Tandy Home
Education Systems

Program Guide

Color Profile

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Color Profile
Program Guide

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Before You Begin

Color Profile® is your key to managing information with your TRS-80® Color Computer. You can store nearly any type of data and retrieve it easily with just a few quick keystrokes. You can design the way the screen displays your data and create reports that show you any information you choose. Color Profile offers almost limitless possibilities in data management as well as many versatile features:

- up to 26 user-defined formats available for displaying data on the screen

- up to 26-user defined indexes per file available

- up to 26-user defined formats available for printing or displaying reports

- any subset of records may be sorted in any sequence

- up to ten levels of sequences available for record sorting

- reports may either be printed on paper, displayed on the screen, or saved on diskette as spool files

- reports may be printed while you perform other tasks

- ability to create subrecords

- ability to perform mathematical calculations and to display results.

Loading the Program

Before you load Color Profile, you should make a backup copy. To do so, follow the instructions in Appendix B. Follow the steps below to load Color Profile into your computer.

1. Make sure that the disk drive and the TV are properly connected to the computer. If you want to use a printer, connect it to the computer now.

2. Turn on the TV, the computer, and the disk drives, in that order. Your screen should show:

   ```
   DISK EXTENDED COLOR BASIC v.r.
   COPYRIGHT (C) 1981 BY TANDY
   UNDER LICENSE FROM MICROSOFT

   OK
   ```

   If this copyright message does not appear, turn off the equipment, check the connections, and turn the equipment back on.

3. Insert the backup copy of the Color Profile diskette into the drive (or into Drive 0, if you have more than one drive), and close the drive door.

4. Type: **RUN "DOS"** and press ⟨ENTER⟩.

As the program loads, you will see PROFILE displayed at the upper left corner of the screen. When Color Profile is finished loading, your screen should look like the top of the next page.

```
COLOR  P R O F I L E  01.02.00
COPYRIGHT 1982 ROBERT G. KILGUS
LICENSED TO TANDY CORPORATION
◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
FILE TO BE ACCESSED [            ]
EXISTING FILES AVAILABLE:
SALES
PROJECTS
INVOICE
ARTISTS




TYPE FILENAME, PRESS ENTER
(PRESS BREAK TO EXIT PROGRAM)
```

Color Profile is now loaded and ready to use.

Exiting the Program

To exit Color Profile, press ⟨BREAK⟩ at any screen until the following is displayed:

```
COLOR TRSOOS 01.07.00 11/82
BY R.G. KILGUS
COPR. 1982 TANDY CORP.
ALL RIGHTS RESERVED

1. EXIT TO BASIC
2. EXEC A PROGRAM
3. START CLOCK DISPLAY
4. DISK ALLOCATION MAP
5. COPY FILES
6. DIRECTORY
```

Press ⟨1⟩ and the OK prompt appears. Remove the diskette, and turn off the computer, the TV, and the drive.

Watch your step: Do not turn your computer on or off while a diskette is in the drive. Doing so may permanently damage the diskette.

Using this Manual

Before you create your first file, you should become familiar with some of the terms and conventions used in this manual. The basic unit of information used by Color Profile is called an **item**. An item is a single piece of information. Phone numbers, ages, street addresses, and birthdates are items.

A **record** is the unit in which a set of related items is stored. A record could contain one person's name, address, city, state, zip code, and phone number. Another record would contain these items for a different person. A collection of several related records is a **file**.

Throughout the manual, you'll notice that you give commands to the computer by pressing certain keys. Some keys work with others to activate commands. For instance, (SHIFT) and (@) used together make Color Profile print any information displayed on the screen. When you see instructions telling you to use two keys together, hold down the first key and press the second. When you press the second kye, your command is executed.

This manual contains a set of practice sessions to help you become comfortable using Color Profile. You might want to go through the practice sessions first, or you can read about a function and then turn to the practice session to see how it can be practically applied. The diskette supplied with this package contains the files you need for the practice sessions. Once you're familiar with the way Color Profile works, you can delete the practice files from our working diskette and create your own files. To delete a file, use the KILL command when the screen displays OK. Refer to your *Color Computer Disk System Owner's Manual and Programming Guide* for detailed instructions on killing files.

The back of the manual contains Appendix F which lists error messages you might encounter with explanations of their causes as well as possible solutions. Refer to this appendix whenever you need.

Practice Sessions

This section of the manual is designed to help you become familiar with Color Profile by gaining some practical experience in using the program. Try out the practice sessions using a backup of the diskette supplied with this package. This diskette contains all the information you need to complete each practice session.

In all practice sessions, it is assumed that you have loaded Color Profile and that the File Selection Menu is displayed. If you haven't already done so, read Before you Begin, page 1, to learn how to load.

Practice Session 1: Creating a File

The most basic task you perform with Color Profile is creating a file. A file is where you will store your records, which in turn contains a set of related items. Below is the File Selection Menu, which is displayed once you load Color Profile.

The File
Selection Menu

COLOR P R O F I L E 01.02.00
COPYRIGHT 1982 ROBERT G. KILGUS
LICENSED TO TANDY CORPORATION
◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
FILE TO BE ACCESSED [   ]
EXISTING FILES AVAILABLE:
PROJECTS
SALES
INVOICE
ARTISTS

TYPE FILENAME, PRESS ENTER
(PRESS BREAK TO EXIT PROGRAM)

Notice that several files are available for your access. These files will be used in later practice sessions. The cursor is at the FILE TO BE ACCESSED prompt. You need to create a file. Your first file will be called TEST, so type **TEST**. If you make a typographic error, use ⟮←⟯ to move the cursor to the mistake, and correct it. When the filename is correct, press ⟮**ENTER**⟯. The screen clears, and this message appears:

CONTROL FILE TEST *filename*/CTL
NOT FOUND - CREATE IT (Y/N)
(PRESS CHOICE KEY)

Color Profile looks for any *filename* you enter and lets you know if it cannot find it. Since you are creating a new file, press ⟮**Y**⟯ in answer to the question. Next, the screen displays the information at the top of the next page.

```
ENTER DRIVE TO BE USED FOR:

CONTROL FILE              [0]
PRIME DATA FILE           [0]
```

The Main Menu For all practice sessions, your work is stored on Drive 0.
Press (**ENTER**) to tell Color Profile that all your file
information and records should be stored on Drive 0.
Your file is now created, and the Main Menu for the
TEST file appears.

```
FILE=TEST          REPORT FORMAT [A]
DISPLAY FMT [A]      ACCESS METHOD [A]

1. VIEW/UPDATE RECORDS
2. PRINT A REPORT

OR DEFINE / ALTER:
3. RECORD FORMAT
4. DISPLAY FORMATS
5. ACCESS METHODS
6. REPORT FORMATS
7. PROGRAM DEFAULTS

ENTER SELECTION [ ]
BREAK TO EXIT THIS FILE
```

At this point, you may continue by moving on to
Practice Session 2. However, if you want to stop
working, press (**BREAK**) at this menu. The File
Selection Menu is displayed. Press (**BREAK**) again,
and the Color TRSDOS Menu is displayed. Press (**1**),
and remove the program diskette from Drive 0. Turn off
your equipment, and store your diskette in a safe place.

Practice Session 2: Defining a Record Format

Once a file is created, you must tell Color Profile the kind of information you want to store in the file. To learn how to define a record format, use the TEST file that you created in Practice Session 1. At the File Selection Menu, type **TEST** `ENTER`. The Main Menu for the file appears, as shown on the previous page.

You have seven options from which to choose. The section you want is 3—RECORD FORMAT. The cursor is at the ENTER SELECTION prompt. Press `3`, and the screen displays:

The item list

```
TST     RECORD FORMAT
DISK REC SZ:MASTER 0002 SUB 0000
ITEM   SIZE   TYPE    DESCRIPTION
 001    005     7    RECORD NUMBER




                ITEM TO BE SEEN/CHANGED    [000]
                (SHIFT UP/DOWN TO SCROLL)
```

This screen displays your "item list," a list of all the different information you want to use in the TEST file. Right now, the only information defined is RECORD NUMBER. Every file you create will contain RECORD NUMBER as item 001. Note that its SIZE is 5—the record number uses characters when it is displayed on the screen. Its TYPE is 7, a special number used by Color Profile. None of your information will be a type 7.

Look at the second line on the screen. It shows the amount of disk space needed to store the information you want. So far, only the "master" record requires

any space—two bytes, the amount needed to store
RECORD NUMBER. This number will increase as you
tell Color Profile the different kinds of data you
want to use.

Defining the
item number

The cursor is at ITEM TO BE SEEN/CHANGED. You
will create a format for holding names, addresses,
telephone numbers, and a date of last contact. Start off
by typing **2** `ENTER`. The screen changes to show:

```
ITEM 002 TYPE [0] LENGTH 000
DESC [                        ]
DISK SPACE REQUIRED = 000
```

```
TYPES: 0 = UNUSED        4 = MATCH
       1 = TEXT          5 = TALLY
       2 = NUMERIC       6 = DERIVED
       3 = DATE
(PRESS ENTER AFTER CHANGES)
```

The bottom section of the screen shows several TYPES
from which you may choose. Some of these types will
be explained as you develop your record format.

Defining an item
type: 1

Item 002 will be a place for storing last names. The
cursor is at the TYPE prompt. Press `1`, and this item
will be defined as a text item, one that contains letters,
numbers, or punctuation marks. Move to the LENGTH
area by pressing `↓`.

Defining the
item length

At this prompt, you tell Color Profile the number of
characters you want to set aside for entering last names
when you work with your records. Most last names can
fit in 12 spaces, so type **12** `↓`.

Giving an
item description

Now you may enter a description of the information you are using. At the DESC prompt, type **LAST NAME** ⬛. The cursor moves to the VALIDATION prompt. For this practice session, you don't need to specify validation for any of your items.

Check your screen to make sure that you have entered the correct numbers and information. If you see a mistake, use ⬛ to move the cursor to the area needing correction. Type the correct information over the mistake. When everything looks correct, press ⬛ENTER⬛, and item 002 is added to the record format.

The last list returns to the screen, and you may add more items to the TEST record format. Define a few more items, using the following information:

Item Number	Type	Length	Description
3	1	12	**FIRST NAME**
4	1	15	**STREET ADDRESS**
5	1	10	**CITY**
6	1	2	**STATE**
7	2	5	**ZIP CODE**
8	2	10	**PHONE NUMBER**
9	3	6	**LAST CONTACTED**

Defining item types:
2 and 3

When you defined item 007 and 008, ZIP CODE and PHONE NUMBER, you assigned them a type of 2. Type 2 is used for items that contain only numbers and a few other special characters. Item 9, LAST CONTACTED, is type 3, a date item. Did you note that Color Profile had already assigned its length as 6? Dates always use six characters: two for the month, two for the day, and two for the year.

Define one more item for your record format. It is item 010. For its type, type **5** ⬛. This is a tally item. Tally items count the number of times the information entered for any item changes. Tally items also have a

length fixed by Color Profile—5. You cannot change the length. For the description, type **ADDRESS CHANGE** ⬇. When you define tally items, the VALIDATION prompt is replaced by a new message: TALLY CHANGES TO ITEM [000]. You'll keep track of each time someone's address changes, so type **4** ⬇.

When the computer beeps, check the information you have entered before pressing (ENTER) to add the tally item to your record format.

Printing the
item list
The item list is displayed. If you have a printer, make sure that the printer is turned on and set to receive at 600 baud. (If you need help in setting the baud, refer to your printer owner's manual.) Align the paper, and press (SHIFT) (@). Your item list is printed for you. Use this list for reference anytime you like.

After the list is printed, or if you did not print the item list, press (ENTER). The screen shows:

FILE REFORMAT REQUIRED.
PROCEED WITH IT? [N]

When you add items to a record format, Color Profile must do some internal work to keep track of any additions, changes, or deletions you make. Press (Y), and this work begins. The TEST file's record format is then stored on the diskette in Drive 0, and the Main Menu appears. Press (BREAK) to return to the File Selection Menu.

Practice Session 3: Using Expressions

Using expressions is a bit more complex than most Color Profile functions, but this session should help you become more familiar with the ways you can use expressions to make your file more efficient. For this practice session, you will leave the TEST file and use a file already set up.

Defining an item type: 4

At the File Selection Menu, type **SALES** (ENTER) to access the SALES file. When the Main Menu for SALES appears, press ③. First, you'll define a few items that involve the use of expressions and calculations.

First, type **10** (ENTER) to define item 010. This item will store a selling price for merchandise sold by Antiques, Ltd. When the screen changes to let you enter specifications for the item, type **4** (↓) to define a math item. A math item is one used in calculations. For LENGTH, you must specify at least one character for a plus or minus sign. Type **7** (↓) to give this item a length of 7: one character for a plus sign, five characters for numbers, and one more character for a decimal point.

For the description, type **PRICE EACH** (↓). At the NUMBER OF DECIMAL PLACES prompt, type **2** (↓). This tells Color Profile that two of the five numbers will be to the right of a decimal point. Press (↓) at the VALIDATION prompt, and press (ENTER) to add the item to the record format.

Define another item for use in calculations:

Item Number	Type	Length	Description
11	**4**	**3**	**NUMBER SOLD**

At the NUMBER OF DECIMAL PLACES prompt, simply press (ENTER) to add the item to the record format.

Defining an item type: 6

Now you'll define an item that stores the result of any data you use in PRICE EACH multiplied by data stored in NUMBER SOLD. This is item 012. Type **12** **(ENTER)** at the list of items. Type **6** **(↓)** to define it as a type 6, a derived item. Derived items are the results of mathematically combining math items.

Type **9** **(↓)** to give this item a length of 9—one for a plus sign, seven for numbers, and one for a decimal point. Type **TOTAL SALE** **(↓)** for the DESCRIPTION. At the NUMBER OF DECIMAL PLACES prompt, type **2** **(↓)**.

The (!) key

Now you must tell Color Profile how to calculate the data that is to be stored in this item. At the DERIVED FROM prompt, you need to enter an expression telling Color Profile to multiply PRICE EACH by NUMBER SOLD to get the TOTAL SALE result. Do this by typing **!010∗!011**.

The ! tells Color Profile to expect an item number in the expression. 010 is the item number for PRICE EACH. Each time you use ! in an expression, follow it immediately with a three-digit item number. Next is ∗. This is the symbol for multiplication. (Addition is +, subtraction is −, and division is /.) Last is !011, for item 011.

You have told Color Profile that item 012 is DERIVED FROM item 010 times item 011. If one of your records contained 10500 for PRICE EACH and 6 for NUMBER SOLD, Color Profile would calculate and display 63.00 for the TOTAL SALE. Any derived item can be displayed on the screen or shown on a report, just as if it were a math item.

After you enter the DERIVED FROM expression, press **(↓)**, then press **(ENTER)** to add the item to the record format.

Validating items

You may use expressions to tell Color Profile to accept or reject data you try to enter in an item. To see how this works, type **10** (ENTER) at the list of items.

You need to change item 010 to make it impossible to enter a number less than 10.00 or greater than 20.00. When the screen with item 010's specifications appears, press (↓) at each prompt until the cursor is at the VALIDATION prompt. This is the place at which you specify that only certain data can be entered for the item.

You need two conditions: one that lets you enter only numbers greater than 10.00 and one that lets you enter only numbers less than 20.00. For these conditions, you will use the symbols > (greater than) and < (less than).

The < and
> keys

First, press (!) to let Color Profile know that you are using an item number. Follow this with **010** for item 010. Next, type **>9.99**. This tells color Profile that any data entered for PRICE EACH must be greater than 9.99. The first part of the validation expression is complete.

The AND operator

Now you must tell Color Profile not to accept data greater than 20.00. Skip a space, type **AND**, and skip another space. This combines two or more conditions that must be met for data to be accepted. Now, type **!010** (for item 010), followed by **<20.01**. The complete expression should read: **!010>9.99 AND !010<20.01**. Use (−) to back up and correct any mistakes in the expression. When it looks correct, press (↓), then press (ENTER) to finish changing item 010.

When the item list appears, press (ENTER). Press (Y) at the FILE FORMAT REQUIRED prompt. The new items 010, 011, and 012 are stored as part of the record format, and the Main Menu appears. Press (BREAK) to return to the File Selection Menu.

In later practice sessions, you will work more with expressions.

Practice Session 4: Designing a Display Format

In this practice session, you learn how to design a screen for entering and displaying data in a file. To start, type **PROJECTS** at the File Selection Menu. When the Main Menu is displayed, press (4) for DISPLAY FORMATS. The screen shows:

FILE = PROJECTS SELECT A FORMAT [A]

A	N
B	O
C	P
D	Q
E	R
F	S
G	T
H	U
I	V
J	W
K	X
L	Y
M	Z

(BREAK TO EXIT)

Naming a display format

You may create up to 26 different screens for entering or displaying data in your file. For this session, you will create two screens. The first is E (for Entry), so press (E). (You could use any letter you wish.) The screen clears, and a new message appears:

FORMAT "E" NAME [   ]

Type **ENTRY** (ENTER) to name this screen ENTRY. Now you may design a screen. The record format for PROJECTS has already been defined and includes the features listed at the top of the next page.

Item Number	Type	Length	Description
1	Special	5	Record Number
2	Numeric	6	Project Number
3	Text	20	Project Title
4	Text	12	Assigned To
5	Date	6	Due in Q.A.
6	Date	6	Due to Release
7	Text	40	Comments

Designing a layout

First, design a layout. Use the ⬆, ⬇, ➡, and ⬅ keys to move the cursor around the screen. Do **not** use ⎯ENTER⎯.

Copy the screen shown below:

PROJECT 99999999

TITLE XXXXXXXXXXXXXXXXXXXXXX

ASSIGNED TO XXXXXXXXXXXXX

DUE IN Q.A. XMMDDYYX
RELEASE ON XMMDDYYX

COMMENTS XXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXX

This is a typical layout for a screen. Now you need to tell Color Profile which items to display and the location at which they should be displayed. This is simple. In place of the 9s after PROJECT, for example, we would like displayed item 2 (see the list of items above). So, move the cursor to the first 9 after PROJECT. Press ⎯"⎯. A message at the top of the screen shows:

ENTER ITEM NUMBER [000]

Since item 2 is the item we're after, type **2**
 ENTER . The 9s are replaced by a white box
enclosed in brackets. This is the entry area for project
numbers. Color Profile displays the item's length on the
top line of the screen and the item's number and
description on the bottom line.

Next, move the cursor to the first X after TITLE. Press
 " . At the top of the screen, type **3** ENTER (the
item number for Project Title). Each time you press "
and enter an item number, Color Profile finds the length
of the item and "draws" an entry area for it.

Continue moving the cursor to the beginning X or 9 in
each line, pressing " , and entering the appropriate
item number. When you finish, your screen should look
like this:

> PROJECT [   ]
>
> TITLE   [   ]
>
> ASSIGNED TO [   ]
>
> DUE IN O.A. [   ]
> RELEASE ON [   ]
>
> COMMENTS [
>   ]

Now, see how the cursor works when your display
format is complete. Move the cursor to the left edge of
the screen, and press ↑ to position it at the first line.
Use ← to move to the first bracket after PROJECT.
Notice that the bottom of the screen shows the item
number and description for the entry area.

Try to place the cursor somewhere in the PROJECT
AREA. It skips to the first space after the entry area.
Once an entry area is defined, you cannot place the
cursor inside the area.

Revising the ***display format***	Move the cursor to the C in COMMENTS. Press (SHIFT) (CLEAR). Everything from the cursor's position to the bottom of the screen disappears. You can use this to make major revisions to display formats. Redefine the COMMENTS area by typing **COMMENTS**, skipping a space, pressing ("), and typing **7** (ENTER) for the item number.
Printing and storing ***the display format***	If you like, you may print the display format by pressing (SHIFT) (@) when your printer is ready. To store the display format, press (ENTER), and the list of display formats appears.
Designing another ***display format***	Now you'll design another screen to use for displaying data instead of entering it. At the list of display formats, press (D) (for Display). At the FORMAT ''D'' NAME prompt, type **DISPLAY ONLY** (ENTER) for the description of the screen. Although you could use the method of designing a layout before telling Color Profile the particulars of the screen, this time you'll design the screen without laying it out first. On the first line, type **SERIES**, and skip a space. Next, press (!). The top line of the screen asks you to enter an item number. Type **2** (ENTER) for item 002. The cursor returns to the SERIES line. This area is for displaying an abbreviated version of the project number. After !, press (9). This will display only the first two characters of the project number. (! takes the place of the first number.) Skip a line, and move the cursor to the beginning of the next line by using (—). On this line, you'll place the DUE IN Q.A. date. Begin by typing **DUE IN Q.A.**, skipping a space, and pressing (!). The DUE IN Q.A. date was only assigned six spaces, just enough for the month, day, and year. On this screen, slashes will be inserted etween the month, day, and year. When the cursor moves to the top of the screen, type **5** (ENTER) for the item number. The cursor returns

to the space after the !. Type **M/DD/YY**. This will display the proper date with the month, day, and year separated by slashes.

Skip another line, and at the beginning of the next line, type **RELEASE ON !**. At the top of the screen, type **6** `ENTER` for item 006. Once again, type **M/DD/YY** for the rest of the date.

Skip one more line, and at the begining of the next line, type **ASSIGNED TO !**. For the item number, type **4** `ENTER`. Follow the ! with **XXXX**. This will display the first five letters of the employee assigned to the project. When the screen is finished, it should look like this:

> SERIES !9
>
> DUE IN Q.A. !M/DD/YY
>
> RELEASE ON !M/DD/YY
>
> ASSIGNED TO !XXXX

Once again, you may print the display format by pressing `SHIFT` `@` when your printer is ready. Press `ENTER` to store this ''display only'' format. The list of display formats appears. Press `BREAK` to return to the Main Menu for this file. Press `BREAK` once more to see the File Selection Menu.

Practice Session 5: Changing a Record Format

This practice session shows you how to make changes in a record format. You'll change the record format in the SALES file by deleting an item from the format. At the File Selection Menu, type **SALES** (ENTER). When the Main Menu appears, press (3).

Deleting an item

Type **4** (ENTER) to change item 004, SOLD BY. When this item's information appears, type **0** (ENTER) at the TYPE prompt. This is all you need do to delete an item from the record format. The item list reappears. The DISK REC SZ has decreased, since you freed more diskette storage space by deleting an item.

To make the change permanent, press (ENTER) at the item list. This message appears:

> FILE REFORMAT REQUIRED.
> PROCEED WITH IT [N]

Usually at this point, you would make sure that you had a backup of your diskette, but since this is a simple practice session, go ahead and press (Y). The file is reformatted, and soon the Main Menu appears. Press (BREAK) to return to the File Selection Menu.

