



MAPS™

Management Aid for Planning Strategies

USER GUIDE

September 30, 1977



MAPS USERS MANUAL

Management Aid for Planning Strategies

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1.0 INTRODUCTION TO MAPS

Management Aid for Planning Strategies (MAPS) is a financial planning and reporting system offered by Ross Systems, Inc. With MAPS, an individual, working from a terminal in his own office, can prepare complex reports in a short period of time. MAPS can be used in planning, budgeting, financial analysis, expense reporting and numerous other areas that utilize a tabular report format to prepare and analyze data. The individual using MAPS needs no prior experience with computers and computer programming in order to prepare complex analysis, formatted in a professional manner and suitable for review by top management. Data from these "models" can be reported, saved and consolidated, eliminating much of the effort normally required to re-do reports when minor changes have been made. MAPS has the capability of incorporating BASIC-PLUS language statements as well as the MAPS language for the sophisticated user, developing complex models.

The person using the MAPS system need have no other manuals except this one. However, the experienced user will most likely wish to have Digital Equipement's BASIC-PLUS manual and RSTS-11 Systems User's Guide available for reference.

MAPS is available both in a BASIC-PLUS version and a BASIC-PLUS 2 version. Both versions are completely compatable with the exception of the single precision option available in BASIC-PLUS 2. Please contact Ross Systems for a detailed description of the benefits of one version over another, or reference Section 8.9.

2.0 USING THE SYSTEM

MAPS is a completely self-contained system which can be used via the formats and commands contained in this manual. The user of MAPS, however, must be able to use certain facilities on his particular computer system. Specifically, the user must be familiar with:

2.1 Logging into and off of the system.

2.2 Using the system text editor.

MAPS models and data files are ASCII text files which are created and changed using the text editor available on any system.

2.3 Deleting and listing files

2.4 Setting up batch jobs

Each computer installation will have available a system user guide which contains detailed instructions for each of these functions.

