file.

- **ENTER/REC**

BASIC program that allows the entering of data into a defined file.

FILES CREATED:

FILENAME/SGn - Data segment n (n = segment number 1 - 4)

- **INDEX/REC**

BASIC program that allows the indexing (alphabetizing) of data files.

FILES CREATED:

FILENAME/NDX - Stores the index order of the file.

- **POST/BAS**

BASIC program that performs the POSTING function.

- **SUBRT/BIN**

Machine language subroutine used by ENTER/REC

- **MENU/LTD**

BASIC program that contains the LIMITED MENU. This is RENAMED to "M/BAS" when the LIMIT program is used.

**MENU/MST**

Filename that the master PRO-COLOR-FILE menu "M/BAS" is RENAMED to when the LIMITED MENU is installed.

- **SPC/BAS**

BASIC program used to convert spread sheet files to direct access files.

- **CASSETTE/BAS**

BASIC program used to read in a file from the cassette and send it to the disk, printer or cassette.

## SAMPLE FORMAT 1

The CLUBDUES format, although simple, demonstrates some of the fundamental applications of the features of PRO-COLOR-FILE.

Screen format 2 utilizes the undefined field feature to allow payments or charges to be entered and affect the DUES OWED field without being stored.

The equations show the use of the POST ACCOUNT functions. The POST ACCOUNTS routine in this case would be used once a month to add each MONTHLY DUES amount to the current DUES OWED. Two keyboard entries are also called for to have the date of the posting placed within each record.

The Report formats can't be expounded on too much due to the fact that printers have different features. Report format 3 shows the use of SCREEN REPORTS in obtaining totals on numeric fields without having to print the whole file on paper.

Labels come in various sizes and so a simple 1 across label is shown. Label format 2 shows its use in creating two column rosters.

FILENAME: CLUBDUES

DEFINED DATA FOR SEGMENT 1

| NO. | FIELD NAME | LENGTH |
|---|---|---|
| 1. | LAST NAME | 15 |
| 2. | FIRST NAME | 12 |
| 3. | ADDRESS | 30 |
| 4. | CITY | 18 |
| 5. | STATE | 2 |
| 6. | ZIP CODE | 5 |
| 7. | PHONE | 8 |
| 8. | DUES OWED | 6 |
| 9. | MONTHLY DUES | 5 |
| 10. | POSTED MONTH | 2 |
| 11. | POSTED DAY | 2 |
| | TOTAL | 105 |

**SCREEN FORMAT 1**

```
----+----10---+----20---+----30-
            CLUB MEMBERSHIP

LAST MAME: [$1

FIRST NAME: [$2

ADDRESS
[$3

CITY: [$4

STATE: [$5     ZIP CODE: [#6

PHONE: [#8
```

**SCREEN FORMAT 2**

```
----+----10---+----20---+----30-
        MEMBERSHIP DUES

[!1                [!2

PAYMENT: [.12

ADD CHARGES: [.13

TOTAL DUES OWED: [!8

MONTLY RATE: [.9

DATE OF LAST POSTING
MONTH: [!10   DAY: [!11
```

**EQUATIONS**

FILENAME: CLUBDUES

```
NO.
---------------------------
 1.  08=08+13-12 %
 2.  00=12,13
 3.  ??=POSTING MONTH (14)
 4.  ??=POSTING DAY (15)
 5.  08=08+09 % ;P
 6.  10=14 % ;P
 7.  11=14 % ;P
---------------------------
```