Practice Session 6: Entering Data in Records

Entering data in records is simple. In this session, you'll enter data for a few records in the PROJECTS file. At the File Selection Menu, type **PROJECTS**. When the Main Menu appears, use ⬆️ to move the cursor until it is at the DISPLAY FMT area. Change the display format by typing **E** ⬇️. Return to the ENTER SELECTION prompt by using ⬇️.

Giving new data
At the ENTER SELECTION prompt, press ① for VIEW/UPDATE RECORDS. The screen you designed earlier appears. The record number 00000, appears at the top of the screen. Anytime the record number is 00000, you may create new records.

The cursor is at the entry area for PROJECT. Type **670001** ⬇️. The cursor moves to the TITLE prompt. At this entry area. Give the project a title by typing **PRODUCT A** ⬇️.

At the ASSIGNED TO prompt, type **SMITH** ⬇️. For the DUE IN Q.A. date, type **080183** (for August 1, 1983). The cursor automatically moves to the RELEASE ON prompt, since you used all the available spaces for DUE IN Q.A.

For RELEASE ON, type **131583**. The computer beeps and does not accept your data. Color Profile rejects invalid dates (such as 13 for the month), so use ⬅️ to back up, and change the date to **101583**. The date is now valid, and the cursor automatically moves to the COMMENTS area.

In the COMMENTS area, type **ON SCHEDULE**. This record is now complete, so press (**ENTER**) to store it. Color Profile lets you know that you have created a record by displaying RECORD 00001 CREATED. Next, a blank record appears, and the record number returns to 00000.

Enter a few more records, using the information on the next pages.

Record 2

PROJECT:	690028
TITLE:	PRODUCT H
ASSIGNED TO:	WILLIAMS
DUE IN Q.A.:	072283
RELEASE ON:	112083
COMMENTS:	RE-EVALUATING

Record 3

PROJECT:	670022
TITLE:	PRODUCT D-01
ASSIGNED TO:	BARNABY
DUE IN Q.A.:	010683
RELEASE ON:	051583
COMMENTS:	RELEASED LATE

Record 4

PROJECT:	690017
TITLE:	PRODUCT P
ASSIGNED TO:	SMITH
DUE IN Q.A.:	090183
RELEASE ON:	120383
COMMENTS:	ON SCHEDULE

Record 5

PROJECT:	670137
TITLE:	PRODUCT R-13
ASSIGNED TO:	JONES
DUE IN Q.A.:	030483
RELEASE ON:	060183
COMMENTS:	ABANDONED

Record 6

PROJECT:	670922
TITLE:	PRODUCT W
ASSIGNED TO:	MARTIN
DUE IN Q.A.:	061583
RELEASE ON:	080183
COMMENTS:	REASSIGNED

Record 7

PROJECT:	**670003**
TITLE:	**PRODUCT C**
ASSIGNED TO:	**MARTIN**
DUE IN Q.A.:	**041283**
RELEASE ON:	**062583**
COMMENTS:	**RELEASED**

Record 8

PROJECT:	**690400**
TITLE:	**PRODUCT G**
ASSIGNED TO:	**LATHAM**
DUE IN Q.A.:	**091483**
RELEASE ON:	**062583**
COMMENTS:	**NO SPECS YET**

Record 9

PROJECT:	**670039**
TITLE:	**PRODUCT L-42**
ASSIGNED TO:	**BARNABY**
DUE IN Q.A.:	**051583**
RELEASE ON:	**071883**
COMMENTS:	**RELEASED EARLY**

Record 10

PROJECT:	**670012**
TITLE:	**PRODUCT V**
ASSIGNED TO:	**LATHAM**
DUE IN Q.A.:	**080483**
RELEASE ON:	**071883**
COMMENTS:	**ON SCHEDULE**

Record 11

PROJECT:	**670203**
TITLE:	**PRODUCT J-92**
ASSIGNED TO:	**JONES**
DUE IN Q.A.:	**080183**
RELEASE ON:	**100183**
COMMENTS:	**ON SCHEDULE**

You do not need anymore records right now, so after storing Record 11, press (BREAK). The Main Menu appears.

Changing existing data   Suppose that the status of one project changes, and you need to enter the change in the project's record. Press (1) at the Main Menu. As usual, a blank record appears. Move the cursor to the record number area, using (SHIFT) (↑). You'll change Record 00005, so type 5 (ENTER).

Record 00005 appears. Use (↓) to move the cursor to the DUE IN Q.A. area. Change the date to **071083**. Change the RELEASE ON date to **091583**. In the COMMENTS area, type **REWORK. NO INFO YET**.

Next, press (ENTER) to store you changes. MASTER REC REWRITTEN is displayed. Next, you'll quickly review the records you entered.

Reviewing records   Move the cursor to the FMT area, and press (D) to change the format to the one you created for "display only." The screen changes to the new display format.

Next, move the cursor to the REC area by pressing (SHIFT) (↑). Press (SHIFT) (↑) one more time. Record 00004 appears. To scroll through the records, press (SHIFT) (↓) to display the next record or (SHIFT) (↑) to display the previous record.

Scroll through all your records until Record 00011 is displayed. Press (BREAK), and the Main Menu appears. Press (BREAK) again to return to the File Selection Menu.

Practice Session 7: Defining an Access Method

This practice session should help you become familiar
with access methods. Access methods let you create
subsets of records and display your records in an order
other than by record number. At the File Selection
Menu, type **PROJECTS**. You'll define two access
methods for the file and see how they affect your
records.

When the Main Menu for the file appears, press ⬚5⬚
(for ACCESS METHODS). The screen shows:

```
FILE=PROJECTS SELECTION ACCESS [A]
A BY RECORD NBR  N
B                O
C                P
D                Q
E                R
F                S
G                T
H                U
I                V
J                W
K                X
L                Y
M                Z
(BREAK TO EXIT)
```

Access method A is already defined—BY RECORD
NBR. This is the way Color Profile normally displays
your records. To create a different access method, press
⬚P⬚. The screen changes to show:

```
ACCESS "P" CONTAINS 0000 MEMBERS

NAME: [                    ]

SEQUENCE ITEMS:
[                                              ]

SELECTION CRITERIA:
[                                              ]
```

The cursor is at the NAME area. This access method should display records in order of project number, so type **BY PROJECT NO** ⬇ .

Defining a sequence

At the SEQUENCE ITEMS prompt, enter the item numbers by which you want the file accessed. To sort the records and display them in order of project numbers, type **002** (the item number for Project Number).

Press ⬚ENTER⬚ to store this simple access method. Color Profile sorts the records, placing them in the order you requested. Next, the Main Menu is displayed.

Press ⬚5⬚ at the Main Menu, and define another access method. This one will sort and display projects in order of the employee to which they are assigned. Each employee's projects will be displayed in order of project number.

At the list of access methods, press ⬚E⬚. When the definition screen for Access Method E appears, type **BY EMPLOYEE** ⬇ at the NAME prompt.

The cursor moves to the SEQUENCE ITEMS prompt. Consider that you actually want a sort within a sort: first, by employee name; second, by project number. Type **004002** ⬇ . This tells Color Profile to sort records in order of item 004 (Assigned To) and then in order of item 002 (Project Number).

You have finished defining the access method, so press ⬚ENTER⬚ at the SELECTION CRITERIA prompt. Once again, you can see that Color Profile is sorting your records according to your specifications. Next, the Main Menu appears.

Using access methods to scan records

To see how the access methods you defined have affected the order in which your records are displayed, use ⬚↑⬚ to move the cursor to the DISPLAY FMT area, at the top of the screen. Type **E** ⬇ to select the

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the entry screen format, and move the cursor to the ACCESS METHOD area. Type **P** ⬇ to select Access Method P. Return the cursor the the ENTER SELECTION area, using ⬇. Press ① (for VIEW/UPDATE RECORDS).

When the blank record appears, press **SHIFT** ⬆ twice. Record 00001 appears, since its project number is 670001. Press **SHIFT** ⬇, and Record 00007 appears. Its project number is 670003. Continue pressing **SHIFT** ⬇ to see all 11 records in order of project number. When you have seen all the records, press **BREAK** to return to the Main Menu.

Use ⬆ to move the cursor to the ACCESS METHOD area, and type **E** ⬇. Return the cursor to the ENTER SELECTION area, and press ①. When the blank record appears, press **SHIFT** ⬆ twice. The first record displayed is 00003, for Barnaby. The project number is 670022. Press **SHIFT** ⬇ to scan through all the records in this subset.

You may look at a specific record by moving the cursor to the REC area. Press ⓪ to display a blank record. Look at the record for Martin by moving the cursor to the ASSIGNED TO area and typing **MARTIN**. Press **SHIFT** ➡. Record 00007 appears. You may now use **SHIFT** ⬆ to display the previous record (00008) or **SHIFT** ⬇ to display the following record (00006).

Try finding different records in the access set. When you are finished, press **BREAK** to return to the Main Menu. Press **BREAK** once again to see the File Selection Menu.

Practice Session 8: Preparing Reports

This practice session assumes that you have a printer available for printing reports. If you do not have a printer, you might not see all the data listed on reports, since the screen shows a maximum of 32 characters.

This session helps you learn how to set up and print reports. The reports you set up make use of the INVOICE file. This file figures invoices for renting different planes based at several airfields. At the File Selection Menu, type **INVOICE** (ENTER).

When the Main Menu appears, take a look at a few records by pressing (1). When a blank record appears, press (SHIFT) (↑), and type **1** (ENTER) to display Record 00001.

Scroll through a few records. Notice that Color Profile figures the total hours flown, a subtotal amount due, a tax amount due, and a net total for each invoice.

When you finish looking at records, press (BREAK) to return to the Main Menu. You will format and print a report broken down by tail number and base airfield, showing the total hours flown and amounts charged to all aircraft in the file.

Formatting the report To start formatting the report, press (6) for REPORT FORMATS. Your screen should look like the top of the next page.

```
FILE=INVOICE   SELECT REPORT [A]
A                N
B                O
C                P
D                Q
E                R
F                S
G                T
H                U
I                V
J                W
K                X
L                Y
M                Z
(BREAK TO EXIT)
```

Press U to format a report for "Usage." The screen
shows:

```
REPORT "U" NAME [                    ]
ACCESS METHOD [A]
SORT? BEFORE [Y] AFTER [N]

CONTROL BREAK LEVELS [0]

LINE WIDTH [132] LINES/PAGE [066]
MARGIN: LEFT[000]TOP[003]BOT[003]

NUMBER OF LINES OF:
     HEADINGS [001]
     DETAIL    [001]
     TOTALS    [000]
NUMBER OF CALCULATIONS:
     BEFORE [000]   AFTER [000]
```

The cursor is at the REPORT "U" NAME prompt.
Type **USAGE** ⏎. At ACCESS METHOD, press
 B . Access method B lists records in order of airfields
at which aircraft are based. Within each airfield, records
are ordered according to the tail number of each
aircraft.

At the SORT? BEFORE prompt, press `N`. At AFTER, press `↓`. You do not want Color Profile to rebuild your access set before or after it prints the report.

At the CONTROL BREAK LEVELS prompt, press `3`. This will cause a subtotal of hours flown and amounts due for each aircraft, a subtotal of hours flown and amounts due for each base airfield, and a grand total of hours flown and amounts due for the entire report to be printed.

At the LINE WIDTH prompt, type **68** `↓`. This tells Color Profile that no more than 68 characters should appear on any line of the report, excluding left or right margins. At the LINES/PAGE prompt, type **66** `↓` to tell Color Profile that the maximum number of lines possible for printing on a page is 66.

Next, you may set your left, top, and bottom margins. At the LEFT prompt, type **6** `↓` to specify that six blank spaces should print before any characters on a line. At the TOP prompt, type **6** `↓` to leave a margin of six lines at the top of each page. At the BOT prompt, type **6** `↓` again to leave a bottom margin of six blank lines.

The cursor moves to the HEADINGS area. Type **4** `↓` to leave enough room for a format of a report title, a blank line, a line of column titles, and another blank line before report data is listed.

At the DETAIL prompt, press `↓` to specify the default setting of one line for listing each record's data. At the TOTALS prompt, type **3** `↓`. This leaves you enough room for the total hours flown and total amount due for each aircraft, each base airfield, and the grand total line.

Describing the report information

Press `↓` at the BEFORE prompt and `ENTER` at the AFTER prompt to specify that you want no calculations done before or after the reports prints.

As soon as you press `ENTER` at the AFTER prompt, the screen changes to show a "blank" report. This is the screen that lets you describe the information you want listed on the report. Notice that the leftmost space on the screen is column 0, according to the scale shown along the top of each section. The rightmost column is column 31.

The headings

Use `←` to position the cursor at column 24 of the first HEADING line. Type **AIRCRAFT USAGE REPORT**. This is the report's title. Notice that as you typed the report's name, the screen scrolled to let you see the succeeding columns. Press `→` until the cursor moves to column 68. At the column, press `"`. The top of the screen shows ENTER ITEM NUMBER. Type **255** `ENTER`. This makes the page number print on each page of the report wherever the '' appears.

Press `↓` twice to move the cursor down two lines. Then, press `←` until it moves to column 1. Type **AIRCRAFT**. Skip one space by using either `←` or the space bar. (The cursor should be in column 10.) Type **PILOT #**, and skip four spaces, until the cursor is at column 19. Type **HRS. FLOWN** and skip two spaces. Type **TOTAL DUE** at column 31, and skip another space. Finally, at column 42, type **BASED AT**.

The details

Press `←` and `↓` until the cursor is at column 1 of the first line in the DETAIL area. Now you will tell Color Profile the data from particular items that you want listed on the report. To specify that you want the tail number of each aircraft listed, press `↓`. The top of the screen shows ENTER ITEM NUMBER. The tail number is item 003, so type **3** `ENTER`. The cursor returns to the space following the !. You must specify the number of characters you want to print for this item. Tail numbers use six characters—the ! takes the place of the first character. Type **XXXXX** to tell Color Profile to print all six characters of the tail number.

Move the cursor until it is at column 10. Press ⊞. Type **7** **ENTER** at the ENTER ITEM NUMBER prompt to specify that you want item 007's data to be listed here. Follow the ! with **XXX** to list the entire pilot identification number.

Move the cursor to column 21, and press ⊞. Type **6** **ENTER** at the ENTER ITEM NUMBER prompt, and follow the ! with **9.99**. This will print hours flown, including any decimal places, for each invoice in the file. Move the cursor to column 32, and press ⊞. At the ENTER ITEM NUMBER prompt, type **12** **ENTER**. Follow the ! with **99.99** to list the total amount due for each invoice.

Move the cursor to column 43, and press ⊞. At the ENTER ITEM NUMBER prompt, type **14** **ENTER**. When the cursor returns to the space following !, type **XX**. This causes only the first three characters of the base airfield to be listed.

The totals   Press **CLEAR**. The cursor moves to column 0. Press ⊞ to move the cursor to the first line in the TOTALS area. In column 0, press **1**. This lets Color Profile know that this line is for listing your first level of subtotals. In column 1, type **TOTAL HRS. THIS AIRCRAFT**. Skip a space, and press ⊞. At the ENTER ITEM NUMBER prompt, type **6** **ENTER**. When the cursor returns to the space following the '', type **99.99**. This causes the total of all data in item 006 to print.

Skip five spaces and, at column 37, type **TOTAL DUE**. Skip a space, and press ⊞. At the ENTER ITEM NUMBER prompt, type **12** **ENTER**. Immediately following the '', type **$99.99**. This causes the total amount due for each aircraft to print.

Move the cursor to column 0 of the next line, and press **2** (for your second level of subtotals). In column 1, type **TOTAL HRS. THIS AIRFIELD**. Skip a space,

and press ⬚. At ENTER ITEM NUMBER prompt, type **6** ⬚ENTER⬚. Immediately following the '', type **99.99**. This will total and print the hours flown for all aircraft at a base airfield.

Skip five spaces, and at column 37, type **TOTAL DUE**. Skip a space, and press ⬚. At the ENTER ITEM NUMBER prompt, type **12** ⬚ENTER⬚. Immediately following the '', type **$99.99** to print the total due at an airfield.

Move the cursor to column 0 of the third total line. Press ⬚3⬚ for the third level—grand totals for the entire report. In column 1, type **GRAND TOTAL HRS**. Skip a space, and press ⬚. At the ENTER ITEM NUMBER prompt, type **6** ⬚ENTER⬚. Immediately following the '', type **99.99**. This prints a grand total of hours flown for all aircraft at all base airfields.

Move the cursor to column 29, and type **GRAND TOTAL DUE**. Skip a space, and press ⬚. At the ENTER ITEM NUMBER prompt, type **12** ⬚ENTER⬚. Immediately following the '', type **$99.99** to print a grand total due from all aircraft rentals at all base airfields.

Press ⬚CLEAR⬚ to move the cursor back to column 0 and ⬚↑⬚ to move it to the first heading line. Your screen should look like the top of the next page.

```
LAST ITEM LENGTH WAS 007
HEADINGS
0 . . . . 5 . . . 10 . . . 15 . . . 20 . . . 25 . . . 30 .
              AIRCRAFT

    AIRCRAFT PILOT # HRS. FLOW T

DETAIL
0 . . . . 5 . . . 10 . . . 15 . . . 20 . . . 25 . . . 30 .
  !XXXXX    !XXX        !9.99
TOTALS
0 . . . . 5 . . . 10 . . . 15 . . . 20 . . . 25 . . . 30 .
1TOTAL HRS. THIS AIRCRAFT "99.99
2TOTAL HRS. THIS AIRFIELD "99.99
3GRAND TOTAL HRS. "99.99    GRA
```

Press ⟵ to scroll across the screen and see the rest of the format. When you are satisfied with the format, press **ENTER**. This report is stored, and the Main Menu appears.

Printing the report   Now that you have defined the way you want the report to look, you can print it. At the Main Menu, press ② for PRINT A REPORT. Your screen shows:

```
OPTION [1]
   1. TO PRINTER
   2. TO SCREEN ONLY
   3. TO DISK
   4. DISK TO PRINTER
   5. DISK TO SCREEN

REPORT [U]
   (OPTION 1-3)

DISK FILE NAME [          ]
         DRIVE [0]
   (OPTION 3-5)
```

You can see that there are five options from which to choose. If you do not have a printer, press ② to

"print" the report on the screen. Otherwise, press ①
to print a hardcopy of the report.

The cursor skips to the REPORT area. Since Report U
(Usage) is the report with which you last worked, it is
displayed. The next section of the screen is for use with
options 3-5 only, so you do not need to answer the
prompt for DISK FILE NAME.

Make sure that your printer is ready to print and set to
receive at 600 baud, then press ⟨ENTER⟩. The report
begins printing and scrolling up the screen. If you do
not have a printer, press ⟨9⟩ (when you begin seeing
the report) to make it scroll by slowly.

When the report is finished displaying on the screen, a
message at the bottom of the screen tells you:

<p style="text-align:center">REPORT END - PRESS ANY KEY</p>

Press any key, and the Main Menu returns to the
screen. If you print a hardcopy or print to disk, you are
automatically returned to the Main Menu. Press
⟨BREAK⟩ to return to the File Selection Menu.

Here is the way your printout of Report U (Usage)
should look:

Report U - Usage

AIRCRAFT USAGE REPORT

AIRCRAFT	PILOT#	HRS. FLOWN	TOTAL DUE	BASED AT
N26786	1117	4.80	150.96	ARL
N26786	1117	1.00	31.45	ARL
TOTAL HRS. THIS AIRCRAFT		5.80	TOTAL DUE	$182.41
N63603	1170	2.40	54.48	ARL
TOTAL HRS. THIS AIRCRAFT		2.40	TOTAL DUE	$54.48
N69103	235	.90	22.31	ARL
TOTAL HRS. THIS AIRCRAFT		.90	TOTAL DUE	$22.31
TOTAL HRS. THIS AIRFIELD		9.10	TOTAL DUE	$259.20
N1046E	988	1.10	41.30	MEA
TOTAL HRS. THIS AIRCRAFT		1.10	TOTAL DUE	$41.30
N93927	0001	1.40	35.21	MEA
N93927	0001	4.60	115.69	MEA
TOTAL HRS. THIS AIRCRAFT		6.00	TOTAL DUE	$150.90
TOTAL HRS. THIS AIRFIELD		7.10	TOTAL DUE	$192.20
N9516B	6134	1.20	55.98	OAK
TOTAL HRS. THIS AIRCRAFT		1.20	TOTAL DUE	$55.98
TOTAL HRS. THIS AIRFIELD		1.20	TOTAL DUE	$55.98
GRAND TOTAL HRS. 17.40			GRAND TOTAL DUE	$507.38

Practice Session 9: Working on Subrecords

This practice session lets you work with subrecords, seeing how they perform and how they may be used on reports. The file for this work is ARTISTS, a file that catalogs recording artists and albums in a record collection.

Adding a subrecord item

At the File Selection Menu, type **ARTISTS** ENTER . When the Main Menu for the file appears, press 3 to see the record format for the file. Notice that there are only three master record items—001, the record number, 002, the artist's name, and 003, the aritst's country of origin.

Scroll through the item list to see the remaining items. These items, beginning with item 125, are subrecord items. Numbers 125 through 130 are for Color Profile's use. Item 131 begins the items for recording subrecord data. This file contains subrecords for listing data such as album titles, catalog numbers, release years, record labels, and locations at which the albums were recorded.

You will add one more subrecord item to the list. At the ITEM TO BE SEEN/CHANGED prompt, type **136** ENTER . Give it a type of **1** (a text item), a length of **20,** and a description of **MIXED AT** . This item is for entering the location at which the album was mixed. Press ENTER twice to store the new subrecord item. When the item list is displayed, press ENTER again. The screen shows:

> FILE REFORMAT REQUIRED.
> PROCEED WITH IT? [N]

Press Y . Once the new item is added to the record format, the Main Menu is displayed.

Adding the item to a display format

At the Main Menu, press 4 to add the new subrecord item to a display format. When the list of display formats appears, press A . Display format A appears with its name, STANDARD. Press ENTER .

Move the cursor to the next to the last line of the screen, and type **MIXED AT:**. Skip a space, and press 〔 " 〕. When ENTER ITEM NUMBER appears at the top of the screen, type **136** 〔**ENTER**〕. A box appears for entering data in item 136.

Notice that the master record information is displayed at the top of the screen and that subrecord information is grouped beneath it. This is the usual way of setting up a screen that includes both master and subrecord information.

Press 〔**ENTER**〕 to store the revised display format. The list of formats reappears. Press 〔**BREAK**〕, and the Main Menu is displayed.

Entering subrecord data Now you're ready to begin entering data. A few records and subrecords have already been created, but you will enter data for a new artist that has been added to the collection. At the Main Menu, press 〔**1**〕 for VIEW/UPDATE RECORDS.