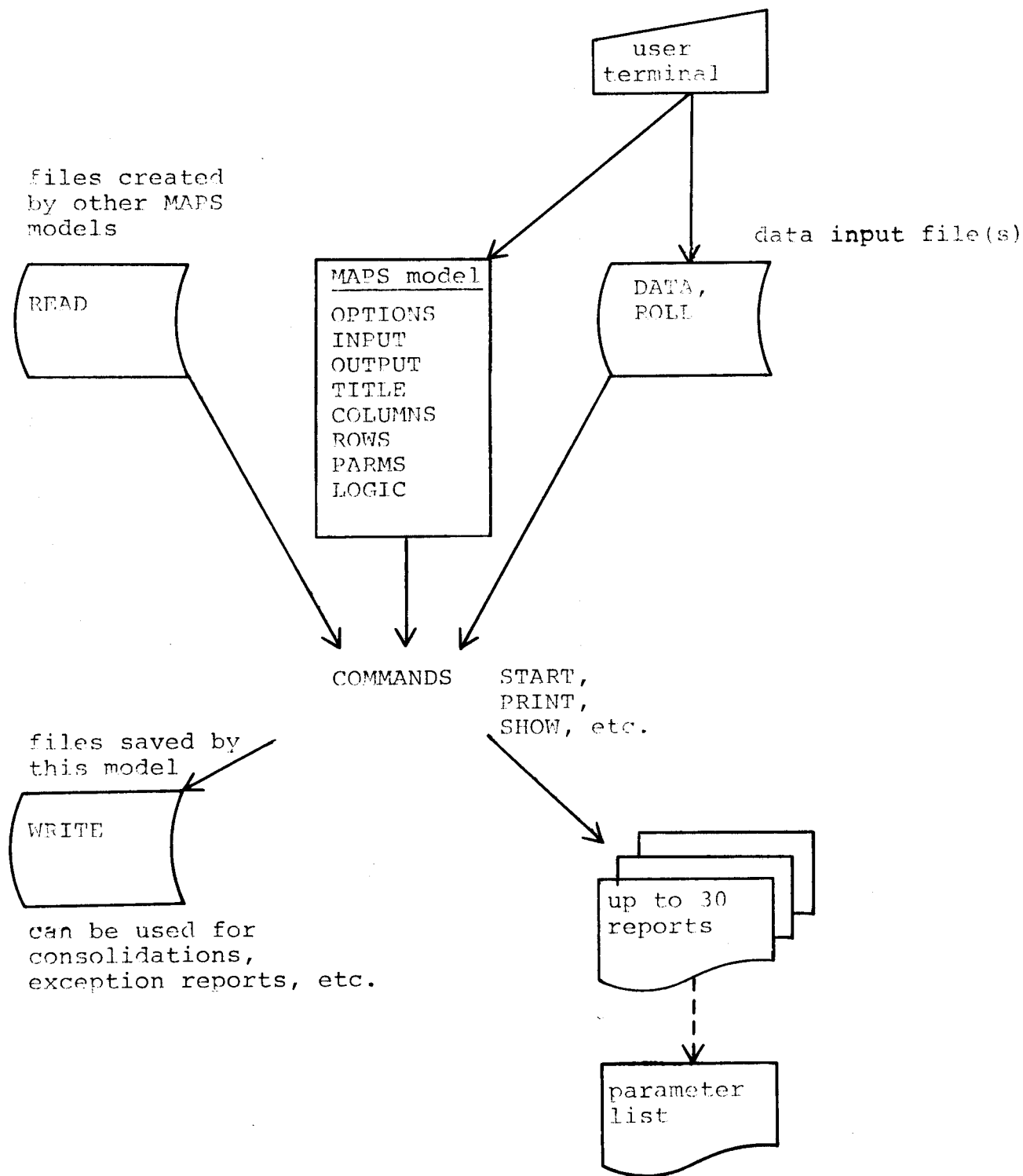
3.0 GENERAL DESCRIPTION

A MAPS model is divided into at most eight logical sections which describe to the computer the operations of the model. These sections operate independantly to enter data, generate file output, print various reports and compute results. These sections are described in more detail in section 5 of this manual. A brief description of these sections is included here:

- 3.1 OPTIONS - Defines to the model various print options available (such as terminal width). All of these options default to MAPS standards should they be omitted.
- 3.2 INPUT - Defines various methods of entering data into the model and can, optionally, include actual data to be used. A wide variety of data input methods are provided.
- 3.3 OUTPUT - Defines which data (if any) is to be saved by the model for future use, and defines the format of that data.
- 3.4 TITLE - Defines the titles and report specifications for the reports to be printed by the model. Multiple TITLE sections can be included in the model, if the user wishes to generate more than one report.
- 3.5 COLUMNS - Defines the number of columns to be used in the model and the format of their headings. Multiple COLUMNS areas can be defined so that multiple reports need not have the same column headings.
- 3.6 ROWS - Defines the row titles and the printing specifications for the rows in the matrix.
- 3.7 PARMS - Defines a set of individual parameters (or numbers) which can be used in the model and varied according to the needs of the user.
- 3.8 LOGIC - Defines the calculation rules which will use data defined and entered in the INPUT section, calculate it, and then print it according to the specifications of the model.

The examples in section 4 of this manual illustrate the use of each of these sections.

3.1 HOW MAPS WORKS



4.0 MAPS EXAMPLES

To start using MAPS, follow these simple steps:

1. LAY OUT THE REPORT you wish to prepare. You should define the row and column headings you wish to print on the report.
2. DEFINE ROWS AS INPUT OR CALCULATED
3. DEFINE THE CALCULATIONS
4. CREATE A FILE to contain your "model" using the Editor (see section 2).
5. TYPE YOUR MODEL into the file and save it using the editor.
6. CREATE DATA FILES, if they are used, and put in the initial set of data that you wish to work with.
7. RUN YOUR MAPS MODEL:
 - a. type MAPS
 - b. when CMD>? prints, type START model where 'model' represents the filename in which you entered your model.
 - c. when CMD>? prints, type LOAD to translate your logic (this only needs to be done once.)
 - d. when CMD>? prints, type PRINT to print the reports
 - e. finally, type STOP when the reports have been printed and MAPS has prompted with CMD>?
8. CHANGE ASSUMPTIONS if desired (either data or logic) and repeat step 7 above until the desired results are achieved.

4.1 DEMO EXAMPLE

The MAPS model on the following pages, DEMO, illustrates the use of MAPS to prepare a single Profit and Loss forecast. The forecast is prepared for a six month time period (January through June) and also includes the total forecast for the six months along with the total forecast expressed as a percentage of total sales. These elements are expressed as COLUMNS in the model and are defined in lines 850 - 930.