Equation 1 adds charges and subtracts payments that are entered into undefined fields 12 and 13 on DATA ENTRY SCREEN 2. Equation 2 "zeroes" the undefined fields. Equations 3 thru 7 are used by the POST ACCOUNTS routine. Equations 3 and 4 will ask for the input of the date. Equation 5 adds the MONTHLY DUES to the current DUES OWED. Equations 6 and 7 place the date into fields 10 and 11 which are stored in the file.

```
REPORT FORMAT 1
 FILENAME: CLUBDUES
 TITLE: MEMBER LISTING (80 COL)
 PASSWORD: (OPTIONAL)
 TYPE: PRINTER
 COLUMN WIDTH: 80
 PRINTER WIDTH: 80

----+----10---+----20---+----30---+----><---+----50---+----60---+----70---+----8

 PAGE ##                              CLUB MEMBERS
                                    GENERAL LISTING


       LAST NAME          FIRST NAME     ADDRESS                              PHONE
       %              %   %          %   %                                %   %       %/
 [$1                      [$2            [$3                                  [$7


 PRINTER CONTROL CODES

 TITLE LINE 1 ----> /80
 TITLE LINE 2 ----> /80
 TITLE LINE 3 ----> /80

 COLUMN LINE 1 ---> 13,13/80+2
 COLUMN LINE 2 ---> /80

 REPORT LINE -----> /80

 LINES/PAGE: 66
 PRINT/PAGE: 60


 REPORT FORMAT 2

 FILENAME: CLUBDUES
 TITLE: DUES REPORT (80 COL)
 PASSWORD: (OPTIONAL)
 TYPE: PRINTER
 COLUMN WIDTH: 80
 PRINTER WIDTH: 80

----+----10---+----20---+----30---+----><---+----50---+----60---+----70---+----8

 PAGE ##                              CLUB MEMBERS
                                   REPORT ON DUS OWED


       LAST NAME          FIRST NAME     DUES OWED      RATE      MM-DD
       %              %   %          %    #####.##     ##.##     %%-%%
 [$1                      [$2            [=8          [#9     [$10[$11

 PRINTER CONTROL CODES: (Refer to Format 1)
```

**REPORT FORMAT 3**

```
FILENAME: CLUBDUES
TITLE: DUES REPORT - SCREEN
PASSWORD: (OPTIONAL)
TYPE: SCREEN
COLUMN WIDTH: 32
PRINTER WIDTH: 32

----+----10---+----20---+----30-



%                          % ####.##
[$2 [<1                      [=8
```

*Not titles, column headings or printer control codes are used on SCREEN REPORTS.

**LABELS FORMAT 1**

FILENAME: CLUBDUES
TITLE: ONE ACROSS LABEL
PASSWORD: (optional)
NO. OF SPACES LABEL-LABEL: 1
NO. OF LINES LABEL-LABEL: 7
NO. OF LABELS ACROSS: 1

```
---------------------------------------
2,1
3
4,5,6



---------------------------------------

PRINTER CONTROL CODES: (define codes for 80 column)
```

**LABELS FORMAT 2**

```
FILENAME: CLUBDUES
TITLE: TWO COLUMN ROSTER
PASSWORD: (optional)
NO. OF SPACES LABEL-LABEL: 40
NO. OF LINES LABEL-LABEL: 1
NO. OF LABELS ACROSS: 2

---------------------------------------
2,1
---------------------------------------

PRINTER CONTROL CODES: (define codes for 80 column)
```

## SAMPLE FORMAT 2

FILENAME: CHEKBOOK

The CHEKBOOK file structure is a general purpose application for most check book activity Although it doesn't give a dailey balance, it is a good means to obtain reports based on CATEGORY, MONTH, or DESCRIPTION. Since a CHECK AMOUNT and DEPOSIT AMOUNT are available for entry, a TYPE field has been added to identify the entry as being [C] for check or [D] for deposit. This will be needed to obtain reports for CHECKS or DEPOSITS separately by SELECTING records by the TYPE field and entering [C] or [D] as the TARGET. The DESCRIPTION field will relate to "Paid to" or "Received from".

General reports can be obtained for each TYPE by INDEXING the file by any combination of three fields. Summary reports can be obtained by INDEXING all records by the MONTH or CATEGORY field and then using the SELECT feature in the PRINT REPORT program to select either [C] or [D].

*It is important that information in a field that will be used for summarizing be consistant. Entering a MONTH as " 2" will be considered different from "02". Remember, GIGO... Garbage In Garbage Out!

DEFINED DATA FOR SEGMENT 1

| NO. | FIELD NAME | LENGTH |
|---|---|---|
| 1. | YEAR | 2 |
| 2. | MONTH | 2 |
| 3. | DAY | 2 |
| 4. | TYPE | 1 |
| 5. | DESCRIPTION | 25 |
| 6. | CHECK NUMBER | 4 |
| 7. | CHECK AMOUNT | 7 |
| 8. | DEPOSIT AMT. | 7 |
| 9. | CATEGORY | 12 |
| 10. | COMMENTS | 20 |
| | TOTAL | 82 |

```
        SCREEN FORMAT 1

----+----10---+----20---+----30-
    INCOME / EXPENSE RECORDS

DATE: [D1

TYPE: [$4      CHECK#: [#6

DESCRIPTION
[$5

CATEGORY: [$9
CHECK AMOUNT: [.7
DEPOSIT AMOUNT: [.8

COMMENTS
[$10


EQUATIONS: (none)
```