A blank screen appears. You may start entering information immediately, since the record number is 00000. Enter this data for the record:

ARTIST NAME:	**GABRIEL, PETER**
ORIGIN:	**ENGLAND**
SUB NO.:	*[leave this item blank)*
ALBUM TITLE:	**SECURITY**
CAT. NO.:	**GHS 2011**
RELEASED:	**1982**
LABEL:	**GEFFEN**
RECORDED AT:	**HOME**
MIXED AT:	**MOBILE ONE**

Don't forget to press 〔 ↓ 〕 after you type the data required for each item. When you have finished entering all the data for this record, press 〔**ENTER**〕. A **master** record is created for the artist, Peter Gabriel. However, you must press 〔**ENTER**〕 once more to store the

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subrecord data you entered. When you have stored the subrecord, all the data in the subrecord items disappears, but the master record information remains.

Add one more album (subrecord) for Peter Gabriel. Move the cursor to the ALBUM TITLE area, and begin entering the following information:

SUB NO.:	*[leave this item blank]*
ALBUM TITLE:	**PETER GABRIEL**
CAT. NO.:	**SD19181**
RELEASED:	**1978**
LABEL:	**ATLANTIC**
RECORDED AT:	**RELIGHT**
MIXED AT:	*[leave this item blank]*

Press ⌜ENTER⌝, and the second subrecord for this master record is stored.

Now, you'll add a subrecord to a master record already in existence. Move the cursor to the REC area, and type **1** ⌜ENTER⌝. Record 0001 is displayed. Use ⌜↓⌝ to move the cursor to the SUB NO. area, and type **0** ⌜ENTER⌝. This changes the subrecord number to 00000, putting you into creation mode. Enter data for this master record about albums by David Bowie:

ALBUM TITLE:	**LET'S DANCE**
CAT. NO.:	**SO-17093**
RELEASED:	**1983**
LABEL:	**EMI**
RECORDED AT:	**FAST FORWARD**
MIXED AT:	**FAST FORWARD**

Press ⌜ENTER⌝, and this subrecord is stored and attached to the master record for David Bowie. To quit entering subrecords, move the cursor to the record number area, and type **0** ⌜ENTER⌝. You are now in creation mode for master records.

| **Changing a** | With the cursor at the record number area, type **2** |
| **subrecord's data** | **ENTER**. Record 00002 and its first related |

Changing a subrecord's data

With the cursor at the record number area, type **2** **ENTER**. Record 00002 and its first related subrecord is displayed. This master record is for albums by the Talking Heads. Move the cursor to the ARTIST NAME area, and press **SHIFT** **↓**. Anytime the cursor is anywhere other than at the record number area, **SHIFT** **↓** displays the next subrecord for the master record currently displayed.

Press **SHIFT** **↓** until subrecord 003 is displayed (the subrecord for the album, Remain in Light). The catalog number displayed for this album is SRK 6099. Move the cursor to the CAT. NO. area and change this data to **6095**. Press **ENTER**. The revised subrecord is stored. Move the cursor to the record number area by pressing **SHIFT** **↑**, and type **0** **ENTER** to display a blank record.

Deleting a subrecord

Type **3** **ENTER** to display master record 003 with its subrecord 001. You will delete this album, Computer World, from Kraftwerk's catalog of albums. Simply press **SHIFT** **CLEAR**, and the subrecord disappears from the screen, leaving only the master record data. Press **BREAK** to return to the Main Menu.

Printing subrecords and records

Now you'll print (or display) a report listing some of the ARTISTS file's information. A report has already been formatted for you. Look at the format by pressing **6** at the Main Menu.

The list of report formats appears. Press **S** to select Report S (for Simple). Its preliminary screen appears. Notice that this report uses Access Method A (a listing in order of record numbers). There are no heading or total lines and only one line of detail. Press **ENTER** to see the actual layout of the report. This is a very simple report, showing only artists' names and album titles. Press **ENTER**, and the Main Menu is displayed.

Now, press ⟨2⟩ to print the report. Choose either
option ⟨1⟩ (if you have a printer) or option ⟨2⟩ (if
you have no printer), and press ⟨ENTER⟩ to begin
printing the report. When it is finished, notice that in-
formation from master records (the artist's name) was
printed only once, on the first line of the listing for each
master record. Color Profile lists master record data
only once per record on this type of report, making it
easier to see where one master record ends and another
begins.

Here's the way Report S (Simple) should look:

Report S — Simple

BOWIE, DAVID	SCARY MONSTERS
	BAAL
	LET'S DANCE
TALKING HEADS	BUILDINGS AND FOOD
	FEAR OF MUSIC
	REMAIN IN LIGHT
KRAFTWERK	
GABRIEL, PETER	SECURITY
	PETER GABRIEL

Press any key to return to the Main Menu if you
displayed the report on the screen. Print a different
report by pressing ⟨2⟩, choosing either option ⟨1⟩ or
⟨2⟩, and typing **B** ⟨ENTER⟩ (for Better) at the
REPORT prompt. When this report was formatted, it
contained **two** detail lines instead of one. The first detail
line was for showing master record data, and the second
was for showing subrecord data. Report B (Better)
should look like the top of the next page.

Report B — Better

ARTIST	ALBUM
BOWIE, DAVID	
	SCARY MONSTERS
	BAAL
	LET'S DANCE
TALKING HEADS	
	BUILDINGS AND FOOD
	FEAR OF MUSIC
	REMAIN IN LIGHT
KRAFTWERK	
GABRIEL, PETER	
	SECURITY
	PETER GABRIEL

Revising the second format

Examine the report, and you can see what is wrong—Color Profile printed an entire set of lines for each subrecord listed. It would look much better if you could print the master record detail line only once per record. This is where column 0 can help.

Press any key when the report is finished if it was only displayed. When the Main Menu appears, press ⑥ to change the report's format. Select Ⓑ from the report format list, and press ENTER at the preliminary screen.

When the format screen appears, move the cursor to column 0 of the first detail line. Type **M** ENTER to record the revised format. When the Main Menu is displayed, print the report again. It should look much better, as shown on the next page:

Repeat B — Better (Revision)

ARTIST	ALBUM
BOWIE, DAVID	
	SCARY MONSTERS
	BAAL
	LET'S DANCE
TALKING HEADS	
	BUILDINGS AND FOOD
	FEAR OF MUSIC
	REMAIN IN LIGHT
KRAFTWERK	
GABRIEL, PETER	
	SECURITY
	PETER GABRIEL

Remember when you use subrecord data on reports with more than one detail line that a line with a blank in column 0 is always printed. However, a line with an M in column 0 prints only if master record data is somewhere on that line.

Totaling
subrecord data

Next you'll learn how to use totals on reports containing subrecord data. Press any key to return to the Main Menu if you only displayed the report. Then, press ③ to change the record format.

At the item list, create a new item, item 020. Make it a derived item by typing **6** ⬇ at the TYPE prompt. Type **5** ⬇ to specify a length of 5, and specify no decimal places. At the DERIVED FROM prompt, simply press ①. This sets item 020 equal to 1. Press **ENTER**, and define another item in exactly the same way. Make it item **140**, a subrecord item. Give it exactly the same specifications as you did for item 20.

When the items have been defined and the file reformatted, the Main Menu reappears. You do not have to use items 20 or 140 in any display formats to use them in reports—as long as they exist, they may be used

anywhere in your file. Press 6, and then press B for Report B.

At the preliminary screen, move the cursor to the CONTROL BREAK LEVELS area. Press 1. Continue moving the cursor until it is at the TOTALS area. At this prompt, type **1** ↓, then press ENTER to move to the format screen.

One this screen, move the cursor to the TOTALS area and, beginning in column 1, press ". At the ENTER ITEM NUMBER prompt, type **20** ENTER. Immediately following the '', type **99**. Skip a space, and type **RECORDS**. Skip five more spaces, and press " again. This time, specify **140** at the ENTER ITEM NUMBER prompt. Immediately following the '', type **99**. Skip a space, and type **SUBRECORDS**.

Now, press ENTER to store the revised format and return to the Main Menu. Print Report B again. As you can see from the sample below, Color Profile has counted and listed the total number of records and subrecords on the report.

Report B — Better (Second Revision)

ARTIST	ALBUM
BOWIE, DAVID	
	SCARY MONSTERS
	BAAL
	LET'S DANCE
TALKING HEADS	
	BUILDINGS AND FOOD
	FEAR OF MUSIC
	REMAIN IN LIGHT
KRAFTWERK	
GABRIEL, PETER	
	SECURITY
	PETER GABRIEL
4 RECORDS	8 SUBRECORDS

Revise the report format one more time. On the preliminary screen, at the ACCESS METHOD prompt, press $\boxed{N}$; at the CONTROL BREAK LEVELS prompt, press $\boxed{2}$. (Access Method B lists records in alphabetical order of artist names.) Leave the format screen as it is.

Print the report again, and notice this time, as shown below, that instead of one grand total of all report data, Color Profile totalled each record and its subrecords after each record was listed.

Report B — Better (Third Revision)

ARTIST	ALBUM
BOWIE, DAVID	
	SCARY MONSTERS
	BAAL
	LET'S DANCE
1 RECORDS	3 SUBRECORDS
GABRIEL, PETER	
	SECURITY
	PETER GABRIEL
1 RECORDS	2 SUBRECORDS
KRAFTWERK	
1 RECORDS	SUBRECORDS
TALKING HEADS	
	BUILDINGS AND FOOD
	FEAR OF MUSIC
	REMAIN IN LIGHT
1 RECORDS	3 SUBRECORDS
4 RECORDS	8 SUBRECORDS

Making running totals You can cause "running" totals to appear in detail lines of reports containing subrecords. Even though the quotation mark is usually used in total lines, you can use it in a detail line as well.

Change Report B's format, leaving the preliminary screen as it is. On the format screen, move the cursor to

column 25 on the second detail line (the line for listing
subrecord data). Press ⏎. At the ENTER ITEM
NUMBER prompt, type **140**. Immediately following the
'', type **99**.

Store the revised format, and print the report again.
Notice, as shown below, that each subrecord line
contains a total thus far. The last subrecord listed for
each master record should contain the same number
shown on the total line for subrecords. Return to the
Main Menu, and press (**BREAK**) to display the File
Selection Menu.

Report B — Better (Fourth Revision)

ARTIST	ALBUM
BOWIE, DAVID	
	1 SCARY MONSTERS
	2 BAAL
	3 LET'S DANCE
1 RECORDS	3 SUBRECORDS
GABRIEL, PETER	
	1 SECURITY
	2 PETER GABRIEL
1 RECORDS	2 SUBRECORDS
KRAFTWERK	
1 RECORDS	SUBRECORDS
TALKING HEADS	
	1 BUILDINGS AND FOOD
	2 FEAR OF MUSIC
	3 REMAIN IN LIGHT
1 RECORDS	3 SUBRECORDS
4 RECORDS	8 SUBRECORDS

Files

This part of the manual explains in detail how to set up files for storing data. You'll learn how to create files and specify the kinds of information you want to store in the files. You also learn how to design the way your stored information is displayed on the screen.

Creating a File

Follow instructions for loading the program, page 3. When the program is loaded the File Selection Menu is displayed. The first time your use Color Profile, the menu looks like this:

```
COLOR  P R O F I L E  01.02.00
COPYRIGHT 1982 ROBERT G. KILGUS
LICENSED TO TANDY CORPORATION
◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
FILE TO BE ACCESSED [           ]
EXISTING FILES AVAILABLE:
SALES
PROJECTS
INVOICE
ARTISTS




TYPE FILENAME, PRESS ENTER
(PRESS BREAK TO EXIT PROGRAM)
```

The line below the copyright information asks you the name of the file you want to use or create. It is followed by alist of all files stored on the diskette. These files are the sample files for use in the Practice Sessions.

The instructions at the bottom of the screen tell you to type the file's name and press (ENTER) or to press (BREAK) to exit the program. To create a file, type any name you choose. you can use up to eight characters for the filename. Once you type the filename, press (ENTER). (You do not have to press (ENTER) if your filename contains eight characters.)

When you create a new file, this message appears next:

```
CONTROL FILE filename/CTL
NOT FOUND – CREATE IT (Y/N)
(PRESS CHOICE KEY)
```

Filename stands for the filename you just entered.
Pressing ⎡N⎤ at this point tells Color Profile that you
have decided against creating a new file.

To continue with the creation of your file, press ⎡Y⎤. A
new message is displayed:

ENTER DRIVE TO BE USED FOR:

CONTROL FILE   [0]
PRIME DATA FILE   [0]

**Control files
vs. data files**

When you create a file, Color Profile actually creates
two files. One is your filename plus /CTL. This file
saves all the special information about your file, such as
the kinds of data stored in the file or the way you set up
the screen to display your data. The other file is your
filename plus /DAT, the file in which all the actual data
in your file is stored.

You can store the /CTL and /DAT files on separate
drives if you are using more than one disk drive with
your Color Computer system. At the ENTER DRIVE
prompt, type the drive number on which you wish to
store your /CTL file and the drive number on which you
wish to store your /DAT file. Press ⎡ENTER⎤. To
store both files on Drive 0, simply press ⎡ENTER⎤ at
the first prompt.

**Using more than
one disk drive**

If you are using more than one disk drive, the first time
you use Color Profile you should create a temporary file
with both the *filename*/CTL and *filename*/DAT on Drive
0. At the Main Menu, press ⎡7⎤ to change the Program
Default for the Number of Disk Drives to equal the
number of drives you are using. Press ⎡ENTER⎤ to
record the change. You can now exit Color Profile and
kill the temporary file, using the KILL command at the
OK prompt.

Setting
program defaults

Once you've entered a filename and specified the drives on which files are stored, your file is created, and the Main Menu is displayed. If you store either file on a drive other than Drive 0, you should change the Number of Drives default built into the program. To change this default, see page A123 for specific instructions. Even if you decide to store the /CTL file on Drive 0, we suggest that you set the program defaults to meet your needs before you continue using Color Profile.

Helpful Hint: To practice creating files, see Practice Session 1: Creating a File, page 7.

Defining Record Formats

The next step in setting up a file is specifying the kind of information you want to keep in the file, such as names, addresses, and phone numbers. Color Profile categorizes each item of data into one of several types: text, numeric, date, math, tally, or derived. When you define a file's record format, you specify the items of information you want and the categories into which they fall.

To define a record format, at the File Selection Menu type the name of the file for which you want to define the record format, and press (ENTER). The screen shows:

FILE = *filename* REPORT FORMAT [A]
OISPLAY FMT [A] ACCESS METHOD [A]

1. VIEW/UPDATE RECORDS
2. PRINT A REPORT

OR DEFINE/ALTER:
3. RECORD FORMAT
4. DISPLAY FORMATS
5. ACCESS METHODS
6. REPORT FORMATS
7. PROGRAM DEFAULTS

ENTER SELECTION [ ]
BREAK TO EXIT THIS FILE

This is the Main Menu for you file. You filename is shown at the top of the screen (represented above by *filename*) along with a report format selection, a display format selection, and an access method selection.

Next you see several options. You can look at records already created or print a report. You can also define or change record formats, display formats, access methods, report formats, or program defaults. To define record formats, press (3). To return to the File Selection Menu, press (BREAK).

When you press ⬛3⬛ , the screen displays:

> *filename* RECORD FORMAT
> DISK REC SZ:MASTER 0002 SUB 0000
> ITEM SIZE TYPE DESCRIPTION
> 0001 005 7 RECORD NUMBER

> ITEM TO BE SEEN/CHANGED [0000]
> (SHIFT UP/DOWN TO SCROLL)

Your filename is displayed at the top of the screen. The
next line shows the amount of disk space used by all
defined items. The numbers displayed on this line
depend upon the types of items you have defined, so if
the numbers on your screen do not match the illustration
above, do not be concerned.

Next are headings for the defined items. Listed are each
defined item's number, the number of spaces allotted to
each item, the item's type, and its description.

Notice that an item is listed that you haven't defined—
item 001, RECORD NUMBER. It uses five characters
and is a type 7. If this is a new file, item 001 is the
only item listed. Color profile *always* uses item 001 for the

---

Watch your step: You cannot use your file until you define the record
format. If you try to use Main Menu selection 1 in a
new file, you see an error message telling you that you
must DEFINE RECORD FORMAT FIRST! Press any key to return
to the Main Menu, and select option ⬛3⬛ to define the
record format.

record number, and record numbers always use five characters.

The bottom of the screen asks you the item number you want to see or change. The cursor is at the first 0. You are not required to type "leading" zeroes, and you may assign an item any number you wish. Color Profile always stores your items in correct numerical order. Use item numbers 2 through 124 for defining master record items and numbers 131 through 253 for defining subrecord items. For defining subrecord items, see Subrecords, page 112.

Defining an item   When you type an item number, the screen shows:

```
ITEM 002 TYPE [0] LENGTH  000
DESC[                                    ]
DISK SPACE REQUIRED  =  000
```

```
TYPES: 0 = UNUSED     4 = MATH
       1 = TEXT       5 = TALLY
       2 = NUMERIC    6 = DERIVED
       3 = DATE
      (PRESS ENTER AFTER CHANGES)
```

The screen above shows item 002. The TYPE is currently 0, since the item has not yet been defined. LENGTH is also 0, with no description of the item and no required space for storage on a diskette. Look at the bottom of the screen. Seven "types" of data items are listed. (Type 0, UNUSED, is the type of any item before it is defined. Type 7 is a special item type for Color Profile's internal use only.)

Press a number corresponding to the type of item you wish to define (see below for a description of each type), and begin specifying the characteristics of the item. Use the ⬇ and ⬆ keys to move the cursor: after you type an entry, press ⬇ to move the next prompt; ⬆ moves the cursor to the previous prompt.

LENGTH is the number of characters needed to input data. The limitations vary according to the data type used. Enter the length, and press ⬇.

DESC is for a description of the item. The description is for your information only and does not appear on actual records or reports. You have 26 spaces to type a description. For example, if the item is for first names, you could type **FIRST NAME** or **NAME, FIRST** in the DESC area. Next, press ⬇.

The cursor moves to the VALIDATION prompt. All items (except tally and derived) have a prompt for VALIDATION. Validation is an advanced function and is discussed later in this section. If you like, you can skip this prompt by pressing ⬇ without typing an entry.

Text items. Text items contain anything you can type— letters, numbers, punctuation marks, special characters, and spaces. A text item is the only type in which you are allowed to use letters. First Name is an example of a text item. Text items can contain up to 254 characters.

Type **1**⬇ at the TYPE prompt to define a text item. At the LENGTH prompt, type the number of characters you want to allow for this item. For instance, if the item you are defining is First Name, you might need 10 characters for entering actual first names in records, so you would type **10** ⬇.

Numeric items. Numeric items. Numeric items consist of the digits 0-9, spaces, periods, plus or minus signs, and parentheses. Items like phone numbers or social

security numbers can be defined as numeric items. You can use up to 254 characters for each numeric item.

Type **2** ⬇️ at the TYPE prompt to define a numeric item. At the LENGTH prompt, enter the number of characters you want to allow for this item. Specify enough length to take care of parentheses or hyphens that you might want to use. To save space, you may omit length considerations for parentheses and hyphens. Follow the instructions outlined in Designing Display Formats—Using Special Display Features, page 77.

Enter a description for the item at the DESC prompt, using 26 or fewer characters. Next, enter a validation expression, or press ⬇️.

Date items. Date items consist of the digits 0-9. Although you could define dates as numeric items, there are advantages to using this type of item for dates: you can enter *only* numeric digits; you cannot enter a month greater than 12; and you cannot enter a day greater than 31. This keeps mistakes to a minimum.

Type **3** ⬇️ at the TYPE prompt to define a date item. Notice that you cannot change the length of a date item— it always requires six spaces. Dates are entered in records in MMDDYY sequence. Color Profile automatically stores the dates in YYMMDD sequence, essential for sorting actual dates properly in other Color Profile functions. When you press ⬇️ after defining the type, the cursor moves to DESC.

Math items. Math items are also numeric and are used for items you might want to use in calculations later. An item should be defined as a math item if you want to use it with other items for addition, subtraction, multiplication, division, or totals on reports. Math items do not accept parentheses and spaces, and numbers are entered "calculator-style." Plus or minus signs are required for math items, and each item may contain up to 16 characters.

Type **4** ⎣↓⎦ at the TYPE prompt to define a math item. At the LENGTH prompt, type the number of characters you want to allow for this item. When you define math items, make sure that you specify enough space for a plus or minus sign and for a decimal point if one is to be used. For example, 9999.99 should have a length of eight.

At the DESC prompt, type a description of the item, using 26 or fewer characters. After you press ⎣↓⎦, the cursor moves to the DECIMAL PLACES area. Type the number of decimal places the item needs, or press ⎣↓⎦ to leave the number of decimal places at 0. At the VALIDATION prompt, enter a validation expression, or press ⎣↓⎦.

Tally items. Tally items are used to count the number of times information in records is changed. For example, a tally item could count the number of times you change the address in a record. They are especially useful for "triggering" a report of changed records.

Type **5** ⎣↓⎦ at the TYPE prompt to define a tally item. Note that you cannot change the length of a tally item— it always requires five spaces.

You are allowed 26 spaces to type a description. When you have typed a description, press ⎣↓⎦. The cursor moves to the TALLY CHANGES TO ITEM area.

At this prompt, you decide which item, when changed, should activate the tally. You can specify any item, but by specifying item 000, the tally number increases *anytime* a change is made to *any* item in the record. Specifying item 128 makes the tally count the number of times a subrecord item is changed. Type an item number, and press ⎣↓⎦.

Derived items. A derived item is the result of mathematically combining math items in a record. For example, you might have a record containing a math

item for Number Sold and one for Cost Each. By multiplying the two, a result could be figures for a Total Sale item. The Total Sale item would be a derived item.

Derived items use no space on your diskette, making them an efficient and valuable way to keep track of important information. Like math items, derived items can contain no parentheses or spaces and require plus or minus signs. They may contain up to 16 characters.

Type **6** �↓⎞ at the TYPE prompt to define a derived item. At the LENGTH prompt, type the number of characters you want to allow for this item. Remember to add two spaces for a plus or minus sign and for the decimal point. Remember also to specify a length long enough to show the largest result you expect to calculate.

Enter a description of the derived item, using 26 or fewer characters. At the DECIMAL PLACES prompt, type the number of decimal places you want the derived item to contain.

At the DERIVED FROM prompt, you must specify the items to be calculated and the kinds of calculations you want to perform for a derived item result. This involves writing expressions. Expressions can be very simple or complex formulas, depending upon your needs. To determine the type of expression to enter here, see Using Expressions, page 64.

Correcting an item

Check your entries to make sure that they are correct. If you find a mistake, use the ⎞↑⎞ key to return to the area with the mistake, and correct it. ⎞CLEAR⎞ erases anything to the right of the cursor if your correction is shorter than the original entry.

If you change your mind about including an item in your record format, press ⎞BREAK⎞. The item list appears, and you may define another item or store the record format as it is.