The elements which constitute the P&L for this demonstration are the ROWS, shown in lines 1000 - 1160. The ROWS contain the normal P&L elements as well as a row expressing net income as a percentage of total sales. The rows and columns of a MAPS model together constitute the 'matrix' of values which is the normal unit that MAPS works with.

In any forecasting or reporting situation, some data elements such as "sales" will be input, while others like "cost of sales" will be calculated. The INPUT section of the model (lines 130 - 170) defines how data will be entered and, in this case, contains the actual forecast data. Data for ROWS in a MAPS model always refer to the row number, and for this example, data for rows 1010, 1020 and 1095 is entered via the INPUT section.

It is sometimes useful to define parameters, which are simply factors used in calculations. The PARMS section (lines 1400 - 1430) defines these parameters. For example, PARM1410 is defined as the "cost of sales percent" for widget sales. This will be multiplied by the widget sales to get its cost of sales dollars. One of the benefits of a computer model is the ability to ask "what if" questions, changing certain data values, and quickly seeing the results. To facilitate this, PARM1430 is "prompted" during each run of the model. That is, the user will be asked to enter a "manufacturing variance percentage" each time the model is run.

The LOGIC section contains the calculation rules used to compute values of the matrix from data in the INPUT section and parameters prompted or defined in the model. The LOGIC section is defined in lines 2500 - 2840. As an example, line 2570 computes manufacturing variance (ROW1060) by multiplying the total cost of sales (ROW1050) by PARM1430, which is the variance percent.

Finally, in constructing the forecasting model, certain other considerations were necessary. First, various printing options (e.g. how to print negative numbers) and the terminal width needed to be specified. These were done in the OPTIONS section (lines 20 -50). Second, it was decided to save the calculated results for future use. These results might be used for consolidation with another forecast, or might be used by a second model -- for instance, a balance sheet model could extract total sales in order to compute accounts receivable. The OUTPUT section (lines 500 - 510) tells where to save the results. Finally, the TITLE section describes the report headings.

```

10!
*****
***** MAPS DEMONSTRATION *****
*****

20!
OPTIONS                                `GIVES PRINT OPTIONS

30!   NEGATIVE L
40!   WIDTH 118                          `TERMINAL WIDTH
50!   MARGINL 3                          `LEFT MARGIN
55    FORM
60!   USE

100!
110!  *** COMMENTS LINE ***
120!
130!
INPUT                                    `GIVES INPUT DATA TYPES

140!  DATA
150!  1010 10000 11000 9000 15000 16000 19000 `DATA FOR ROW 1010,SALES
160!  1020 3000 3R3500 4000 *            `DATA FOR ROW 1020, SALES
170!  1095 500 *                          `DATA FOR ROW 1095,
                                           SELLING EXPENSE

500!
OUTPUT                                    `RESULTS TO BE SAVED

510!  WRITE SAVE1                          `SAVE ALL DATA IN FILE "SAVE1"
700!
TITLE                                    `MAPS REPORT DEFINITION

710!  DATE                                  `PRINT THE DATE
720!  TIME                                  `PRINT THE TIME
730!  LEFT "PREPARED BY ROSS SYSTEMS, INC." `A LEFT JUSTIFIED TITLE
740!  LEFT " "
750!  "A B C M A N U F A C T U R I N G C O., I N C."
760!  " "
770!  "FINANCIAL FORECAST"
780!  " "
850!
COLUMNS                                  `REPORT COLUMN DEFINITIONS

860!  9      " JAN " "_____"              `9 REPRESENTS COLUMN WIDTH
870!  9      " FEB " "_____"
880!  9      " MAR " "_____"
890!  9      " APL " "_____"
900!  9      " MAY " "_____"
910!  9      " JUN " "_____"
920!  10     " TOTAL " "_____"
930!  7 D1 %% " % " "_____"
1000!
ROWS                                      `DEFINES REPORT ROWS

1010!  $$      "SALES"
           " WIDGETS"                    `NOTE MULTIPLE ROW HEADINGS
    
```


*** NOW COMPUTE LAST COLUMN (% OF SALES) ***

2800! COL6=SUM(0%,5%) FOR ROW=1010 TO 1150
2805! FOR ROW=1010 TO 1150
2810! COLL=COL6/ROW1030(6)
2820! COLL=COLL*100
2830! NEXT ROW
2840! ROW1160(6)=(ROW1150(6)/ROW1030(6))*100

'COMPUTE TOTAL \$
'DIVIDE TOTAL COLUMN BY SALES
'CONVERT TO %
'END OF CALCULATIONS
'RECOMPUTE TOTAL %

MAPS

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CMD>? START DEMO

CMD>? PRINT

START OF INPUT SECTION

ENTER VALUE FOR MFG. VARIANCE (%)

? .2

START OF OUTPUT SECTION

DATE: 12-Aug-77

TIME: 08:07 AM

PREPARED BY ROSS SYSTEMS, INC.