## REPORT FORMAT 1

FILENAME: CHEKBOOK
TITLE: EXPENSE LISTING
PASSWORD: (optional)
TYPE: PRINTER
COLUMN WIDTH: 80
PRINTER WIDTH: 80

```
----+----10---+----20---+----30---+----><---+----50---+----60---+----70---+----8
PAGE ##                  E X P E N S E    R E P O R T


      DESCRIPTION              MM-DD-YY  TY      AMOUNT  COMMENTS
      %                     %  %%-%%-%%  %%  ##,###.##  %                   % /
      [$5                      [$2[$3[$1  [$4 [=7        [$10
```

```
PRINTER CONTROL CODES

TITLE LINE 1 ----> /80
TITLE LINE 2 ----> /80
TITLE LINE 3 ----> /80

COLUMN LINE 1 ---> 13,13/80+2
COLUMN LINE 2 ---> /80

REPORT LINE -----> /80

LINES/PAGE: 66
PRINT/PAGE: 60
```

**REPORT FORMAT 2**

**FILENAME: CHEKBOOK**
**TITLE: INCOME LISTING**
**PASSWORD: (optional)**
**TYPE: PRINTER**
**COLUMN WIDTH: 80**
**PRINTER WIDTH: 80**

```
----+----10---+----20---+----30---+----><---+----50---+----60---+----70---+----8
PAGE ##                    I N C O M E    R E P O R T


      DESCRIPTION              MM-DD-YY  TY      AMOUNT  COMMENTS
      %                     %  %%-%%-%%  %%  ##,###.##  %                    % /
      [$5                      [$2[$3[$1  [$4 [=8        [=10
```

**PRINTER CONTROL CODES**

```
TITLE LINE 1 ----> /80
TITLE LINE 2 ----> /80
TITLE LINE 3 ----> /80

COLUMN LINE 1 ---> 13,13/80+2
COLUMN LINE 2 ---> /80

REPORT LINE -----> /80

LINES/PAGE: 66
PRINT/PAGE: 60
```

**REPORT FORMAT 3**

**FILENAME: CHEKBOOK**
**TITLE: SUMMARY FORMAT - EXPENSES**
**PASSWORD: (optional)**
**TYPE: PRINTER**
**COLUMN WIDTH: 80**
**PRINTER WIDTH: 80**

```
----+----10---+----20---+----30---+----><---+----50---+----60---+----70---+----8
                         E X P E N S E   R E P O R T
                                 S U M M A R Y


      ?              NO.       TOTAL   AVERAGE     LOWEST     HIGHEST
      %           %  ###    ##,###.##  #,###.##  #,###.##  #,###.##    S
[S                   [N     [=7        [@7        [L7        [H7
```

**PRINTER CODES: (See Report format 1)**

**REPORT FORMAT 4**

FILENAME: CHEKBOOK
TITLE: SUMMARY FORMAT - DEPOSITS
PASSWORD: (optional)
TYPE: PRINTER COLUMN
WIDTH: 80
PRINTER WIDTH: 80

```
----+----10---+----20---+----30---+----><---+----50---+----60---+----70---+----8
                          I N C O M E   R E P O R T
                               S U M M A R Y

       ?                NO.        TOTAL     AVERAGE      LOWEST      HIGHEST
       %          %     ###     ##,###.##   #,###.##     #,###.##    #,###.##     S
[$                       [N      [=8         [@8          [L8         [H8

PRINTER CODES:  (See Report format 1)
```

**REPORT FORMAT 5**

FILENAME: CHEKBOOK
TITLE: EXPENSE REPORT - SCREEN
PASSWORD: (optional)
TYPE: SCREEN
COLUMN WIDTH: 64
PRINTER WIDTH: 32 (Automatic)

```
----+----10---+----20---+----30><-+----40---+----50---+----60---

%                        % %%-%%/       %          %     ##,###.##-
[$5                       [$2[$3        [$9              [=7

Titles, column headings and printer control codes are not used on SCREEN REPORTS.
```

**REPORT FORMAT 6**

FILENAME: CHEKBOOK
TITLE: INCOME REPORT - SCREEN
PASSWORD: (optional)
TYPE: SCREEN COLUMN WIDTH: 64
PRINTER WIDTH: 32 (Automatic)

```
----+----10---+----20---+----30><-+----40---+----50---+----60---

%                        % %%-%%/       %          %     ##,###.##-
[$5                       [$2[$3        [$9              [=8
```

Titles, column headings and printer control codes are not used on SCREEN REPORTS.