Storing an item	When all areas appear to be correct, press `ENTER` to store the item. The cursor may be anywhere on the screen when you press `ENTER`, as long as all necessary prompts have been answered. The list of items reappears with the item you just defined added to the list. The DISK REC SZ increases to show the amount of space used to store defined items on diskette. (Remember that derived items use no diskette space.)

To continue adding items, enter another item number. When you finish adding items, press `ENTER` at the list of items (without typing an item number). Your screen shows:

       FILE REFORMAT REQUIRED.
       PROCEED WITH IT? [N]

Press `Y` to reformat the file. When reformatting is finished, your record format is stored in the /CTL file, and the Main Menu reappears. |
| **Scrolling a list of items** | If you define more than 11 data items, they cannot be displayed on the item list at the same time. Color Profile lets you "scroll" the screen to see other items you have defined. Press `SHIFT` `↑` to see each succeeding item on the list. The item appears at the bottom of the list, and the entry at the top of the list scrolls off the screen. Press `SHIFT` `↓` to return, one item at a time, to the beginning of the list. |
| **Printing a list of the record format** | Color Profile lets you print anything displayed on the screen at any time. To print a copy of the record format, make sure that your printer is properly connected and ready to print. The printer should be set to receive at 600 baud. Refer to your printer owner's manual for instructions on setting baud rates.

When you are ready to print, press `SHIFT` `@`. A copy of the screen is printed with a few extra blank lines for spacing purposes. You can print three screens on one sheet of 8½" by 11" paper. |

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If the record format contains more than 11 items, use the scrolling feature to display more of the item list, and then use (SHIFT) (@) again to print the part of the list now displayed.

Press (BREAK) at the item list when you finish printing the record format. The Main Menu is displayed.

Helpful hint: To practice defining record formats, see Practice Session 2: Defining a Record Format, page 9.

Changing Record Formats

As you develop your file setup, you might find that your record format needs revision. You can add, delete, or change items in the format at any time, although we recommend that changes be made *before* you store actual data in records. Before you change a file's record format, consider the types of changes you need to make and the ways in which they might affect your stored data.

To make a change to the record format of a file, load Color Profile. At the File Selection Menu, enter the name of the file whose record format you wish to change. The Main Menu for the file is displayed. Press � 3 to ALTER RECORD FORMATS. Type the number of the item you wish to change, and press ⎓ ENTER . When the item's information appears, use ⎓ ↑ and ⎓ ↓ to move the cursor to each area of the screen, and make any necessary changes.

To delete an item, change the TYPE to **0**, and press ⎓ ENTER . The item list is displayed. To add an item, follow the instructions in Defining Records Formats, page 52.

When all changes to an item have been made, press ⎓ ENTER to store the changed item. (Pressing ⎓ BREAK causes the changes to be ignored.) The item list is displayed. The DISK REC SZ changes to reflect the amount of diskette space used by all items. To continue changing items, enter another item number. When you finish changing items, press ⎓ ENTER at the item list. If any of your changes affect the way data is stored, the screen shows:

> FILE REFORMAT REQUIRED.
> PROCEED WITH IT? [N]

If you have not backed up your diskette(s), press ⎓ N . Your changes are ignored, and the Main Menu is displayed. Make a backup, and repeat the above procedures.

If you have a current backup, press $\boxed{\text{Y}}$. Your file is reformatted to include the changes you made. This can be a lengthy process, depending upon the number of records in your file, but to help you keep track of the reformatting process, each record number is displayed as it is reformatted. When reformatting is complete, the Main Menu appears.

Making changes without affecting data

You can make the following types of changes without affecting the data stored on your diskette(s).

- adding, deleting, or changing a derived item

- changing a validation expression for any item

- changing an item's description

Making changes that affect data

Some types of record format changes affect the way that your data is stored in records on diskette. These changes are given below. Be sure to make a backup of your diskette before making any changes.

- adding or deleting any item other than a derived item

- changing an item's length

- changing the number of decimal places in a math item

- changing an item's type

- changing an item's number (deleting an item and redefining it with a different item number)

- changing a previously defined item to a derived item

Watch your step: Keep these points in mind before making changes of any kind:

- If you delete an item, you must also delete it from any display format before using the format. Otherwise, an error message is displayed: FORMAT CONTAINS INVALID ITEM NUMBER.

- If you change or delete a derived item used by an access method, be sure to revise the affected access method accordingly.

- If you shorten an item's length, any data already entered for that item is shortened to fit the new length. The name "Smithfield" might become "Smithfi." If you add to an item's length, you may have to revise any screen or report format using that item. Remember that you cannot overlap items, and the added length may delete an item following it on a display or report format.

- Changing the type of an item automatically deletes any data that does not conform to the kind of data accepted by the new item type.

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Using Expressions

Expressions (or formulas) are used by Color Profile in many functions. Expressions can make sure that data items always contain valid information; calculate interest; determine a total cost from a price and quantity; or even select a subset of records for a report.

Expressions can consist of three things:

- literals: fixed data whose value does not change

- variables: data whose value changes with each record

- operators: information telling how to combine or compare variables and literals to give a result

The simplest type of expression consists of only a single literal. Literals are entered calculator-style. A single literal "sets" a derived item to a fixed value: entering a single literal in the DERIVED FROM area of a derived item format always gives the value of the literal as a result. If you specify, say, 5 in DERIVED FROM, the derived item's result is always 5. Single literals are used most often for special calculations in reports.

An expression can also consist of a single variable. In this case, the value changes according to the record to which the expression is applied. Variables always correspond to an item number, and are always written in the form **!** *item number.*

Using arithmetic operators

An expression can combine two or more literals or variables with mathematic operators—the symbols for adding (+), subtracting (−), multiplying (*), and dividing (/). For example:

Note: When using negative numbers as literals, leave no space between the minus sign and the number.

Incorrect: − 92   Correct: −95.2

If the expression is:	the result is:
1 + 1	2
2 + − 3	− 1
3 − 2	1
2*4	8
12/3	4
11*17/4 + 2	48.75
2 + 11*17/4	48.75

If you typed the above expressions in the DERIVED FROM area, you would see the results of the operations displayed on the screen. Remember these hints when you use numeric expressions:

- If the hyphen is followed by a period (.) or a number, Color Profile assumes that it is the *sign* of the number. Otherwise, it is assumed to be an *operator*.

- You may insert space between numbers and operators if you wish, although spaces are not necessary except when distinguishing a negative number from a minus sign.

- Color Profile performs operations within parentheses before those not enclosed in parentheses. Change the order in which operations are performed by using parentheses. For example, $2 + (11*17)/4 = 48.75$. However, $(2 + 11)*17/4 = 55.25$.

- You can "nest" parentheses (place parentheses within parentheses) without limit. Operations within the innermost set of parentheses are performed first.

- Color Profile follows this priority when operators appear both before and after a number: multiplication and division are performed first, and addition and subtraction last.

In the previous examples, numeric literals were used. Most of the expressions you are likely to use require that you substitute data from items for use in calculations. For example, suppose that you want to multiply the Price Each by the Number Sold to display a derived item, Total Sale, in each record.

To use data from an item number substitute ! and the item number you want to use for any literal in an expression. For instance, if Price Each's item number is 006 and Number Sold's item number is 007, you would type **!006∗!007** at the DERIVED FROM prompt when you define the derived item, Total Sale.

When you use item numbers in expressions, you must use the entire three-digit number (leading zeroes included). Do not leave a space between ! and the item number. You can use any type of item to give a result in a derived item if you remember a few rules:

- Data from a text or numeric item can be used *only* if every character is a number, period, or + or − symbol.

- Color Profile stores dates in YYMMDD order, even though you enter them in MMDDYY order. Any date used in an expression is treated as an integer. For example, January 7, 1984, is used in calculations as 840107.

- If you make a typographical error and type anything other than a number for an item number, of if you use a nonexistent item number, a formula error is displayed. Refer to Appendix F for a list of formula errors and their meanings.

- You cannot calculate a derived item using its own item number in the calculation (for instance, using item 015 plus item 017 to calculate item 015).

Using relational operators

Expressions are frequently used in validation statements and in access methods to select a subset of records. when you define a text, numeric, date, or math item, you are given the chance at the VALIDATION prompt to specify rules for entering data.

On these occasions, expressions can include these relational operators:

< less than   > greater than   = equal to

Suppose that you want to make sure that data entered in Number Sold (item 014) is less than that entered in Number on Hand (item 016). You could specify this rule in the VALIDATION line of item 014 by entering: **!014 < !016**.

When you enter actual data in a record and store it, Color Profile checks (or validates) your entry against the validation expression. If the entry is incorrect, Color Profile does not allow you to store the record. The incorrect, or invalid, entry is highlighted on the screen, and you must enter a number that meets the validation requirements before storing the record.

Using logical operators

Sometimes you must combine several conditions to validate data entered in an item. For example, if a selling price, item 034, must be at least $10.00 but not more than $20.00, you could use two conditions and combine them at the VALIDATION prompt for item 034: **!034 > 9.99 AND !034 > 20.01**.

The AND is a logical operator. The two other logical operators are OR and NOT. To abbreviate, AND may be replaced by *, OR may be replaced by +, and NOT may be replaced by &.

You have seen a combined expression using AND. AND is used if the data you enter in an item must meet all of several criteria. OR is used when an item's data must meet at least one of several criteria. For example, if a

selling price, item 034, must be either $2.00 or $4.00, the validation expression could be: **!034 = 2OR!034 = 4**.

Use an ampersand (&) or the word NOT to negate a relational operator. To specify that you could only enter numbers 10 and greater for item 034, you could say: **!034NOT < 10**. This expression means that item 034 cannot be less than 10. NOT < (not less than) is the same as "greater than or equal to," and NOT > (not greater than) is the same as "less than or equal to." NOT should only be used directly before a relational operator.

Combining operators   Derived items may be calculated using a combination of operations. These types of expressions require careful study. For example, consider a Current Balance item, item 027. If there is an outstanding balance, you want item 028 to show an interest charge of 18% of the balance. If the current balance is 0 or negative, you do not want to apply an interest charge. Item 028, Interest, can be derived using this expression: **!027 < 0 AND !027 • .18**.

When Color Profile evaluates a relational expression and finds that it is true, it assigns the expression a value of 1. If the expression is found to be false, it assigns a value of 0. This is the heart of combining arithmetic operators with logical or relational operators. In the above example, suppose that item 027 contained $30.00. Remembering that AND is treated exactly as *, the expression would be solved in this way:

!027	>	0	AND	!027	*	.18
30.00	>	0	AND	30.00	*	.18

$$30.00 > 0 \rightarrow \text{TRUE}$$
$$\text{AND} \rightarrow *$$
$$30.00 * .18 = 5.40$$

$$\text{TRUE} \rightarrow 1$$

$$1 * 5.40 = 5.40$$
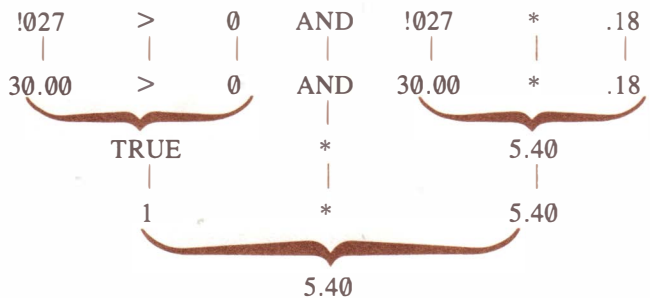
The expression calculated the correct interest on the balance. On the other hand, if the current balance was −10.00, the expression would be solved like this:

```
!027     >      0     AND    !027     *      .18
 |       |      |      |      |       |       |
-10.00   >      0     AND   -10.00    *      .18
  ‿‿‿‿‿‿‿‿‿‿‿‿‿‿        |     ‿‿‿‿‿‿‿‿‿‿‿‿‿‿‿‿‿
     FALSE              *              -1.80
       |                *                |
       0                *              -1.80
       ‿‿‿‿‿‿‿‿‿‿‿‿‿‿‿‿‿‿‿‿‿‿‿‿‿‿‿‿‿‿‿‿‿
                        0
```

This type of expression can be used in any number of ways, but be sure that you understand the true/false concept and the way that Color Profile handles it before you use conditional derived items.

As with arithmetic operators, Color Profile performs certain relational or logical operations before it performs others. The order in which operations are performed is:

>	compare for greater than
=	compare for equal to
<	compare for less than
& or NOT	negate relational operator
* or AND	multiply
/	divide
+ or OR	add
−	subtract

You can change the sequence of operations by using parentheses, just as you can using only arithmetic operators. All operations within parentheses are performed, according to the sequence list, before operations not enclosed in parentheses. Nesting of parentheses is allowed.

Any type of data can be used in an expression, even words. You can specify relationships (equal to, less than, or greater than) between text items and alphanumeric literals. An alphanumeric literal is any value (numeric, alphabetic, or special characters) surrounded by quotation marks. It can be one character or a string of characters. Examples of alphanumeric literals are:

"BOB"   "4CD87"   " *"   " .7296"

When you enter a validation expression comparing an alphanumeric literal to the data in a text item, characters are compared, left to right, until Color Profile finds two characters that do not match. It then compares the two "unequal" characters to see which of the two is "greater." When you use an alphanumeric literal in an expression, it is important to know which characters Color Profile considers greater. Color Profile uses the same sequence as does BASIC. Refer to Appendix E for the sequence.

When items of unequal length are compared and all characters of the shorter item match those of the longer item, they are considered equal if all remaining characters in the longer item are blanks (or spaces). Otherwise, the longer item is considered greater.

If you want to make sure that only names beginning with M-Z can be entered for item 019, the item's validation expression would be: **!019 > "M"**. You would, with this validation expression, be able to enter

Watch your step: Be careful when you use dates in validation expressions. Remember that dates are stored in YYMMDD sequence, so when you compare a date item to a literal, be sure to enter the year first, month second, and day last in the expression. For example, to make sure that only dates past April 17, 1983, are entered for item 015, the validation expression is: **!015 > 830417**.

names like Mathias, Smith, or Thatcher. You would not, however, be allowed to enter names like Brown, Edwards, or Jackson, since those names begin with characters "not greater than" M. Remember that M plus any other character is considered "greater than" M alone.

Helpful hint: To practice using expressions in derived items or for validation, see Practice Session 3: Using Expressions, page 13.

Designing Display Formats

After defining a record format, your next step in setting up a file is to design a screen (or display format) for entering or displaying the information in a file. The screen can display 14 lines, each line containing 32 spaces (448 total spaces). Your record format might contain too many items to fit on one screen, so Color Profile lets you design up to 26 different screens per file. Each screen can display a different set of items or arrange the same items in a different way. You may design screens for entering data in records or screens used only for reviewing and displaying data.

To design a screen, load Color Profile. When the File Selection Menu is displayed, enter the filename for which you wish to create a display format. The screen displays the Main Menu. Your filename is displayed at the top of the screen along with report format, display format, and access method selections.

Naming a display format

Press ④ for DEFINE/ALTER DISPLAY FORMATS. The screen shows:

FILE=*filename* SELECT A FORMAT [A]

A	N
B	O
C	P
D	Q
E	R
F	S
G	T
H	U
I	V
J	W
K	X
L	Y
M	Z
(BREAK TO EXIT)	

Watch your step: At least one screen must be created for a file before the file can be used.

Press a letter key, A-Z, to specify the format you are creating. The screen clears, and a message appears at the top of the screen:

FORMAT "*x*" NAME [   ]

In this message, *x* represents the letter you selected for the display format. Type the name of the format you are creating, using up to 14 characters, and press (ENTER). The cursor moves to the second line. You may now type anything you like, anywhere on the screen. Use the (↑), (↓), (←), and (→) keys to position the cursor wherever you want to type.

Designing a layout   Plan carefully so that you have enough space on the screen for the items you wish to display. You may design your layout on the screen itself if you like. If you want to use descriptions or headings, such as NAME or ACCT. #, they can be typed anywhere on the screen.

To leave enough space for entering an item's data, find the length you assigned the item, and add 2. Type that number of Xs wherever you want the item's data to appear. The Xs are not required by Color Profile but serve as a useful technique for laying out the design of the screen. The Xs you type do not limit or define where your data will appear—they are used for your information only.

A typical screen layout might look like the top of the next page.

Watch your step: Do not press (ENTER) until the entire format is finished.

```
NAME XXXXXXXXXXXX XXXXXXXXXXXX
ADDRESS XXXXXXXXXXXXXXXXXXXXXX
        XXXXXXXXXXXXXXXXXXXXXX
                         XXXXX
PHONE XXXXXXXXXXXXX
S.S. # XXXXXXXXXXX

NUMBER SOLD         XXXXXX
PRICE PER UNIT      XXXXXXXX
TOTAL PRICE         XXXXXXXXXX

DELIVERY DATE XXXXXXXX
```

If you make a mistake in your layout, use the arrow
keys to move to the area needing correction. Type over
the mistake, or use the space bar to erase characters.

At this point, you have designed the way you want the
screen to look, but you haven't specified to Color
Profile the items you want to display or the screen loca-
tion at which they should appear. Move the cursor to
the first X in a group you typed, and press ⬚ " ⬚. (If you
press ⬚ " ⬚ by mistake, press (**BREAK**) to cancel.)
The message at the top of the screen says:

ENTER ITEM NUMBER [000]

Helpful hint: If you printed your item list, refer to it to find the
number of the item you wish to position here. Type the
item number, and press (**ENTER**).

If you did not print the record format and do not know
the item number, you can list all items in your record
format, one by one. Press (**SHIFT**) (⬇). The first
item defined is displayed at the bottom of the screen
with its item number. Use (**SHIFT**) (⬆) or
(**SHIFT**) (⬇) to scan the item list until you find the
correct item. When it is displayed, press (**ENTER**).
Color Profile automatically enters the item you chose.

Type the appropriate item number, and press
(ENTER). The top line of the screen changes to
display the length of the item you selected. The bottom
of the screen shows the item number and its description.

Notice that the Xs have been replaced by a white box
enclosed in brackets equal to the length of the item you
selected. The box represents the area in which you can
type when you start entering information in records. The
brackets mark the limits of the entry area. The two extra
Xs you added to the item's length in the layout were for
the brackets.

For each item you wish to display, follow the above
procedures. If you have specified the location of an item
and then decide to change it, position the cursor over
the beginning bracket for the item. Press the space bar
once, and the brackets and box disappear. You may now
use the area for another item.

A sample screen, after its design is complete, might
look like this:

```
            NAME [              ] [              ]
            ADDRESS [                            ]
                    [                            ]
                              [              ]
            PHONE [                    ]
            S.S. # [                ]

            NUMBER SOLD  [        ]
            PRICE PER UNIT [          ]
            TOTAL PRICE   [               ]

            DELIVERY DATE [                  ]
```

A few hints on rules for creating display formats follow
on the next page.

- Once an entry is defined, you cannot place the cursor in the bracketed area during screen design. The cursor automatically skips over the entry area to the first blank space following it.

- Once an entry area is defined, anytime you place the cursor over the beginning bracket of the item, the number and description of that item appear at the bottom of the screen.

- You cannot overlap items. If you specify an item's position on a line with other items but there is not enough space for all of them, other items are deleted to make room for the latest item you specify. If you specify an item's position at the bottom right of the screen and there is not enough room, it is not accepted, and the computer beeps to let you know that you cannot place the item at that position.

- When you design the placement of items, it's a good idea to leave extra spaces before and after the Xs you use for designing. This leaves enough space between items and for the beginning and ending brackets. Remember that Xs are for your information only.

- If you are designing a screen and decide to make a major revision to the design, you can erase everything from the cursor's position to the bottom of the screen by using (SHIFT) (CLEAR).

Storing the display format

When you have designed the screen exactly the way you want, press (ENTER). Color Profile stores the display format in your /CTL file, and the screen shows the list of display formats. To create another display format, press a letter key for the format you wish to create. To return to the Main Menu, press (BREAK) when the list is displayed.

Remember that you may print the display format by using (SHIFT) (@) before pressing (ENTER) to store the display format.

Pressing (BREAK) before you store the display format restores the original format if you make changes and then decide not to implement them.

Using special display features

You can make your screen appearance more efficient and attractive by displaying only parts of items (saving valuable screen space), inserting special characters among your data, or eliminating leading zeroes from amounts. These special features give you even more freedom to create exactly the screen you want.

Anytime you use special design features, information is only displayed—you cannot enter data in an item using a special design feature. Brackets are eliminated from the display area, and no white box appears on the screen for showing the amount of space available for entering data. Refer to your item list for lengths if they are needed.

Special features make use of "edit pictures." These are similar to the Xs you use to design your display format for entry areas. Edit pictures consist of ! followed by Xs, 9s, or special characters.

As in basic screen design, it's a good idea to develop a layout before you tell Color Profile the exact specifications of the screen. However, this explanation discusses how to develop a screen's specifications without laying it out beforehand.

Displaying an abbreviated item

You can shorten the amount of data displayed in a text or numeric item's area. This does not change the actual length of the item but only the number of characters displayed.

Using the arrow keys to move the cursor, type any headings or descriptions you want displayed. Wherever you want the first character of an item's data to appear,

press ⦗ ! ⦘. When you do so, you are asked to enter an item number at the top of the screen. Type the appropriate item number, or use the ⦗ **SHIFT** ⦘ ⦗ ↑ ⦘ and ⦗ ↓ ⦘ method to find the correct item, and press ⦗ **ENTER** ⦘.

The top of the screen shows the item's length, and the bottom of the screen shows the item number and description. To make more than one character appear, press ⦗ **X** ⦘ or ⦗ **9** ⦘ for each succeeding character you want to display, up to the entire length of the item. Later, when you use this screen to review data, the first character of the item's data will appear at the position where you placed the !.

Inserting special characters

To automatically insert special characters (such as hyphens, slashes, or parentheses) in the midst of a text or numeric item's data, position the cursor wherever you want the first character of the item to appear. Press ⦗ ! ⦘ for the first character, enter an item number at the top of the screen, and draw an edit picture by typing Xs or 9s for any additional characters you want to display. Type the special character wherever you want it to appear in the midst of the edit picture. For instance, you might store a phone number as a 10-digit numeric item. To insert parentheses around the area code and a hyphen between the exchange and the number, you could enter this edit picture: **(!99)999-999**.

If the number is stored as 8003339999, it appears on the display as (800)333-9999.

Abbreviating date items

Dates may be abbreviated to show only the month, day, or year. Press ⦗ ! ⦘ when the cursor is positioned at the point at which you wish to display the date, and enter a date item number at the top of the screen. To show only the month, press ⦗ **M** ⦘. Days and years are specified in the same way (**!D** or **!Y**).

Watch your step: Do not insert as special characters spaces, 9s, or Xs.

Inserting special characters in date items

To insert hyphens or slashes between the month, day, and year, use ⌨️ and enter the item number at the top of the screen. Follow the ! with a combination of MM, DD, and YY, separated by hyphens or slashes. Notice that ! takes the palce of the first character.