A B C M A N U F A C T U R I N G C O . , I N C .

FINANCIAL FORECAST

	JAN	FEB	MAR	APL	MAY	JUN	TOTAL	%
SALES								
WIDGETS	\$ 10,000	\$ 11,000	\$ 9,000	\$ 15,000	\$ 16,000	\$ 19,000	\$ 80,000	78.8%
HANDLES	3,000	3,500	3,500	3,500	4,000	4,000	21,500	21.2%
GROSS SALES	13,000	14,500	12,500	18,500	20,000	23,000	101,500	100.0%
COST OF SALES								
AT STANDARD	6,950	7,775	6,775	9,775	10,600	12,100	53,975	53.2%
MFG. VARIANCES	1,390	1,555	1,355	1,955	2,120	2,420	10,795	10.6%
TOTAL COST	8,340	9,330	8,130	11,730	12,720	14,520	64,770	63.8%
GROSS MARGIN	4,660	5,170	4,370	6,770	7,280	8,480	36,730	36.2%
PERIOD EXPENSES								
SELLING	500	500	500	500	500	500	3,000	3.0%
ADMINISTRATIVE	1,300	1,450	1,250	1,850	2,000	2,300	10,150	10.0%
R & D	600	600	600	660	726	799	3,985	3.9%
TOTAL EXPENSES	2,400	2,550	2,350	3,010	3,226	3,599	17,135	16.9%
PROFIT BEFORE TAXES	2,260	2,620	2,020	3,760	4,054	4,881	19,595	19.3%
PROVISION FOR TAXES	1,085	1,258	970	1,805	1,946	2,343	9,407	9.3%
NET INCOME	1,175	1,362	1,050	1,955	2,108	2,538	10,188	10.0%
PERCENT OF SALES	9.0%	9.4%	8.4%	10.6%	10.5%	11.0%	10.0%	-%

NOTE: INTERCORPORATE ALLOCATION IS NOT SHOWN
SINCE THE NET EFFECT IS ZERO

4.2 DEMO2 EXAMPLE

The following pages illustrate another sample MAPS model which is used for preparing a monthly cost center report. This sample illustrates the following major points:

1. The use of MAPS to prepare elaborate, professional report formats.
2. One technique for accumulating year-to-date information through the use of a "Roll file" (see section 5.2), such that each month's information is added to the end of the file in a simple fashion.

The input to the model consists of monthly budget data (in file BUDGET), which is typically prepared once at the beginning of the year, and monthly actual data (in file ACTUAL) which is entered each month via the text editor.

Note in the listings of the input files ACTUAL and BUDGET, that the * lines indicate the column number into which the data is read. For example, the first line in ACTUAL is an * 5 which directs the data into column 5 (year-to-date actual). The text editor can be used to change these column indicators to direct the data into the appropriate columns. The following rules are used on the input file:

ACTUAL - All prior months actual data is directed cumulatively into column 5 (year-to-date), while the current month actual is directed into column 1.

BUDGET - All prior months budget figures are directed cumulatively into column 4 (year-to-date budget), the current month budget figures go into column 0, and all future month budgets go into column 8 (the annual plan column).

The definition of the report is done via a CLEFT statement in the TITLE section (see section 5.4.5) to account for the top line of the column headings and to center it over the column headings. Also multiple line column headings are used to precisely define the heading text over the indicated width of the column. The specific width of the columns as well as the number of decimal places to print are also defined in the column section.

The LOGIC section is used to compute all of the row totals. In addition, the following columns are calculated:

COL2 = Actual divided by plan (variance %)

COL3 = Plan minus actual (variance amount)

COL4 = Current month plan plus old YTD plan

COL5 = Current month actual plus old YTD actual

COL6 = Same as COL2, but for YTD

COL7 = Same as COL3, but for YTD

COL8 = Total year plan = month plan + YTD plan + remaining plan

COL9 = Forecast = Remaining plan + YTD actual

10! OPTIONS

30! WIDTH 118
 40! form
 70! MARGINB 4
 80! NEGATIVE L
 90!