You can combine MM, DD, and YY in the edit picture using slashes or hyphens in any way you like, as long as you use no spaces in the entry. Combinations include **!D/MM**, **!M-DD**, and **!M/YY**. Just remember to use ! as the first character in the edit picture.

Parts of dates may be separated by spaces or other characters as long as you press ⌨️ and specify the same item number for each part of the date you want to display. For instance, you might decide to display something like: **THE !DTH DAY OF THE !MTH MONTH OF 19!Y**.

Eliminating leading zeroes

You can eliminate leading zeroes and plus or minus signs from math, tally, and derived items. Press ⌨️ wherever you want the first character of the item to be displayed. Enter an item number at the top of the screen, and draw an edit picture, typing a 9 for each succeeding character in the item's data you want displayed. Remember that these items are entered and stored calculator-style, so if you used only two 9s, only the two numbers directly to the left of a decimal point would be displayed. For instance, if you type **!99**, the screen would display **345** for a derived item with data 00345.

Displaying the sign of a number

To show the sign of a number whether it is positive or negative, press ⌨️ wherever you want to display the item, and enter an item number at the top of the screen. After typing 9 for each additional digit you want to display, press ⊕. To show the sign only if the number is negative, press ⊖ after the ending 9. When you review data later, the sign appears to the right of the displayed number.

For example:

The item data is:	And you type:	The screen displays:
−562	!−	5−
−562	!9+	56−
562	!9−	56
562	!+	5+

Inserting commas and decimal points

To insert commas in math and derived items, press ⬚! for the first character you want to display, and enter an item number at the top of the screen. Draw an edit picture, using 9 for each additional digit you want to display, and press ⬚· wherever you want a comma to appear. The comma appears only if the data includes at least 4 digits. For example, if you type !99,999 the screen displays 5,555 or 555, depending on the data. Decimal points are inserted in the same way as commas. Press ⬚· whever you want the decimal point to appear in the number.

Inserting zeroes after decimal points

After drawing an edit picture and pressing ⬚· for decimal point, type 0 for every decimal place in which you wish to display a 0. In this way, you can define an item that is always an even dollar amount and display 00 for the cents, leaving you more room in your record format. For example, if the data is 55, and you type !9.00, the screen displays 55.00.

Inserting dollar signs

To insert a dollar sign in math or derived items, press ⬚$ before you press ⬚! and draw the edit picture of digits to display. This creates a fixed dollar sign that appears exactly at the point at which you place the $. To insert a floating dollar sign that appears directly to the left of the most significant digit displayed or just to the left of the decimal point (if the number is less than 1), press ⬚!, enter an item number, and then press ⬚$ before you draw the edit picture using 9s for each digit of the number you wish to display. The $ cannot be to the right of a decimal point.

Changing special display formats

Changing a display format that contains display only areas is simple. You need only type over any existing edit pictures. Anytime you replace a ! with another character, the ! is eliminated. `SHIFT` `CLEAR` deletes your display format from the cursor's position to the bottom of the screen.

Helpful hint: To practice designing a display format, see Practice Session 4: Designing a Display Format, page 16.

Data

This section of the manual shows you the various options you have after you define the structure of your file. In it, you learn how to enter data in your records, access records in indexed order, examine subsets of records, and use your data in reports.

Entering Data in Records

The most important aspect of your file is the data you store in it. To begin entering data, make sure the Main Menu for the file is displayed. Before you enter data, you must specify the display format you want to use as you enter data. Notice the DISPLAY FMT area at the top of the screen. Move the cursor to this area using the ⬆ key. Type the letter of the format you want to see, and press ⬇ until the cursor returns to ENTER SELECTION.

Press 1 for VIEW/UPDATE RECORDS. The screen you requested appears. The record is blank, with 00000 as the record number. The record number is always 00000 when a blank record is displayed. Anytime that the record number is 00000, you may create a new record by typing the information requested on the screen.

The cursor is at the first item. Type the data, and press ⬇ to move to the next item. If you use all the available spaces in an entry area, it is not necessary to press ⬇. The cursor automatically moves to the next item. If you enter data past the end of the entry area (if your data is longer than the area allows), press ⬆ twice to return to the entry area and shorten the data.

Switching display formats

If you have defined more than one display format for entering data, you may switch between formats anytime you wish; however, do not press **ENTER** until all the information for one record has been entered in all screens. You may enter data in one format, and, if the same item occurs in other formats, Color Profile automatically places the data in the correct item's entry area in all formats.

Watch your step: You cannot enter data in records until you have defined a record and display format for the file. If you have not done so, please read Defining Record Formats, page 52, and Designing Display Formats, page 72, before you continue.

To switch between formats, move the cursor to the FMT prompt at the top of the screen, and type a new letter. You may enter additional data on the new screen.

Storing the data
When you have entered data for the last entry area on the screen and pressed ⬇, press **ENTER** to store the record. Color Profile assigns a unique number to the record and displays **RECORD** *number* **CREATED**. (In place of *number* is the number of the record.) Next, the screen displays another blank record, ready for you to complete.

When you fnish entering data in records, press **BREAK**. You are returned to the Main Menu.

Revising data
When you need to revise data in records, press ⬜1⬜ at the Main Menu (for VIEW/UPDATE RECORDS). A blank record appears. To see a specific record, press ⬆ until the cursor is at the record number area, or press **SHIFT** ⬆, and the cursor moves directly to the record number area. Type the number of the record you want to see, and press **ENTER**. (You do not have to type leading zeroes.)

Watch your step: If you make a mistake while typing data in an area, use ⬅ and ➡ to move the cursor back and forth within the area needing correction. To move the cursor to a preceding area, use the ⬆ key. ⬇ moves the cursor to the next area.

If you enter data that is invalid due to your validation criteria or data that Color Profile does not accept (such as 13 for a month), the computer beeps when you try to move to another entry area without correcting the invalid data and asks you to make a change. Use ➡ or ⬅ to move the cursor to the invalid data, and correct it.

The record you requested is displayed. To change information, use ⬇ to move the cursor to the area you want to change, and type the change. If necessary, you may switch between several display formats to make more changes on different screens. When your data is updated, press ENTER to store the changes. No change is stored on diskette until you press ENTER and see the message MASTER REC REWRITTEN. If you decide not to make a change after typing new data in an area, either move the cursor back to the record number area and enter another number, or press BREAK to return to the Main Menu. The record remains as it was before you changed any data.

To create new records after revising existing ones, simply move the cursor to the record number, and type 0 ENTER. A blank record appears. Once you complete the record, Color Profile assigns it the first available record number.

Reviewing the data

It might take quite a while to review records by typing the record number for each record you want to see. Color Profile offers a "shortcut" to finding records. Once a record is displayed, use SHIFT ⬆ to move the cursor to the record number area. Then, press SHIFT ⬆ again, and the record previous to the one displayed appears. SHIFT ⬇ displays the next record. You can use this feature to scan several records in record number order without entering a record number each time.

Deleting records

When you no longer need the data in a record, you might want to delete the record. Deleting records lets Color Profile reuse the space when you create more records.

To delete a record, press 1 at the Main Menu. Display the record you wish to delete. When the correct record appears, press SHIFT CLEAR. The message: RECORD DELETED! appears at the bottom of the screen, and a blank record appears.

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The next time you create a record, the number of the record you last deleted is assigned to the new record. This lets you reuse record numbers, saving space on your diskette and ensuring that your file is managed efficiently.

Once you've finished deleting records, you may either create more records, revise or review records, or return to the Main Menu by pressing (BREAK).

Helpful hint: To practice adding, changing, and deleting records, see Practice Session 6: Entering Data in Records, page 22.

Using Access Methods

As your files grow larger, it becomes less practical to search for records by using (**SHIFT**) (↑) and (↓) or by entering record numbers. You can define up to 26 ways to "access" your file. Access methods let you display records in sequences other than record number order and examine subsets of a file.

The access method list

To define an access method, make sure the Main Menu for your file is displayed. Press (**5**) for DEFINE/ALTER ACCESS METHODS. The screen shows:

FILE=*filename* SELECT A FORMAT [A]

A BY RECORD NBR N
B   O
C   P
D   Q
E   R
F   S
G   T
H   U
I   V
J   W
K   X
L   Y
M   Z
(BREAK TO EXIT)

Your filename is displayed at the top of the screen. If this is the first time you have defined an access method, the SELECT ACCESS prompt shows access method A. Note in the list that access method A already has a name: BY RECORD NBR. This access method always accesses your file by record numbers. Press (**A**), and the screen changes to show that access method A has a fixed meaning and cannot be changed. You also see the number of records and reusable (deleted) records in your file as well as the number of subrecords and reusable subrecords. Subrecords are discussed on page 112. Press any key to return to the access method list.

Press a letter key other than Ⓐ to define a new access
method. For instance, if you want to display records in
alphabetical order by last name, you might choose to
label the access method L. The screen shows:

ACCESS "*x*" CONTAINS 0000 MEMBERS

NAME: [   ]

SEQUENCE ITEMS:
[   ]

SELECTION CRITERIA:
[

                                              ]

The *x* stands for the letter you chose. The cursor is at
the NAME area. Type a description of the access
method you want, using 14 or fewer characters, and
press ⬇: for example, **LAST NAME** ⬇. The
description is for your information only and does not
appear in records or reports.

**Specifying the
sequence**

The cursor moves to the SEQUENCE ITEMS area. This
area is for entering item numbers by which you wish to
index your file. If you enter nothing in this area, your
records will be sorted in a record number sequence. In
the preceding paragraph's example, your index is by
Last Name. Suppose that Last Name is item 002 in your
record format. At SEQUENCE ITEMS, you would type
002 ⬇. When you enter item numbers by which you
want to index, you must type the entire item number,
including leading zeroes. No ! is necessary.

You can cause your records to be listed in order of more than one item by specifying several items at the SEQUENCE ITEMS prompt. For example, you might choose to list records first in order of last name and then in order of first name. This is a sort within a sort. Type any item numbers by which you wish to access records. You are not required to leave spaces between item numbers, enabling you to enter up to ten items. For instance, you could sort records in order of last name, then first name, date of birth, and finally address. Just list item numbers in the order in which you want the sort to occur. Press ⏎ after entering sequence items.

Specifying the selection

At the SELECTION CRITERIA prompt, you specify exactly which records you want included in the sort. Entering selection criteria requires a knowledge of using expressions. If you have not read the discussion of expressions, please review Using Expressions, page 64. If you leave this prompt blank, all existing records will be included in the sort.

If you do want to specify SELECTION CRITERIA, type an expression to limit the records displayed. To see, for example, records in alphabetical order by last name (item 002), from C though L only, the selection criteria expression would be: **!002 NOT < "C" AND !002 < "M"**. You may enter more than one condition or combine conditions to limit the displayed records as much as you like. You have 190 spaces for entering selection criteria. Press ⏎ after entering the criteria.

Storing the access method

To store the access method in your /CTL file, press ⏎ ENTER . Pressing BREAK at this point cancels the access method you defined, returning you to the list of access methods. Once you store the access method, Color Profile displays a monitor screen. This screen lets you know that records are being arranged in the order you requested in your newly defined access method and that an "access set" is being created. It also keeps track of Color Profile's progress as it re-orders your records. Next, the Main Menu for your file is displayed.

Using an access
method to scan
records

After you define an access method and the Main Menu appears, notice that the letter label of the new access method is displayed at the top of the screen at the ACCESS METHOD area. When you search for records, the access method specified here is the one used to display records. To change the access method, press ⬆ until the cursor is at the ACCESS METHOD area. Type the letter for the access method you want to use, and press ⬇ until the cursor returns to the ENTER SELECTION area.

Press ⎡1⎤ to VIEW/UPDATE RECORDS. A blank record appears. Press **SHIFT** ⬆ to move the cursor to the record number area. When you press **SHIFT** ⬆ again, the first indexed record is displayed.

Pressing **SHIFT** ⬇ displays the next record in your indexed sequence. **SHIFT** ⬆ displays the previous indexed record. You may now search through the file in the order you specified in your access method. If a selection criteria was used, only the records belonging to the subset you selected are displayed. Other records may be reviewed by entering their record numbers at the REC prompt and pressing **ENTER**.

To find a specific record without searching through the entire indexed file, first display a blank record by moving the cursor to the record number area and changing the number to **0**. Then move the cursor to the entry area for the item by which the file is indexed. Type the data of the record you want to see.

For instance, to find a record for Jones, move the cursor to the LAST NAME area, and type **JONES**. If your is indexed by more than one item, type data of the record you want to see in every entry area used as a sequence item.

Press **SHIFT** →. The record containing the data you typed is displayed. If an exact match cannot be

found, the record occurring after the one for which you were searching is displayed. Using (**SHIFT**) (⬆️) or (⬇️) displays the record preceding or following the one you requested.

If you are careful to avoid use of the (**ENTER**) key, you may type data of the record you want to display over data in the currently displayed record before pressing (**SHIFT**) (➖), instead of clearing the record number to 00000.

Updating access methods

Anytime you add new records to a file, change the data in an item used by an access method for indexing, or change the data in an item used in your selection criteria, you *must* update the access method. Updating is a simple procedure. At the Main Menu, press (**5**). When the list of access methods appears, press the letter key for the access method you wish to update. The information for the chosen method is displayed. Press (**ENTER**), and your access set is rebuilt: all new or changed records are now included in or excluded from the access set.

Helpful hint: To practice setting up and using access methods, see Practice Session 7: Defining an Access Method, page 26.

Preparing Reports

Color Profile lets you define up to 26 different ways to report on any data in each of your files. Reports may be printed on paper or simply displayed on the screen. You may store reports in special files that let you print them later with either Color Profile or Color SCRIPSIT® and work with other Color Profile or Color SCRIPSIT options while you are printing. Reports can be used to print mailing labels or form letters and they can figure and print totals.

Formatting a report
To set up a report, make sure the Main Menu for the file is displayed. Press ⬛ 6 ⬛ for DEFINE/ALTER REPORT FORMATS. The screen shows:

FILE=*filename* SELECT REPORT [A]

A	N
B	O
C	P
D	Q
E	R
F	S
G	T
H	U
I	V
J	W
K	X
L	Y
M	Z

(BREAK TO EXIT)

Your filename is at the top of the screen with the SELECT REPORT prompt. Press the letter key by which you wish to identify the report format. The screen displays the information on the top of the next page.

```
REPORT "x" NAME [                         ]
ACCESS METHOD [A]
SORT? BEFORE [Y] AFTER [N]

CONTROL BREAK LEVELS [0]

LINE WIDTH[132]  LINES/PAGE [066]
MARGIN: LEFT[000]TOP[003]BOT[003]

NUMBER OF LINES OF:
    HEADINGS [001]
    DETAILS   [001]
    TOTALS    [000]
NUMBER OF CALCULATIONS:
    BEFORE [000]  AFTER [000]
```

The *x* in the above display is for the identifying letter
you chose for this format. When you enter data on this
screen, press ⬜ at any prompt to use its default set-
ting. Any numbers you enter must be from Ø-132. When
all specifications have been made, press ⬜ENTER⬜.

Name. The cursor is at the NAME prompt. Type the
name or description of the report, using 13 or fewer
characters. The description is for your information only
and serves as an identifier on your report format list.
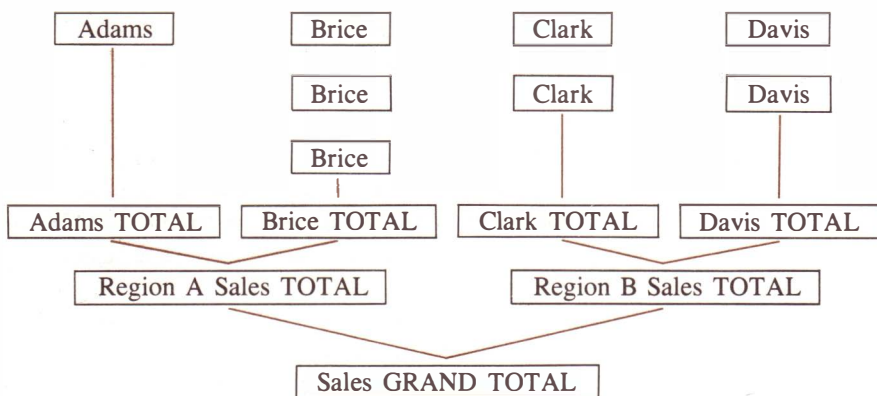Press ⬜ to move the cursor to the ACCESS
METHOD prompt.

Access method. You may list data using any access
method you have defined. Type the access method's
letter, and press ⬜. The cursor moves to the
next line.

Sort?. This question should be considered if you are
using an access method other than A (record number
order). The BEFORE prompt asks if you want to sort
your records before your print the report. Pressing ⬜
to keep the Y answer tells Color Profile to automatically
sort your records, in case you have added or changed
records that should be included in the report's access

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method. Pressing ⓃＮ here tells Color Profile not to sort your records before it prints the report.

The AFTER prompt asks if you want to sort your records after completion of report printing. This feature is discussed later in the section. Either press ⬇ to keep the N answer, or press Ⓨ to make Color Profile sort records after report printing is completed.

Control breaks. Control breaks are levels, or groups, of data on your report. The following diagram should give you an idea of how control breaks work:

Adams	Brice	Clark	Davis
	Brice	Clark	Davis
	Brice		

Adams TOTAL	Brice TOTAL	Clark TOTAL	Davis TOTAL

Region A Sales TOTAL	Region B Sales TOTAL

Sales GRAND TOTAL

In the diagram, there are three control break levels. Control breaks are always used in conjunction with totals, discussed in a moment. To use control breaks, you must be using an access method other than A. You may use as many control breaks as there are sequence items in the access method you are using for the report, plus one. Press a number key for the number of levels of totals that you want.

Suppose that the access method you are using for a report lists records in order of customer's last and first

Note: Pressing BREAK at any time while you are formatting a report cancels the entire format.

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names. You want the report to list the dollar value of each sale to a customer, a subtotal of all sales to a customer, a subtotal of all customer sales within a region, plus a grand total of all sales. If you specify 3 at the CONTROL BREAK LEVELS prompt, Color Profile inserts subtotals for all sales to a particular customer and for all sales to customers within a particular region. At the end of the report, a grand total of all sales appear.

Line width. This tells Color Profile the maximum number of data characters that you want to use on each line of the report. You should not specify a line width greater than the number of characters your printer can print on one line. Line width does not include a left margin you might want. Type a number for the line width you want, and press ⬇, or press ⬇ without typing a line width to leave the setting at 132.

You can use line width to limit the amount of information printed on a report. By specifying a line width of 50, only the first 50 characters of each line are sent to the printer, no matter how many characters you use in your actual report format. Thus, one report format can be used to print either a full or abbreviated report.

Lines/Page. This tells Color Profile the number of lines including top or bottom margins that can be printed on one page of the report. Do not specify more lines per page than your printer can print on one sheet of paper. Type the number of lines you want printed on each page, and press ⬇, or press ⬇ to leave the setting at 66, the number of lines that can be printed on a sheet of 11-inch paper. Press ⓪ for a continuous listing with no headings or page breaks.

Margin. The LEFT margin setting is the number of blank spaces you want to send to the printer before data eings printing. The left margin setting is in addition to the line width you specify. For instance, if you specify 60 characters for line width and 10 for left margin, a

maximum of 70 characters would be sent to the printer on one line. The line width plus the left margin should not exceed the number of characters your printer can print on one line; otherwise, the line will wrap around to the next print line to finish printing. Type a number for the left margin, and press ⬇. Note that there is no setting for the right margin: a right margin is automatically forced due to the way Color Profile uses line width. For example, if your printer will print 80 columns, and you want left and right margins of 10 characters each, you should set the line width to 60 and the left margin to 10. This forces Color Profile to skip 10 spaces before printing a maximum of 60 characters on one line. Ten characters are left over, giving you a right margin of 10.

TOP and BOT indicate the number of blank lines you want at the top and bottom of each report page. Type the number of blank lines you want at the top of each page, and press ⬇. Do the same for the bottom margin. You may press ⬇ at each prompt to leave the top and bottom margins at their default settings of 3.

Headings, Details, and Totals. Next is a section to specify the number of heading line, detail line, and total line format descriptions you want on the report. First, type the number of lines you want for HEADINGS, and press ⬇. For example, specifying 4 would give you enough room for a report title, a blank line, a line of column headings, and another blank line before report data starts.

The DETAIL prompt asks the number of lines necessary for printing *one* record's data on the report. For instance, you might want to print names, addresses, phone numbers, social security numbers, and birthdates for each record in your file. If all this data will not fit on one printed line of the report but will fit on two lines, you could specify 2 as the number of detail lines. After typing a number for detail lines, press ⬇.

The number of TOTAL lines is the number of lines you need to describe the way totals should be printed. You should enter the number of lines you need to line *one* group of totals, just as you entered the number of detail lines necessary for listing one record's data. If the data being totalled will not fit on one line, specify as many as you need, just as you did for detail lines. When you have entered the number of total lines needed for the report, press ⬇.

Number of calculations. The BEFORE and AFTER prompts are used to tell Color Profile how many calculations you will perform with your data before and after report printing.

At BEFORE, type the number of calculations to be performed before printing, and press ⬇. At AFTER, type the number of calculations to be performed after printing is complete, and press ⬇.

Describing the report information

When you have finished formatting the report, and have pressed ⌈**ENTER**⌉, the screen changes to display a blank "report." You can position the data you want to see on the report anywhere on this screen. The report format shows separate sections for heading lines, detail lines, total lines, and calculation lines.

Notice that a scale is shown for each section. The scale lets you know which characters are visible on the screen. The screen displays only 32 spaces, but as you type, it scrolls to the left to let you see more of the format. The entire format screen uses 133 spaces. If you have defined several heading, detail, total, and calculation lines, the screen can also scroll up and down to let you see all the lines. As you decide placement of report information, use the arrow keys to move the cursor around the screen.

As you design the report, you can quickly move the cursor to column 0 of any line by pressing ⌈**CLEAR**⌉.

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All data is positioned on the screen in the same way as edit pictures are drawn in special display format designing—⌨!⌨ plus the item number and edit picture (9s or Xs for characters you want displayed plus any special characters). See Using Special Features, page 77, for move information. ⌨"⌨ is used in defining totals and printing page numbers.

Headings. This section contains the number of lines you specified for headings in the preliminary screen. Type anything you wish to literally appear in a heading line, such as the title of the report, blank lines, or column headings, but do not use column 0. This column has special uses. Remember to leave enough space between column headings to take care of the length of the items you'll list in each column.

You can cause the page number to print on the report by positioning the cursor at any point in a heading line at which you want a page number to appear. Press ⌨"⌨ and type **255** **⌨ENTER⌨** at the ENTER ITEM NUMBER prompt. Color Profile sets aside certain item numbers for special uses in report formatting. The message at the top of the screen now tells you: LAST ITEM LENGTH WAS 005. Page numbers use five characters (such as 00001), but you can limit the number of digits shown. The '' takes the place of the leftmost significant character in the page number. Type a 9 after the '' for each additional digit to the left that you want to print. For instance, ''9 can be used for reports that may use up to 99 pages. Leading zeroes are automatically suppressed from printing, so you may type as many 9s as you like up to the maximum of five.

You can also cause actual data from the first record on each page to print in the headings section. For instance, if you are formatting a report that lists all accounts with a status of ''C,'' you might not want to list the account status in every line. Position the cursor anywhere in the heading that you want an item's data to appear, and press ⌨!⌨. At the top of the screen, type the item

number whose data you want to show in the heading, and press $\boxed{\textbf{ENTER}}$. (You do not have to type leading zeroes.) When the cursor return to the report line, type an appropriate edit picture for the data.

When you have finished positioning heading information, press $\boxed{\downarrow}$ until the cursor moves to the next section of the screen.

Detail. In the DETAIL area, you can tell Color Profile the data from each record that you want to see on the report. To position data, move the cursor to the point at which you wish the data to appear, and press $\boxed{\uparrow}$. Do not use column 0. At the ENTER ITEM NUMBER prompt, type the number of the item from which to draw the data, and press $\boxed{\textbf{ENTER}}$.

The cursor returns to the report line. Draw an appropriate edit picture for the data on which you are reporting.

You can use the report format to print a form letter by specifying up to 132 detail lines on the preliminary screen. Set your margins to fit the paper you are using. On the format screen, draw edit pictures for such items as names and addresses, and type the letter. Avoid using column 0, and do not use '' or ! anywhere in the body of the letter. This lets you format a form letter of up to two pages.

When you have finished specifying detail, press $\boxed{\downarrow}$ until the cursor moves to the TOTALS area.

Totals. You can cause any data from the records being reported to be totalled on the report. Any type of item can be used to produce a total, provided that the item contains numbers. You might want to review the discussion of expressions, page 64, since the rules for using different item types in expressions also apply when you use totals in report formats.

Setting up and coordinating control breaks and levels of totals can be a complex process, as is using BEFORE and AFTER calculations in your report. If this is the first time you have used Color Profile, you may wish to step through the practice session for report formatting before proceeding with this explanation. See Practice Session 8: Preparing Reports, page 29, for an example of using control breaks, totals, and calculations in reports.

Move the cursor to the point at which you want a total to appear, and press ⌐″⌐. Just as "255 indicates an "accumulator" for page numbers, " followed by an item number "accumulates" data from the item you specify. At the top of the screen, type the item number being totalled, and press (ENTER). When the cursor moves back to the report line, draw an edit picture for the total, as if it were a math item (for instance, "9,999). If you are using control breaks, Color Profile adds data and prints a subtotal line after each control break group, using the format you set up in this section of the screen. A grand total of all groups will appear at the end of the report.

If you use several control break levels (for example, CITY within STATE within REGION), you can show the "level" number in total lines. Somewhere on the total line (other than in column 0), type **LEVEL**". The cursor moves to the ENTER ITEM NUMBER prompt at the top of the screen. Color Profile uses an item number 254 to keep track of the control break level. Type **254** (ENTER). The cursor returns to the format line. When your report is printed or displayed, it will show, for example, LEVEL 1 or LEVEL 2 at each set of subtotals or at the grand total line. Level 1 is the lowest control

Helpful hint: You can print totals of data even if the data you are totalling is not otherwise shown on the report. Specify the item number for data you want totalled, and place the edit picture somewhere on the total line.

break level. The highest level number is the level for grand totals. Refer to the diagram, page 94, showing how control break levels are used by Color Profile.

You can customize report formats to show actual descriptions of subtotals and grand totals on the lines at which they appear in the reports, rather than LEVEL 1, LEVEL 2, LEVEL 3, and so on. At the preliminary report format screen, find the number of control break levels you are using. For each control break, you need one total line format per level (including a grand total). Consider that one total line format may use more than a single line on the report if you are totalling several lengthy items.

At the NUMBER OF TOTAL LINES prompt, add the number of lines necessary for printing totals for each control break to the number of lines for the edit picture, and enter that number.

When the format screen is displayed, the TOTALS section contains the number of lines you specified. Move the cursor to column 0 in the first line of the TOTALS section. Column 0 is used for giving Color Profile special instructions about printing lines in a report. If column 0 is left blank, the line is always printed; however, if column 0 contains a number, the line is only printed if it matches the ''current'' control break level. (See the chart on the next page for a summary of column 0 uses.) On the first line, press ⬚1 and type a description of your most specific control break level (for example, **CITY TOTALS**). Skip a few spaces, and set up your total format, using ⬚″, item numbers, and 9s for the number of characters you want to display.

Move the cursor to column 0 of the line on which the next set of total lines begins.

Character in column 0 is:	Its meaning is:
space	Always prints the line.
*	Never prints the line.
0 - 9	Prints the line for the specified total. For use only in total lines.
S	Prints the line only when subrecord data is available.
M	Prints the line only once per master record.
Z	Prints the line when no subrecords exist.

At this line, press ⬚2⬚ for column 0, followed by a description of your next control break level (for instance, **STATE TOTAL**). Set up a total format for this control break level. Continue moving the cursor to column 0 of each new set of total lines and typing the next number in squence (1, 2, 3, 4, and so on) with a description of the type of total line you want and a format for it, including the grand total set.

When you print the report, each control break group's data is listed, after which the subtotal line(s) for that group prints. The subtotal line(s) consists of the description you entered for the subtotal plus the actual subtotal(s).

The following illustrations show one way of setting up a report format that prints subtotals with descriptions:

Report format screen:

```
REPORT "A" NAME [SALES              ]
ACCESS METHOD [B]
SORT? BEFORE [N] AFTER [N]

CONTROL BREAK LEVELS [3]

LINE WIOTH[080]  LINES/PAGE[066]
MARGIN: LEFT[006]TOP[003]BOT[003]

NUMBER OF LINES OF:
    HEADINGS [001]
    DETAIL    [001]
    TOTALS    [004]
NUMBER OF CALCULATIONS:
    BEFORE [000] AFTER [000]
```

Report information screen:

```
HEADINGS
0 . . . . 5 . . . 10 . . . 15 . . . 20 . . . 25 . . . 30 . . . 35 . . . 4
  REC. NO.   CUSTOMER      STOCK #  PRICE
DETAIL
0 . . . . 5 . . . 10 . . . 15 . . . 20 . . . 25 . . . 30 . . . 35 . . . 4
  !99999      !XXXXXXXXXXX !9-9999     !9,999.99
TOTALS
0 . . . . 5 . . . 10 . . . 15 . . . 20 . . . 25 . . . 30 . . . 35 . . . 4
1 CITY TOTAL            "9,999.99
2 STATE TOTAL           "9,999.99
3 REGIONAL TOTAL        "9,999.99
4 GRAND TOTAL           "9,999.99
```

Note that for the TOTALS, five lines could have been
specified. On the first four lines, only the control break
level and description would be necessary. The fifth line
would contain no number in column 0, and would show
only the edit picture for totals ("9,999.99). The fifth
line would be used as the picture for each level of totals
in the report. If you use several lines of totals, it is
easier to describe the total format only once instead of
several times.

Calculations. You can use reports to change stored data —"roll" monthly totals into year-to-date totals, clear items to 0, and accumulate data from subrecords to store in master records. (For details on subrecord features, see Subrecords, page 112.) These features involve using before and after calculations in a report format. Each calculation line may contain an expression and a list of items into which the result of the expression should be placed.

Although calculation lines are displayed on the format, they never print on reports. Instead, they tell Color Profile to perform calculations either before or after printing the record's data.

Always begin typing in column 1, and use only one expression per line. First, enter the item numbers into which you want a calculation result to be placed by pressing ⎡!⎤ plus the three-digit item number (leading zeroes included). Separate several items by leaving spaces or inserting commas between each item number.

After typing item numbers, press ⎡=⎤. Next, type the expression you want to use, following the rules for writing expressions. If you are using more than one before or after calculation, use ⎡↓⎤ to move the cursor to the next line. Continue entering any item numbers and expressions you need.

Remember these hints and rules when you use before and after calculations:

- Calculations are performed in the sequence in which they are listed. For instance, to roll THIS MONTH's data into a YEAR-TO-DATE item after printing a report, the first AFTER line should set the YEAR-TO-DATE item to itself plus the data in THIS MONTH. The next line should set the data in THIS MONTH to 0, so that a new monthly total can be started when you update records.

- Derived items can be changed by BEFORE calculations and printed on a report. However, the change is only temporary. When records are examined after printing a report, the original formula (defined at the DERIVED FROM prompt in the item definition) is used to derive the item's data. If data used for deriving the item's data has been changed by a report calculation, the dervied item's data may have changed when records are examined after printing the report.

- When you use calculation lines to change items used in the report's access method, make sure that you answer the SORT? AFTER prompt in the preliminary report format screen with Y. This rebuilds the access set after the report is printed to include any changes made by the report.

- You may use calculation lines to set text and numeric items to alphanumeric values. For example, if item 002 is Phone Number and you type the expression **!002** = " " all phone numbers will be erased from records listed in the report.

- By specifying 0 for heading, detail, and total lines and using only before and after calculations, you can perform calculations and change records without taking the time to print a report.

Suppressing lines. If you like, you can prevent any heading, detail, or total line from printing by placing an asterisk (*) in column 0 of the line. Calculation lines may also be prevented from functioning by using * in the same way. You may use this feature to insert notes in your report format without printing them on the actual report. * may also be used to allow for future changes in your report format.

You may also use line suppression to format a dual-purpose report. Consider a case in which you want to print two reports: they are identical except that an extra detail line is needed in one report. You can use one report format to print both reports. Define both detail lines, and when you want to print the shorter report, press ⟨ * ⟩ for column 0 of the detail line you don't need. Remove the * from the format when you want to print the longer version.

Storing the report format

When you have finished specifying your report, press ⟨ENTER⟩. The report format and information are stored in the /CTL file, and the Main Menu reappears.

Helpful hint: To practice setting up reports, see Practice Session 8: Preparing Reports, page 29.

Printing Reports

Once a report format is defined, you can use it to print a report on paper or display it on the screen. You may also send a report to a special file, called a *spool* file, and print it later using either Color Profile or Color SCRIPSIT. To print a report, load Color Profile. When the File Selection Menu is displayed, type the name of the file for which you wish to print a report, and press (ENTER). The Main Menu for the file appears.

Press (2) for PRINT A REPORT. The screen shows:

```
OPTION [1]
  1. TO PRINTER
  2. TO SCREEN ONLY
  3. TO DISK
  4. DISK TO PRINTER
  5. DISK TO SCREEN

REPORT [x]
  (OPTION 1-3)

DISK FILE NAME [          ]
              DRIVE [0]
  (OPTION 3-5)
```

The x above represents the report format with which you last worked. The cursor is at the OPTION prompt. You may choose from several options, each of which is described below.

Printing on paper

To print the report on paper, first make sure that your printer is properly connected and on line. If you are using a Line Printer VII for printing, make sure that you move the switch on the back of the printer to the 8-bit serial position. Set your printer to receive at 600 baud. If your printer cannot receive at 600 baud, see Appendix A: Program Defaults for detailed information about getting your printer ready.

Press (1) for TO PRINTER. The cursor moves to the REPORT prompt. Press the letter key for the report you

wish to print. The (OPTION 1-3) message lets you know
that you must specify a report for printing only if you
are using options 1, 2, or 3.

The cursor moves to the DISK FILE NAME area. Press
(ENTER) at this prompt. The report begins printing
and, at the same time, it scrolls up the screen. Only 32
characters are displayed on the screen, even though your
entire report prints on paper.

To stop printing in the midst of a report, press
(BREAK). The Main Menu is displayed.

**"Printing"
on the screen**

You may choose not to print your reports on paper but
only display them on the screen. To print a report on
the screen, press (2) for TO SCREEN ONLY at the
OPTION prompt. The cursor moves to the REPORT
prompt. Press a letter key for the report you wish to
see. The cursor moves to DISK FILE NAME area.
Press (ENTER).

The report begins scrolling up the screen. Only the first
32 characters of each line can be displayed.

You may change the rate at which the report is scrolled
by using the number keys. To freeze the display and
stop the report from scrolling, press (0). To resume
scrolling, press any other number key. The lower the
number key you press, the faster the report is scrolled.
For instance, pressing (9) scrolls the screen slowly,
and pressing (1) scrolls it very quickly. The default
setting for scrolling speed is 5.

To stop printing in the midst of the report, press
(BREAK). When you stop printing, or when the
report is completed, REPORT END – PRESS ANY KEY is
displayed. Return to the Main Menu by pressing any
key.

Sending a report to disk stores the print lines on your diskette in a ''spool'' file. Spool files store an image of each print line for later reference—a spool file contains an exact copy of what would normally be sent to the printer. Once a report is stored on diskette in a spool file, you may recall it at a later time and print it while you use another Color Profile feature or while using Color SCRIPSIT. Spool files may also be easily read by BASIC programs.

To send a report to disk, press ③ for TO DISK at the OPTION prompt. The cursor moves to the REPORT area. Press the letter key for the report you want to "print" on the diskette.

The cursor moves to the DISK FILE NAME area. You have up to eight spaces to type a name by which the report should be identified when it is stored as a spool file. If you use less than eight characters in the name, press ⬇. If all eight spaces are used, the cursor automatically moves to the DRIVE area.

At the DRIVE prompt, press a number key for the disk drive on which you wish to store the file. Make sure that you have a formatted diskette in the drive on which you store the file.

Press ⟨ENTER⟩ to begin saving the report as a spool file. If the name you specified is already in use, the screen clears and displays:

> SPOOL FILE ALREADY EXISTS.
> RE-USE IT (Y/N)?
> (PRESS CHOICE KEY)

Helpful hint: If you do not remember the name of the file you want to use, leave DISK FILE NAME blank. A list of existing spool files is displayed, and you may choose the file you need.

Press ⎡Y⎤ to use the name with the report you chose, or press ⎡N⎤ to cancel using the filename. After you cancel the operation, the Main Menu reappears. Otherwise, the report scrolls by on the screen as it is being stored on the diskette. When the report has been saved on disk, the Main Menu automatically reappears.

If you check the directory of the diskette on which the report is stored, you will see the filename you entered plus the extension /SPL. This extension lets you know which of your files are spool files.

Printing from a diskette onto paper

To print a report that is saved on disk as a spool file, press ⎡4⎤ for DISK TO PRINTER at the OPTION prompt. When the cursor moves to the REPORT prompt, press ⎡↓⎤, since you do not need to identify the report by letter, but only by its spool file name.

At the DISK FILE NAME prompt, type the name you used when you saved the report as a spool file, or leave the name blank to see a list of existing spool files. You do not have to type the extension (/SPL). If the name uses fewer than eight characters, press ⎡↓⎤. At the DRIVE prompt, press a number key for the drive on which your file is stored, and press ⎡ENTER⎤.

Once your entries are complete, the screen clears and then asks HOW MANY COPIES? [001]. Make sure that the printer is properly connected and ready to print. For more than one printed copy of the report, type the number of copies you need, and press ⎡ENTER⎤. For only one copy, press ⎡ENTER⎤.

The report begins printing, and the Main Menu is displayed. While the report is printing, you may choose any selection from the Main Menu and work on any part of Color Profile without disrupting printing. To stop printing at any time, use ⎡SHIFT⎤ ⎡—⎤, then ⎡CLEAR⎤. This command cancels printing but does not affect any other part of the Color Profile with which you may be currently working.

You may print a report stored as a spool file using Color SCRIPSIT. For details on printing spool files with Color SCRIPSIT, see the Color SCRIPSIT manual. Likewise, Color SCRIPSIT spool files may be printed using Color Profile. Insert the Color SCRIPSIT diskette containing the spool file you wish to print into one of your disk drives, and answer the printing prompts with the proper disk file name and drive number. The report prints, and you may continue using other Color Profile features simultaneously.

"Printing" from diskette onto the screen

This print option may be used to verify the contents of a file before you print the report on paper. To display on the screen a report saved in a spool file, press `5` for DISK TO SCREEN at the OPTION prompt. When the cursor moves to the REPORT prompt, press `↓`, since you do not need to identify the report by letter but only by its spool filename.

At DISK FILE NAME, type the filename you assigned to the report, and press `↓`, or leave the name blank to see a list of existing spool files from which you may choose. Press a number key for the drive on which the spool file is stored, followed by `@`. The report scrolls up the screen. You can control scrolling speed in the same way as you do with the TO SCREEN ONLY option. Only the first 32 characters of each line are displayed.

To stop the report before it has finished being displayed, press `BREAK`. The Main Menu is displayed. Otherwise, when the report is finished, REPORT END – PRESS ANY KEY is displayed at the bottom of the screen. Press any key to make the Main Menu reappear.

Helpful hint: To practice printing reports in different ways, see Practice Session 8: Preparing Reports, page 29.

Subrecords

This section of the manual explains an advanced feature of Color Profile—the creation and use of subrecords. A subrecord is a set of items attached to a record.

Before you learn about subrecords, we strongly recommend that you be thoroughly familiar with the features discussed so far in the manual and that you be comfortable using simple files.

Defining and Displaying Subrecords

The following example should give you a general idea of the nature of subrecords.

A file of authors must be created for an extensive home library. You want to create one record per author, containing the author's name, birthdate, and place of birth, plus the following information for each of the author's works in the library: title, publishing company, year this edition was published, and year of original publication.

How could you set up the file? You could create a separate record for each of the author's works and duplicate the name, birthdate, and place of birth in each record; or you could set up a record with the author's personal information plus perhaps five items for book titles, five for publishing companies, and so on. However, both of these methods are inconvenient and waste diskette space.

The most efficient way to handle this information is to set up two files that are hooked together. The AUTHOR/DAT file would contain one record per author with personal information. The AUTHOR/SUB file would contain multiple subrecords for each author with book title, publisher, etc. in each subrecord.

You would have two sets of information available to you at the same time. Subrecords help you set up the file so that you can enter all the necessary information without wasting diskette space.

Defining subrecord items

To define subrecords items, make sure the Main Menu for the file is displayed.

Press ⬛3⬛ for DEFINE/ALTER RECORD FORMAT. The item list for the file appears. At the ITEM TO BE SEEN/CHANGED prompt, type any number 131-253. Any item defined using an item number of 131-253 tells Color Profile that you are defining a subrecord item. Define the item as you normally would, giving it a

a type, length, description, and any other specification you like. Press ⟨**ENTER**⟩ to store a subrecord item; the item list reappears. Notice that six items have been added to the list other than the subrecord item you just defined.

Item 125—Subrecord Number. This item indicates which of several possible subrecords is currently being examined, changed, or reported. When this item contains 0, you are in creation mode for subrecords. When the item contains 1, the first subrecord attached to a master record is being examined. Changing it to 2 causes the second subrecord to be examined, and so on. This is a ''logical'' subrecord number.

Item 126—Number of Subrecords. This item indicates the number of subrecords attached to each master record.

Items 127-130—BS Link, SR NBR, UP Link, and DN Link. These items are for Color Profile's use in finding and storing subrecords.

Continue defining subrecord items, using numbers greater than 131. When you finish defining subrecord items, press ⟨**@**⟩ at the item list. The screen shows:

FILE REFORMAT REQUIRED.
PROCEED WITH IT? [N]

Press ⟨**Y**⟩ to reformat your file to include any new subrecord items.

If this is the first time you have defined subrecord items for this file, you are also asked for the drive number on which you wish to store the subrecord file. To store subrecord items, Color Profile creates another type of file (your filename plus /SUB), where all the information in subrecords is kept. Type the appropriate drive number, and press ⟨**@**⟩. The Main Menu is displayed.

Defining subrecords as derived items

You can define derived subrecord items, but use these hints to help you in deciding whether to define the item as a master record item or as a subrecord item:

- If the DERIVED FROM expression uses data from the master record only, define it with a master record item number.

- If the DERIVED FROM expression uses data from a subrecord only, define it with a subrecord item number.

- If needed, you may derive an item using both master and subrecord data. Such items should normally be defined with a subrecord item number but might need to be master record items, depending upon their uses in reports.

- You cannot derive an item in a master record to be equal to the sum of a certain item from all subrecords when the item is defined. Instead, use the calculation line feature in reports to roll data into a master record item from subrecords.

Using subrecord items in display formats

Subrecord items may be used in display formats along with normal items. You may place subrecord items anywhere on the screen, using the same technique for positioning as you learned in Designing Display Formats, page 72. You might, for convenience, want to place all subrecord items together in a section of the screen. (Subrecord items and master record items are often placed on the same screen.) Treat all subrecord items as if they were part of any normal display format for a record.

Be sure to include an input area (" plus an item number) for item 125 in your display format. Doing so allows you to select individual subrecords for display and to add more subrecords to a master record already in existence.

Manipulating Subrecord Data

Once you have defined subrecord items and included them in a display format, you may begin entering data into records.

Load Color Profile, and at the File Selection Menu, type the name of the file you want to use. When the Main Menu for the file appears, press ⎡1⎤ for VIEW/UP-DATE RECORDS.

The screen you requested is displayed, and the record number is 00000. Remember that when the record number is 00000, you are creating a new record.

Enter data for each item. Don't forget to press ⎡↓⎤ after typing data in each item's area. If you have no subrecord information for a particular record, leave the subrecord items blank. Press **⎡ENTER⎤** when you finish entering data. A record is created, and another blank record is displayed. As long as you do not enter data in subrecord items, you create only master records.

If you have subrecord data to enter in a record, type the data in the appropriate subrecord item areas. When you press **⎡ENTER⎤** to create the record, the screen does not clear. A master record is created, but you must press **⎡ENTER⎤** again to create a subrecord for the master record.

The second time you press **⎡ENTER⎤**, the subrecord is created and stored, and all data in subrecord items is cleared from the screen, leaving only the master record data. You are now in subrecord creation mode. To create another subrecord for a master record, enter more subrecord data, press **⎡ENTER⎤** when you finish. The subrecord number (item 125) is automatically maintained and updated by Color Profile. You may continue creating subrecords as long as you wish.

To stop creating subrecords for a master record, press **⎡SHIFT⎤** ⎡↑⎤ to move the cursor to the top line, and specify **0** for the record number. The entire record clears, and you are in master record creation mode again.

You may create more records and subrecords, or you may press `BREAK` to return to the Main Menu.

Entering data into existing records

To add subrecords to a master record already created, display the record you need. To go to the subrecord creation mode, change the subrecord number (item 125) to **0**, and press `ENTER`. The master record data remains on the screen, but any subrecord data is cleared, You may now enter data for a new subrecord. To store the new subrecord, press `ENTER`.

To quit adding new subrecords, move the cursor to the top line on the screen, and change the record number to **0**. Then, create a new record, add more subrecords to another record, or press `BREAK` to return to the Main Menu.

Examining subrecords data

Just as you may review or change information in a normal record, you may review and revise subrecord data. Press `1` at the Main Menu for VIEW/UPDATE RECORDS.

Type the number of the master record whose subrecords you want to review or change, and press `ENTER`. The master record is displayed with its first subrecord.

Pressing `SHIFT` `↑` and `↓` with the cursor at the record number area displays the previous or next record, according to the access method you are using. However, if the cursor is at any item other than the record number, `SHIFT` `↑` and `↓` cause the previous or next subrecord for that master record to be displayed. When there are no more subrecords to display, the computer beeps and displays NO SUCH SUBRECORD.

To examine specific subrecords, move the cursor to the subrecord number area, type a subrecord number, and press `ENTER`. The subrecord you requested is displayed.

Changing subrecords

Once a master record is displayed, move the cursor to the subrecord number area, type the number of the subrecord you need to change, and press ⟨ENTER⟩. When the correct subrecord is displayed, make any changes you wish, and press ⟨ENTER⟩. You may change data in either a master record or a subrecord: Color Profile checks to see which item's data changed. A message at the bottom of the screen tells you that either the record or the subrecord has been changed. Continue changing other records and subrecords, or press ⟨BREAK⟩ to return to the Main Menu.

Deleting records and their subrecords

To delete a master record containing subrecords, you must first delete the subrecords attached to it. Remember that ⟨SHIFT⟩ ⟨CLEAR⟩ is used to delete a displayed record. You may delete subrecords in the same way. Simply display the master record and the desired subrecord, and press ⟨SHIFT⟩ ⟨CLEAR⟩. Since master records cannot be deleted if they contain subrecords, only the subrecord you requested is deleted. When all subrecords for a master record are deleted, ⟨SHIFT⟩ ⟨CLEAR⟩ then deletes the master record.

When you delete subrecords, keep in mind that new subrecords are always added to the "end" of the subrecord chain. The only way to move a subrecord's position is to delete it and redefine it. It then becomes the last subrecord.

To return to the Main Menu after deleting subrecords and/or master records, press ⟨BREAK⟩.

Helpful hint: To keep track of the number of subrecords each master record contains, include item 126 in your display format. Define this item with a ! (instead of ") in your display format, since it is an item whose information is maintained by Color Profile and cannot be changed (a "display only" item).

Accessing and Reporting Subrecords

Accessing subrecords

Subrecords are not available for use as sequence items in an access method. However, you may use subrecord item numbers in a selection criteria expression. When Color Profile searches a file to find records meeting selection criteria and encounters valid data in a subrecord, it includes that subrecord's master record along with all its subrecords in the subset.

Specifying subrecords in report detail

Subrecords may be used in reports. The most typical kind of reporting with subrecords is a listing of each master record's data with all its subrecords' data.

To set up a report using master and subrecord data, specify two sets of detail lines in the preliminary screen. On the format screen's first set of detail lines, press (M) for column 0, and position the master record items you want. On the second set of detail lines, press (S) for column 0, and position the subrecord items you want.

When the report prints, a master record's data is printed once, followed by each of the master's subrecords. Without the M in column 0, the master record data prints before *each* subrecord listed. Remember the following rule when you use subrecords in reports: A detail line containing a blank in column 0 prints only once, regardless of the number of subrecords.

Specifying subrecords in report totals

Use subrecord item numbers in total lines in the same way as you use master record item numbers. Simply specify the item number in a total line on the format screen. Master and subrecord totals may be placed on the same line, if you wish.

Control breaks may be used with subrecord data as long as you use an access method other than A. Keep one point in mind, however: if the number of control break levels exceeds the number of sequence items in the access method you use, one subtotal line will print for *each* master record and a grand total after all the records are printed.

Normally, " plus an item number is used only in a total line. However, you may type ⎡ " ⎤ plus a subrecord item number in a detail line to generate a running total. Remember that " denotes an accumulator. As each subrecord prints, a running total is accumulated and prints on the same line. For example, if item 140 is a derived item with a set value of 1, you could use it in a detail line to keep track of the number of works in your library by a particular author, printing something like this:

```
MILTON, JOHN
    PARADISE LOST                  1
    SAMSON AGONISTES               2
    COMUS                          3

MORE, SIR THOMAS
    UTOPIA                         1

SHAKESPEARE, WILLIAM
    KING LEAR                      1
    THE TAMING OF THE SHREW        2
    ROMEO AND JULIET               3
    COLLECTED SONNETS              4
    JULIUS CAESAR                  5
```

This feature makes some control break levels unnecessary, since the last subrecord item listed for each master record contains an accumulated total of all subrecords attached to the master record.

Specifying subrecords in calculations

You may roll subrecord items' data into a master record item on a report by using calculation lines. Follow the same rules for preparing expressions as you do in normal report formatting, but note the special use of column 0.

Remember that placing a letter in column 0 of a detail line causes it to print only once per record. Placing a letter in column 0 of a calculation line causes the calculation to be performed only once per record. For

instance, assume that you want to roll the total of item 140 from all subrecords into their master record's item 004. The calculation lines would be:
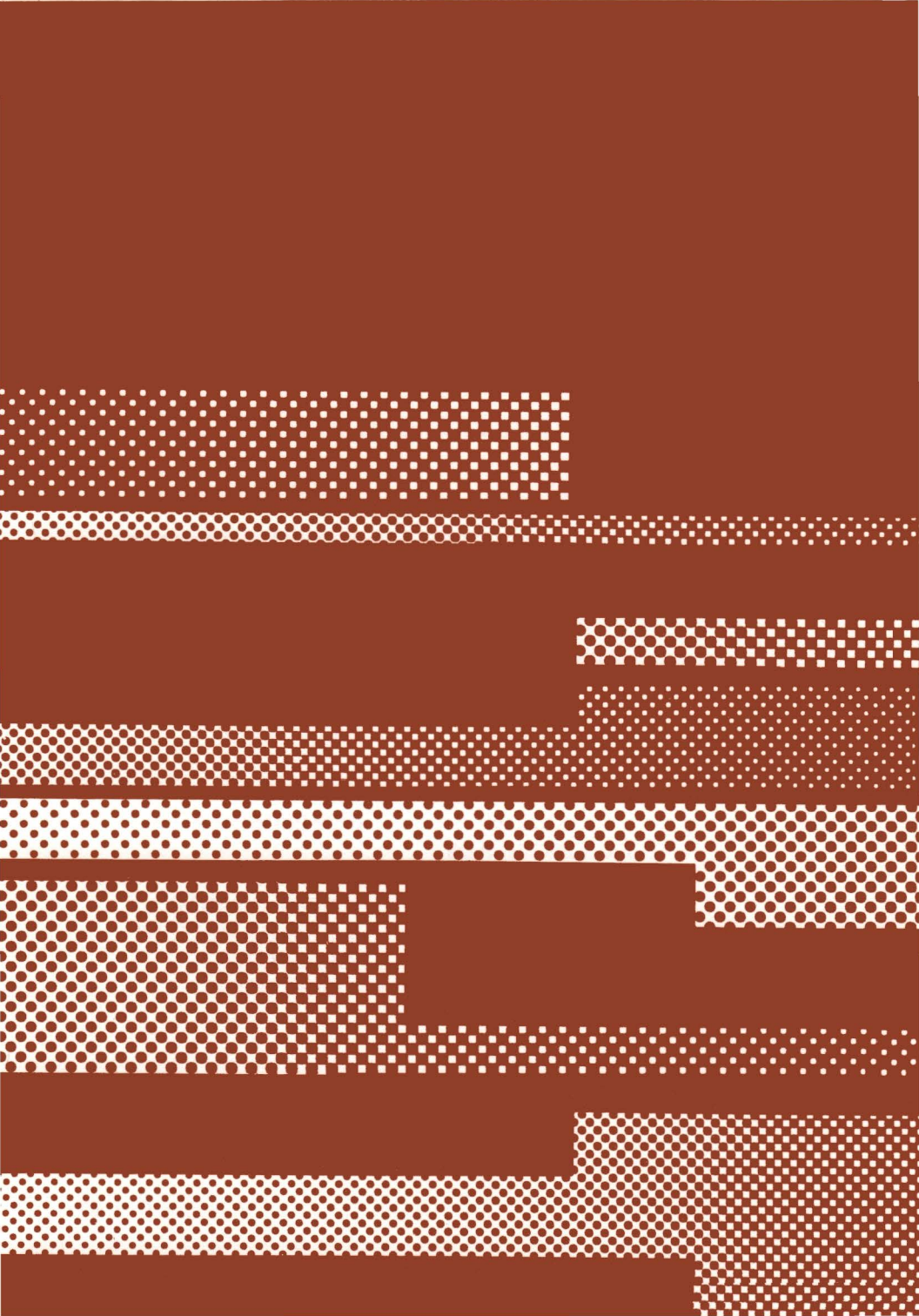
X!004 = 0
!004 = !004 + !140

The first calculation line sets item 004 to 0 once (because of the X in column 0). The second calculation line tells Color Profile to add item 140's data to item 004 each time a subrecord is lilsted for any master record.

Helpful hint: To practice creating and using subrecords, see Practice Session 9: Working on Subrecords, page 38.

Appendices

Appendix A: Program Defaults

When you receive Color Profile, it is prepared to handle the needs of an average user. However, some characteristics of the program may be changed either temporarily or permanently, depending upon your needs.

To change program defaults, load Color Profile. At the File Selection Menu, type the name of any of your files, and press `ENTER`. When the Main Menu appears, press `7` for DEFINE/ALTER PROGRAM DEFAULTS. The screen shows:

PROGRAM DEFAULTS

NUMBER OF DISK DRIVES	[1]
SORT DRIVE	[0]
FREE SPACE MONITOR	[0]
TIMED STOP BAUD	[0]
PRINT TIMING	[00174]
EXPRESSION MEMORY	[00500]
PRINT BUFFER SIZE	[00040]
KEYBOARD BUFFER SIZE	[00001]

(PLEASE CHECK MANUAL)

In the above screen, the message (PLEASE CHECK MANUAL) refers to this manual and the section you are now reading. Changing program defaults has an immediate effect on the way Color Profile performs, except for the PRINT BUFFER SIZE and KEYBOARD BUFFER SIZE. Any changes to these two defaults take effect the next time you run Color Profile.

To make changes, use `↓` to move the cursor from one default to the next, and type the changes. When you finish, press `ENTER` to store the new defaults permanently on your diskette; each time you use Color Profile, the changes are in effect. Press `BREAK` after making changes to store them only until you exit the program.

Number of disk drives	Color Profile is initially limited to using one disk drive, since certain functions can be very inefficient if Profile is allowed to search nonexistent drives. If you have more than one disk drive, you should change the default value to the number of drives you are actually using.
Sort drive	If you have very large files, there might not be enough RAM (random access memory) for sorting records when you create an access set. To solve this problem, Color Profile automatically sorts your records in batches, temporarily saves each batch on disk, and finally merges the batches to let you sort an almost unlimited number of records.
	The SORT DRIVE default is 0, the drive number on which Color Profile creates the temporary batch files before merging. If you prefer, you can change this number to 1, 2, or 3 to use a different drive (perhaps containing more free space) for storing batches.
Free space monitor	The FREE SPACE MONITOR default is set to 0. If you want to display the amount of free space in RAM anytime you are using Color Profile, change this number to 1. The amount of free space is then constantly displayed in the lower right corner of the screen. To eliminate the display, change its value to 0.
	When the displayed number drops below 700, you might run out of memory. If the number drops below 700, consider adding more memory or reducing your demands.
Timed stop baud	The TIMED STOP BAUD is set to 0. If you are not using a Radio Shack printer and are having problems with printing, change this number to 1. After changing the setting, Color Profile processes more slowly when you print.

Print timing
PRINT TIMING is set to 174. This default is used for controlling the speed at which data is sent to the printer. At a setting of 174, Color Profile sends data to the printer at the rate of 600 baud. If your printer is able to use a different speed, enter these values to speed up or slow down printing:

For this speed:	use this value:
120 baud	**916**
300 baud	**348**
600 baud	**174**
1200 baud	**87**
2400 baud	**41**

Expression memory
Color Profile uses part of RAM (random access memory) when it solves expressions for derived items or validation rules. It also uses RAM to "preload" as many key items used in access methods as possible. If you have a very large file, Color Profile might use so much room to hold key items that there is not enough room left to solve expressions.

This default represents the minimum amount of RAM to be reserved for solving expressions. If you have problems while using an access method and are using complex expressions, consider adding a few hundred to this number.

Print buffer size
The print buffer size default is 40. This buffer is a special part of memory that holds characters to be printed until the printer is ready to receive and print them. This lets Color Profile continue processing without constantly waiting for the printer.

If you need more memory for storing records, solving expressions, and so on, consider changing the default to a lower number. Also consider that if you lower the default value, Color Profile will run slower when you print.

If you notice on the free space monitor that you have several thousand bytes of available memory, you might want to increase the size of the print buffer. If you increase the size, consider these points:

- When you print a report, the Main Menu will be displayed before the report printing is completed. You may continue using Color Profile without waiting for the printer to complete the report.

- Pressing (BREAK) to stop printing in the midst of a report will not have an immediate effect: the report will continue printing until all characters residing in the print buffer have printed. To overcome this, you may press (SHIFT) (—) instead of (BREAK) if you need to stop printing only temporarily (to adjust the ribbon or paper, for example). To continue printing exactly at the point at which the printer stopped, press any key other than (CLEAR). If you press (CLEAR), only the line on which you stopped printing will be completed.

- When you print a report from a spool file, you will have fewer interruptions (as characters are read from the diskette and loaded into the print buffer) to other Color Profile options you are using simultaneously.

- There is less space available for sorting records in access methods.

- Finding records via an access method might take a bit longer than normal.

When you change the print buffer default, press (ENTER) to record the new default, exit Color Profile, and reload it to put the change into effect.

Keyboard buffer size   Throughout Color Profile, there are times when pressing
a key results in some type of delay before you can
continue working. For instance, when you type a
filename at the File Selection Menu, you must wait until
the Main Menu is displayed before you can make a
selection from it.

If you find yourself antincipating your next keystroke,
you might want to change the keyboard buffer default
from 1 to a greater number. This lets you "type ahead"
without waiting for Color Profile to display a screen or
perform a function. The number you enter at this default
represents the actual number of keystrokes you may type
ahead.

To put a new keyboard butter size into effect, press
(**ENTER**) to store the new size. Then, exit Color
Profile, and reload it.

Note: The (**SHIFT**) (**←**) option described in the discussion
of the print buffer size default does not make use of the
keyboard buffer. Its effect is immediate, and it does not
affect any keystrokes residing in the keyboard buffer.

Appendix B: Making a Backup Copy of Your Diskette

Diskettes sometimes become damaged with frequent handling and use. To protect your Color Profile program from accidental damage, you should use only *backups* of the diskette to run the program. A backup is a copy of the diskette that you make for day-to-day use. After you have made a backup copy, put the original Color Profile diskette away in a safe place.

To make a backup, you will need a blank diskette and the Color Profile diskette that came with this package. If you have one disk drive, follow the steps below. If you have more than one drive, see the backup instructions in the *Color Computer Disk System* manual that came with your computer.

1. Turn on the TV, the computer, and the disk drive, in that order. This copyright message should appear on your screen:

   DISK EXTENDED COLOR BASIC v.r.
   COPYRIGHT (C) 1981 BY TANDY
   UNDER LICENSE FROM MICROSOFT

   OK

   (In place of ''v.r.'', your screen shows the BASIC version and release numbers.) If you do not see this message, turn off the equipment, check the connections, and turn the equipment back on.

2. Open the drive door. Hold the blank diskette so that the square notch is on top. Insert the diskette into the drive and close the drive door.

3. Type **DSKINI0** and press ⌈ENTER⌋.

   Your computer now formats the diskette (prepares it for use). This takes about a minute. When the formatting is complete, the OK prompt appears on the screen.

4. Open the disk drive door and remove the formatted diskette. Insert the Color Profile diskette into the drive and close the drive door. Type **BACKUP 0** and press ⌜ENTER⌝. Be sure to leave a space before the 0.

5. In a few seconds, the computer asks you to insert the destination diskette. Remove the Color Profile diskette and insert the new disk you just formatted. Close the drive door and press ⌜ENTER⌝.

6. After a few more seconds, the computer asks you to insert the source diskette. Remove the formatted diskette and insert the Color Profile diskette. Close the drive door and press ⌜ENTER⌝.

7. The computer asks you to insert the destination diskette (the new formatted diskette) and the source diskette (the Color Profile diskette) several times until the backup process is completed. This takes about five minutes. When the backup is complete, the OK prompt reappears.

8. To make sure the backup operation was successful, type **DIR** and press ⌜ENTER⌝. Your display should look like the top of the next page.

PROFILE	BIN	2	B	12
DOS	BIN	2	B	3
DOS	BAS	0	B	2
ESTIMATE	BAS	0	B	1
CALC	BAS	0	B	1
SALES	CTL	1	A	1
SALES	DAT	1	A	1
PROJECTS	CTL	1	A	1
PROJECTS	DAT	1	A	1
INVOICE	CTL	1	A	1
INVOICE	DAT	1	A	1
ARTISTS	CTL	1	A	1
ARTISTS	DAT	1	A	1
ARTISTS	SUB	1	A	1
OK				

9. Remove the new backup from the disk drive.
Using a felt-tip pen, label the new diskette
Color Profile Backup. Never use a pencil or
ball-point pen; these can damage the diskette.
Store the original Color Profile diskette in its
protective sleeve and keep it in a safe place.
Use your new backup diskette whenever you
want to run the Color Profile program.

Note: If you have a blank, formatted diskette and do not want
to take the time to do a complete backup, you may copy
the necessary files for Color Profile to run by using
selection 5 of the Color Disk Operating System Menu,
described in Appendix C. For the source and destination
file names, use the following:

Source: DOS/BAS   Destination: DOS/BAS
Source: DOS/BIN   Destination: DOS/BIN
Source: PROFILE/BIN   Destination: PROFILE/BIN

Appendix C: The Color Disk Operating System Menu

When you press (BREAK) at the File Selection Menu to exit Color Profile, the screen displays another menu with several choices:

```
COLOR TRSDOS 01.07.00 11/82
BY R.G. KILGUS
CORP. 1982 TANDY CORP.
ALL RIGHTS RESERVED

1. EXIT TO BASIC
2. EXEC A PROGRAM
3. START CLOCK DISPLAY
4. DISK ALLOCATION MAP
5. COPY FILES
6. DIRECTORY
```

Exit to BASIC

To exit the program and return to BASIC, press (1). The DISK EXTENDED COLOR BASIC copyright message reappears. Remove the diskette(s) from the drive(s), and turn off the printer, computer, television, and disk drive(s).

Execute a program

Press (2) to return to the Color Profile program or to run another machine language program.

The screen shows:

```
EXECUTE A PROGRAM
ENTER PROGRAM NAME: [PROFILE/BIN]
```

Press (ENTER) to return to Color Profile. The File Selection Menu appears.

To run another program, type its filename (up to eight characters) and press (ENTER). If the filename contains eight characters, it is not necessary to press (ENTER).

**Start the
clock display**

Press ③ to start the clock display. Seconds, minutes, and hours are displayed at the upper right corner of the screen. The actual time is not displayed. The display shows only the amount of time elapsed. Press ① at the Color Disk Operating System Menu to turn off the clock display. Color Profile will not function with the clock display turned on.

Disk allocation map

Press ④ to display the amount of free and allocated space for each disk drive in your system. Always do this before creating a new file to ensure that there is adequate disk space for storing the file or printing it to disk. The following is an example of a Free Space Map.

FREE SPACE MAP

FREE SPACE DRIVE ZERO
    .... 6X66 7665 7665 XXX7 XXXX 981X
    43XX XX8X 32XX 923X 6651 112X 1234
    XXXX XXXX XXXX XXXX

FREE SPACE DRIVE ONE
    XXXX XXXX XXXX XXXX XXXX XXXX XXXX
    XXXX XXXX XXXX XXXX XXXX XXXX XXXX
    XXXX XXXX XXXX XXXX

(PUSH ANY KEY TO CONTINUE)

Each period (.) represents 2304 free bytes, or 1 granule, of available space. Each X represents 1 granule with no available space left. (In the example above, a disk is not residing in Drive 1, so there is no space available at all.) Each number represents that number multiplied by 256 bytes to obtain the number of allocated bytes.

After you determine how much free space you have, press any key to return to the Color Disk Operating System Menu.

Copy files

Use the information in this section to copy Color SCRIPSIT files from one disk to another. You can also use this information to copy a Color Profile file if the destination diskette is already initialized and formatted, ready to receive information.

The COPY command for Extended Color BASIC does not save the file size information, and the copy will be a nonstandard file. The COPY FILE option for the color disk operating system, on the other hand, does save the size information and the copy will be a standard file. This is why you may want to use the COPY FILE option to copy your Color SCRIPSIT files.

Press ⑤ to copy a file. The screen shows:

<div align="center">

COPY A FILE

SOURCE FILE NAME [   ]
EXTENSION [BIN]
DRIVE [0]

DESTINATION NAME [   ]
EXTENSION [BIN]
DRIVE [0]

IF DRIVES ARE THE SAME
ARE YOU USING DIFFERENT
DISKETTES (Y OR N)? [N]

USE UP/DOWN ARROWS
PRESS < ENTER > WHEN DONE

</div>

The cursor is at the SOURCE FILE NAME area. Type the name of the file you want to copy, and press ⬇. Next, type the extension (/CTL, /DAT, /SPL, or /SUB), and press ⬇. If the file you are copying is on Drive 0, press ⬇ again. To copy the file from another drive, type the number of that drive, and press ⬇. A formatted diskette or other diskette containing the Color Profile program must be in the other drive.

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Next, type a name (up to eight characters) for the copy
file at the DESTINATION NAME prompt. If you are
copying to the same disk on the same drive, type a
name different than the source file name. Press ⬇,
and enter the same extension as you did for the source
file. Press ⬇. If you are copying the file to Drive 0,
press ⬇ again. To copy the file to another drive, type
the number of that drive, and press ⬇.

If you are copying a file from one diskette to another
but have only one drive, type **Y** **(ENTER)**. At the
bottom of the screen, you see the message **LOAD SOURCE
DISKETTE**.

Insert the source diskette, close the drive door, and
press **(ENTER)**. After the file has been loaded into
memory, you are asked to load the destination diskette.
Insert the diskette onto which you wish to copy the file,
and close the drive door.

Press **(ENTER)**. (If you are copying a large file, you
may have to load the Source diskette again and repeat
this process.) When the file has been copied, the follow-
ing message appears **LOAD S Y S T E M DISKETTE**.

Insert the original diskette (which contains an operating
system), close the drive door, and press **(ENTER)**.

If you are copying from and to the same diskette, press
⬇. If you are using two drives, press ⬇. If you
make a mistake entering any information in this screen,
use the ⬆ or ⬇ keys to move to the desired item.
When you are finished entering the necessary informa-
tion, press **(ENTER)**. After the file has been copied,
the Color Disk Operating System Menu reappears.

Directory Press **6** to display the directory of a diskette. When
the screen changes, press **(BREAK)** to list the entire
directory of the diskette in Drive 0. To display the
directory of a diskette in another drive, press ⬇
twice, until the cursor moves to the DRIVE prompt.

Type the number of the drive whose directory you wish
to display, and press ENTER. The directory for that
that drive's diskette appears.

If you want to search for a particular file on a diskette,
you may enter a filename and press ⬇, follow it with
the extension name (if applicable), and press ⬇, and
finally type the drive on which you wish to search.
Press ENTER, and the Color Disk Operating System
will try to find the file you specified. If it cannot, no
filename will be displayed on the screen. If the file
exists on the diskette you specified, its name appears.

To return to the Color Disk Operating System Menu,
press BREAK.

Appendix D: Storage Capacity

If you have only one disk drive, you have no choice but to store all files on Drive 0. Since DOS and the Color Profile program occupy 18 grans of space, you will have only 50 grans available for your files. Simple files rarely use more than 2 grans for the /CTL file, leaving a maximum of 48 grans for a data file (approximately 110,000 bytes).

A simple name and address file, containing three 32-character items (name and address), an eight-digit numeric item (phone number), and a four-character item for other data will require 81 bytes of disk space per record. Therefore, a file containing up to 1364 records could be maintained on a single-drive system.

The following chart shows the way that Color Profile stores characters of the item types, with the number of bytes required for a specified number of characters:

Number of Characters	Number of Bytes Required	Item Type
4	3	Text
2	1	Numeric
2	1	Math
2	1	Date
5	2	Tally

Sort capacity

If you define your own access methods, you should allow for space on diskette for sorting. Generally, space required for sorting can be estimated using this formula: $N * KL$, where N is the number of records selected plus 1, and KL is the key length plus 2 bytes. Key length is determined by adding together the packed length of all items listed in the sequence key and adding 2 bytes to the result.

If this value is no more than the amount of free memory you usually have available, it can probably be sorted in memory. Otherwise, divide the amount by 1152 to

estimate the number of free grans of diskette space that will be required for sort work files.

For example, to sort the file used in the above example into phone number sequence, the key length would be 4 (for the phone number) plus 2, or a total of 6 bytes. If all 1364 records were selected for the sort, 8184 bytes would be required. This could easily be done in memory on a 32K Color Computer. However, it would require at least 8 grans of diskette space if there was not sufficient memory. Providing that much space on a single-drive system would reduce the maximum file capacity to 1136 records.

To sort 1000 records using a 32-character name for the key requires 26,026 bytes of RAM, or approximately 23 grans of diskette space. The largest sort possible could manage nearly 78,000 characters of data (780 records, using 100 bytes of key or 3900 records using 20 bytes of key, for example). This would require an entire free disk drive for the work files.

Spreading files onto more than one drive All files created by Color Profile can be copied from one diskette to another using the COPY command described in Appendix C. If you have two disk drives, the program's performance can be improved by arranging your files in this way:

Drive 0	Drive 1
DOS/BAS	YOUR/CTL
DOS/BIN	YOUR/DAT
PROFILE/BIN	YOUR/SUB

With this arrangement, you will only have to make routine backup copies of the diskette in Drive 1. (You should always keep an extra copy of the program diskette, but it need not be backed up regularly.) If your file becomes too large to fit on Drive 1, you need to rearrange files. If possible, keep the /CTL file on a diskette other than the one containing PROFILE/BIN,

since these two files are most often accessed. The file most likely to cause growth problems in the /DAT file. To determine its size, list the director of the diskette on which it resides. The only restrictions in rearranging files is that DOS/BAS and DOS/BIN must reside in Drive 0. All other files may be placed on any available drives.

If you are using three drives, you have more options as your files grow. When you first start, consider using your third drive as a sort drive.

As the data file grows, by leaving YOUR/DAT on Drive 1, but putting YOUR/CTL and YOUR/SUB on Drive 2, and using the drive with the most free space as a sort drive. If your /SUB file also grows too large, move the /CTL file to Drive 0.

If you are not using subrecords and think it may be possible that your /DAT file could require more than 156,672 bytes of storage space, consider the following change to your record format: define half of your record data as subrecord items. Plan on creating a maximum of one subrecord per master. Since subrecords are stored in a file other than /DAT, this can potentially double the amount of data that you can store. You will have to press (**ENTER**) an extra time when creating records, but the added capacity might be worth the extra effort.

Estimating
/CTL file size

The /CTL file will grow and require a more significant amount of disk space as you use your file. In addition to approximately 300 bytes of minimal control information, it also contains your record format, display formats, access methods, and report definitions. To make a rough estimate of your /CTL file size, you must estimate the sizes of all these.

For each item you define in the record format, allow 16 bytes plus the number of characters you use for the item name. Do not count trailing spaces.

A display format is stored in a somewhat compressed form. Every string of up to 128 duplicate characters requires only 2 bytes. Therefore, its size is 450 bytes *minus* all duplicate characters after the first two in any such string. For example, a 32-character line that contains NAME XXXXXXXXXXXXXXXXXXXXXXX requires only 9 bytes: the word, NAME, and the following space require 5 bytes, 2 bytes for the string of Xs, and 2 bytes for the spaces that fill the rest of the line. In addition, add 1 byte for each data item displayed on the screen.

The size of an access method is the length of its name plus one for each item in the key, plus the length of the selection expression, plus 2 bytes for every record included in the access set. When using very large files, this last item accounts for the majority of the space required for the /CTL file. For example, the access method for viewing a file of 1500 records in stock number sequence will require over 3000 bytes.

Report definitions require approximately 16 bytes, plus the length of the report name, plus the combined sizes of all report lines. Each line is 132 characters in length but is compressed in the same way as display formats. (A blank line requires 5 bytes.)

Since so many variables affect the size of the /CTL file, and since its size can affect the amount of space available for the data file, a program called ESTIMATE/BAS is provided on the program diskette to help you make estimates. It makes an approximate allowance for the sizes of all the things you might want to include in your file. You can also see the effect that additional disk drives would have on your maximum capacity.

CALC/BAS displays the number of bytes actually used by a file in existence. To run either program, type **RUN** *"name"* and press **ENTER**, where *name* is the name of the program you wish to run.

Appendix E: Character Priority List

The following list contains all characters in order of the priority Color Profile uses when it determines which character is "greater than" when comparing for validation, selecting for subsets, or sorting.

These characters are listed in ascending order: the ! character is "least"; the z character is greatest. (A blank space is less than any character.)

!	0	:	A	N
"	1	;	B	O
#	2	<	C	P
$	3	=	D	Q
%	4	>	E	R
&	5	?	F	S
'	6	@	G	T
(	7		H	U
)	8		I	V
*	9		J	W
+			K	X
,			L	Y
—			M	Z
.				
/				

Appendix F: Screen Messages

Following is a list of messages you may encounter while using Color Profile. Also listed are possible causes of error messages and, where a solution is not easily apparent, suggestions for correcting the problem.

ACCESS METHOD DOES NOT EXIST Either change the access method letter at the top of the menu to another letter, or select ⬚5⬚, and define an access method. Refer to this manual for instructions.

CAN'T EXTEND CONTROL FILE There is no more diskette space on the diskette containing the /CTL file. Therefore, Color Profile has no place to store the last thing you created or revised. Exit the program, and create more free space on the diskette before attempting further operations.

CHOICE IS INVALID OR PROTECTED Use item numbers between 2 and 124 for master record items and between 131 and 253 for subrecord items. Items 1 and 125-130 are used for control purposes by Color Profile and cannot be changed.

CONTROL FILE *filename*/**CTL NOT FOUND** You have made a typographical error in entering a filename, or the file does not exist. To create a new file, press ⬚Y⬚. To try again, press ⬚N⬚. Otherwise, exit the program, and make sure that you are using the correct diskettes. If the diskettes are correct, check the program defaults to make sure that the number of drives is correct for the system you are using.

CREATING SUB-RECORD FILE - ENTER DRIVE TO BE USED The changes you made to the record description included subrecord items for the first time. A subrecord file must, therefore, be created. Specify the disk drive you want to use.

DISK ERROR! This is similar to **WARNING - RECORD WRITE FAILED**, except that the problem occurred while Color Profile was trying to delete a master record. Use a backup copy of the diskette.

DISK FILE NOT FOUND Color Profile could not find the file from which you are trying to print. Try again, leaving the filename blank. Color Profile then displays a list of the spool files it finds.

FATAL I/O ERROR ON CONTROL FILE There has been a disk read or write error on the diskette containing the /CTL file. Your only option is pressing the reset button on the back of the Color Computer. Check the condition of your diskette and/or disk drives. Use backup(s) of your diskette(s).

FAILED VALIDATION TEST After you changed data in a record, Color Profile performed the calculations and tests you described in the item's validation expression. The result was not valid. Type a new value, or press (**BREAK**) and review or change the item's validation expression.

FAILED VALIDATION TEST After you changed data in a record, Color Profile performed the calculations and tests you described in the item's validation expression. The result was not valid. Type a new value, or press (**BREAK**) and review or change the item's validation expression.

FILE CYCLES DO NOT MATCH Color Profile maintains a counter near the beginning of all its files which is incremented every time you use a file. The /CTL file contains important information about the location of available space in the /DAT and /SUB files. Serious problems could occur if you did not use all three files the same number of times. The non-current file shows the lower number in the message. Exit the program, and make sure that you are using the same "generation" of all files.

FILE REFORMAT REQUIRED The changes you made to the record format require a change in the way data is stored in records on diskette. If this was intended, reply with **Y**. If your file contains a large number of

records, be prepared for a delay, since each record in turn is reformatted. If you do not have an up-to-date backup of the file, reply with **N**. The changes you made are then ignored.

filename/**DAT DATA FILE ALREADY EXISTS** If you are creating a new file with the same name as another, reply with **N**, and then remove the diskette containing the other data file. If Color Profile has detected a copy of the /DAT file because you only KILLed the /CTL file, you can reply with **Y**, and Color Profile will kill it for you.

filename/**DAT** or *filename*/**SUB NOT FOUND** Color Profile cannot find the /DAT or /SUB (if used) file. Exit the program, and check to make sure that you are using the correct diskettes. To check a diskette and make sure that it contains the correct /DAT or /SUB file, type **DIR** when the screen displays OK. If the diskettes are correct, check the program defaults to make sure that the number of drives is correct for the system you are using.

filename/*ext* **IS WRONG TYPE FILE** Color Profile stores a code at the beginning of every file it creates, making sure that the file is properly formatted. It cannot use files created by other programs. You might have made an error when RENAMEing or COPYing a file. Exit the program, and check your files and filenames.

FORMAT CONTAINS INVALID ITEM # At some point, you changed your record description and eliminated an item. However, this display format uses the item and has not yet been revised. Press ⌐BREAK⌐, and revise the format. When you revise it, Color Profile will automatically make a preliminary change for you by replacing the bracket or exclamation point for the bad item with a question mark (?). Simply press ⌐ENTER⌐ to record it, or make a further change.

FORMAT NOT CREATED YET You have never defined a format with the letter shown at the top of the screen. Select a different display format. Press (BREAK) to check your list of display formats.

FORMULA ERROR 001 Invalid character. Color Profile was expecting to find the beginning of an operans (for example, !003, 123.45, or "ABC") or an operator (+ , − , *, /) but found a character it does not recognize. You might have forgotten to enclose an alphanumeric literal in quotation marks. The first 32 characters of the formula containing the error are displayed at the bottom of the screen. Press any key to continue, or press (BREAK) to cancel the operation you are trying to perform. Return to the expression containing the error, and correct it before continuing.

FORMULA ERROR 002 Missing end quote. You did not place a quotation mark at the beginning or end of an alphanumeric literal. The first 32 characters of the formula containing the error are displayed at the bottom of the screen. Press any key to continue, or press (BREAK) to cancel the operation you are trying to perform. Return to the expression containing the error, and correct it before continuing.

FORMULA ERROR 003 Missing operator between operands. You forgot an operator (+ , − , *, /, AND, OR, NOT). Check for things like a missing space after a hyphen, and so on. The first 32 characters of the formula containing the error are displayed at the bottom of the screen. Press any key to continue, or press (BREAK) to cancel the operation you are trying to perform. Return to the expression containing the error, and correct it before continuing.

FORMULA ERROR 004 Missing digits in item number. An item number used in an expression did not contain 3 digits. The first 32 characters of the formula containing the error are displayed at the bottom of the screen. Press any key to continue, or press (BREAK)

to cancel the operation you are trying to perform. Return to the expression containing the error, and correct it before continuing.

FORMULA ERROR 005 Undefined item. You used an item number not defined in your record format. The first 32 characters of the formula containing the error are displayed at the bottom of the screen. Press any key to continue, or press (BREAK) to cancel the operation you are trying to perform. Return to the expression containing the error, and correct it before continuing.

FORMULA ERROR 006 Unpack error. This error might occur when a derived item is used in an expression and its "derived from" expression contains an error. This message is usually preceded by another formula error message. The first 32 characters of the formula containing the error are displayed at the bottom of the screen. Press any key to continue, or press (BREAK) to cancel the operation you are trying to perform. Return to the expression containing the error, and correct it before continuing.

FORMULA ERROR 007 Missing parentheses. The number of opening parentheses used in an expression does not match the number of closing parentheses used. The first 32 characters of the formula containing the error are displayed at the bottom of the screen. Press any key to continue, or press (BREAK) to cancel the operation you are trying to perform. Return to the expression containing the error, and correct it before continuing.

FORMULA ERROR 008 Missing operator. It is most likely that an operator is missing immediately before or after a parenthesis. The first 32 characters of the formula containing the error are displayed at the bottom of the screen. Press any key to continue, or press (BREAK) to cancel the operation you are trying to to perform. Return to the expression containing the error, and correct it before continuing.

FORMULA ERROR 009 Missing operand. There are not enough literals or item numbers for the number of operators used. The first 32 characters of the formula containing the error are displayed at the bottom of the screen. Press any key to continue, or press (BREAK) to cancel the operation you are trying to perform. Return to the expression containing the error, and correct it before continuing.

FORMULA ERROR 010 Nonnumeric operand. You are trying to calculate using an alphanumeric literal or item that does not contain a usable number. The first 32 characters of the formula containing the error are displayed at the bottom of the screen. Press any key to continue, or press (BREAK) to cancel the operation you are trying to perform. Return to the expression containing the error, and correct it before continuing.

HOW MANY COPIES When you print a report from disk to the printer, you may specify as many as 255 copies. They will all print without requiring any further action on your part.

INITIAL DISPLAY FORMAT DOES NOT EXIST Either change the format letter at the top of the menu to another letter, or select (4), and define a display format.

INVALID DRIVE NUMBER The disk drive number must be 0, 1, 2, or 3.

INVALID TYPE Select a type number from the list at the bottom of the screen. The number must be from 0 to 6.

INVALID OPTION You must select one of the print options listed on the screen (1-5).

ITEM IS TOO BIG TO GO HERE There is not enough room from the cursor's position to the end of the display area to show this item as an input area. Place the '' further to the left or up one line, or use ! and edit the item to fit in this space.

MASTER FILE READ ERROR A read error occurred while Color Profile was scanning the file. Use a backup copy of the diskette(s).

MASTER REC REWRITTEN The changes you just made to the master record are recorded on diskette.

NO DISK SPACE TO ADD THIS RECORD There is no more room in the /DAT file and no more free space on the diskette to use for expansion. If possible, delete a few existing records to create more space.

NO RECORDS REFERENCED BY CURRENT ACCESS Either change the access method at the top of the menu, or select ⑤ and rebuild the access set. If you still receive this message, there are no records meeting your selection criteria.

NO ROOM TO EXPAND DATA FILE The changes you made to your record description will cause each record to use more diskette space. If all records were expanded as much as they need to be, you would run out of diskette space. Therefore, none of the records are changed.

NO ROOM TO CREATE OR EXTEND SUB-RECORD FILE There is no room on the disk drive you specified for storing the /SUB file.

NO ROOM TO EXPAND DATA FILE The changes you made to your record description will cause each record to use more diskette space. If all records were expanded as much as they need to be, you would run out of diskette space. Therefore, none of the records is changed.

NO SUCH RECORD You typed a record number at the top of the screen that is higher than the highest number used, or the record you requested has been deleted. Try a different record number.

NO SUCH SUBRECORD The number you just entered for the subrecord number is greater than the number of subrecords currently attached to this record. Consider displaying item 126 on the screen so that you will know in advance the number of subrecords attached.

NOT A DEFINED ITEM NUMBER One of the numbers you typed in the sequence key is not defined in your record format. Delete the number, or replace it with a different number.

NOT A THREE DIGIT NUMBER Sequence items must be typed as three-digit numbers.

NOT A VALID DATE Either the first two digits of the numbers you just entered in a date item are not in the range of 01-12, or the third and fourth digits are not in the range of 01-31. Type a new date, or press ⟨ BREAK ⟩ to return to the Main Menu. You may use the ⟨ — ⟩ or ⟨ — ⟩ keys to overtype an incorrect digit.

NOT ALLOWED - ALREADY PRINTING You are trying to print a report on the printer, but you have already started a disk-to-printer operation. You may only print one report at a time on the printer. Either wait until the disk-to-printer operation is finished, or select option ⟨ 3 ⟩, and print the new report to diskette. You may then print it from disk later.

NOT ENOUGH MEMORY There is not enough RAM space to hold your record format, record work areas, current display format, current access method and set, and still have room for solving expressions. Following are some suggestions you might try:

- Shorten your record format by shortening or eliminating item names and validation and derived expressions or by eliminating items you do not need.

- Use a simple display format. It requires less memory to use two different display formats, each containing a lot of empty space, than it does to use a single format that is crowded.

- Use Access Method A, or shorten the access method you are trying to use. Fewer items in the key or a shorter expression can help. If you are using a very large file, change the selection criteria so that fewer records are selected. (Try using one access method for the first half of the file and another for the second half.)

- Change the program defaults to use smaller keyboard and/or print buffers.

NOT ENOUGH MEMORY TO SORT Change program defaults so that you use less memory for keyboard and print buffers, exit the program, and try again.

NOT LONG ENOUGH Text and numeric items must be at least one character in length. Math and derived items must be at least two characters in length if decimal places are not used. Otherwise, they must be at least two characters longer than the number of decimal places specified.

ONLY SPACES & DIGITS ALLOWED When listing sequence key items, use only three-digit numbers. If you wish, spaces may be placed between items. Do not use !.

PLEASE MAKE A CHANGE The item on which the cursor resides is in error. Type a new value, or press (BREAK) to return to the Main Menu.

PRE-LOADING KEYS Color Profile is loading as many keys as possible so that it can "find" records faster. It will use as much memory as it can on very large files. If you are using a very large file, you can stop the loading process and begin working immediately by pressing any key.

RECORD DELETED! When you pressed `SHIFT` `CLEAR`, the record you were viewing was deleted from your file. The record number assigned to it will be used again when you next create a new record.

RECORD *number* **created** A new record has been created. It has been assigned the number shown. This might have caused the file to be extended, or the number of a previously deleted record might have been re-used.

REPORT END - PRESS ANY KEY After the last line of the report you are "printing" on the screen has been displayed, this message appears. This lets you make a note of totals before continuing. Press any key, and the Main Menu appears.

REPORT NOT DEFINED The report you specified has not yet been defined. Select a different report, or press `BREAK`, and define another report format.

REPORT'S ACCESS NOT DEFINED Press `BREAK`, and check the report definition. The access method specified does not exist. Either change the access method specified, or define the access method.

SEQUENCE KEY ITEM NOT FOUND IN RECORD DESCRIPTION You might have forgotten to revise the access method description after deleting an item from the record format.

SKIPPED OVER DELETED RECORD(S) To find a valid record for displaying while using Access Method A, Color Profile has to read more than one record. This message simply explains the delay.

SORT FAILED-ACCESS SET UNCHANGED The sort could not be completed. As a result, the access set contains no records. Otherwise, the access method's definition was not changed. This message was probably preceded by another, more detailed message.

SPOOL FILE ALREADY EXISTS You are trying to print to a spool file, but a file already exists with the name you specified. If this was intentional, reply with **Y**. Color Profile then kills the old version of the file before creating the new one. If you intended to use a unique new name, reply with **N**. Then, try again, leaving the filename blank. Color Profile then lists the names of all existing spool files for your reference.

SPOOL FILE ALREADY IN USE You are trying to print a report to disk; however, the file you specified is currently being used by a disk-to-printer operation. Write the report to a different file, or wait until the disk-to-printer operation is completed before trying again.

SUB REC & MASTER REWRITTEN All changes made to both the master record and the current subrecord are now safely recorded on diskette.

SUB REC REWRITTEN The changes you just made to the current subrecord are recorded on diskette.

SUBREC *number* CREATED A new subrecord has been created and linked to the master record you are viewing. The number shown in the message indicates the total number of subrecords now attached to this master record. It may have caused the file to be extended, or it might have re-used the number of a previously deleted subrecord.

THIS FORMAT MUST BE REVISED Something is making this display format unusable. It could be that there is a problem with a derived item you are trying to display. Select a different display format, or press `BREAK`, and correct the problem. You might revise the format to eliminate the item causing the problem, or you might correct the item itself.

TOO SMALL, CHECK TOP,BOT,#HDGS! Check the number of lines per page. It is not long enough to print all margin lines at the top and bottom of the page, one complete set of the heading lines, and at least one line of detail information. Either increase the number of lines per page or reduce the number of heading or margin lines.

TOO LONG Text and numeric items may be up to 254 characters in length. Math and derived items can be a maximum of 16 characters, including the sign and possible decimal points.

WARNING - RECORD WRITE FAILED A disk I/O error occurred while Color Profile was trying to store information in the /DAT file. Before you do anything else, stop using this file. Use a backup copy of the diskette. If you continue to use this diskette, you will probably have trouble printing reports, creating access methods, and so on.

WARNING - SUB REC WRITE ERROR This occurs when there is a problem in adding a subrecord to a file. The most likely cause is that there is no room to expand the file. Exit Color Profile, and check for free space. If there is free space on the drive containing the /SUB file, use a backup of the diskette in that drive.

YOU MAY NOT UPDATE RECORDS. DEFINE RECORD FORMAT FIRST! Select ⟨ 3 ⟩ from the Main Menu. Refer to this manual for instructions.