INPUT

100! ROLL ACTUAL CUM 'ACTUAL RESULTS ARE STORED MONTHLY
 105! ROLL BUDGET CUM
 110!

TITLE

120! DATE
 130! TIME
 140! "M E N L O P A R K M A N U F A C T U R I N G C . O ."
 150! " "
 160! "EXPENSE PERFORMANCE REPORT"
 170! " "
 180! "DEPARTMENT 02"
 190! " "
 200! CLEFT "*--- C U R R E N T M O N T H ---* *--- Y E A R T O D A T E ---* -- TOTAL YEAR ---"
 210!

COLUMNS

220! 10 " PLAN " " -----"
 230! 10 " ACTUAL "
 " -----"
 240! 6 D1 " ACT/"
 " PLN%"
 " -----"
 250! 10 " VARIANCE"
 " (-WORSE)"
 " -----"
 260! 12 " PLAN "
 " -----"
 270! 11 " ACTUAL "
 " -----"
 280! 6 D1 " ACT/"
 " PLN%"
 " -----"
 290! 10 " VARIANCE"
 " (-WORSE)"
 " -----"
 300! 11 " ANNUAL "
 " PLAN "
 " -----"
 310! 9 " CURRENT"
 " FORECST"
 " -----"

ROWS

999! B1 HD "SALARIES"

```
1000!      " EXECUTIVE SALARIES"
1010!      " OTHER SALARIES"
1015!  O- A1 PR " * TOTAL SALARIES"
1017!  HD      "PAYROLL BASED EXPENSES"
1020!      " RETIREMENT FUNDS"
1030!      " WORKMANS COMP"
1040!      " GROUP LIFE INSUR"
1050!      " FICA TAXES"
1060!      " UNEMPLOYMENT INSUR"
1065!  O- A1 PR " * PAYROLL BASED EXP"
1067!  HD      "OTHER EXPENSES"
1070!      " OFFICE SUPPLIES"
1080!      " PROFESSIONAL FEES"
1090!      " OCCUPANCY EXPENSE"
1100!      " UTILITIES"
1110!      " ADVERTISING"
1120!  O- A2 PR " * TOTAL OTHER EXPS"
1130!  U= PR   " ** TOTAL EXPENSES"
2000!
```

LOGIC

```
2010!  SEGMENT DEMO2L
2020!  FOR COL= 0% TO 8%
2030!      ROW1015=ROW1000 + ROW1010
2040!      ROW1065=SUM(1020%,1060%)
2050!      ROW1120=SUM(1070%,1110%)
2060!      ROW1130=ROW1015 + ROW1065 + ROW1120
2070!  NEXT COL
2080!  FOR ROW=1000% TO 1130%
2095!      COL2=COL1/COLO*100 IF COLO <> 0
2110!      COL3=COLO-COL1
2115!      COL4=COL4 + COLO
2120!      COL5=COL5 + COL1
2140!      COL6=COL5/COL4*100 IF COL4 <>0
2150!      COL7=COL4-COL5
2170!      COL8=COL8+COLO+COL4
2180!      COL9=COL8-(COL4)+(COL5): COL9=ROUND(9%,0%)
2200!  NEXT ROW
```

DATE: 12-Aug-77
 TIME: 08:13 AM

MENLO PARK MANUFACTURING C. O.

EXPENSE PERFORMANCE REPORT

DEPARTMENT 02

	--- CURRENT MONTH ---				*--- YEAR TO DATE ---*				-- TOTAL YEAR --	
	PLAN	ACTUAL	ACT/ PLN%	VARIANCE (-WORSE)	PLAN	ACTUAL	ACT/ PLN%	VARIANCE (-WORSE)	ANNUAL PLAN	CURRENT FORECAST
SALARIES										
EXECUTIVE SALARIES	1,200	1,347	112.3	-147	4,850	5,025	103.6	-175	8,450	8,625
OTHER SALARIES	2,000	2,076	103.8	-76	8,011	8,087	100.9	-76	14,011	14,087
* TOTAL SALARIES	3,200	3,423	107.0	-223	12,861	13,112	102.0	-251	22,461	22,712
PAYROLL BASED EXPENSES										
RETIREMENT FUNDS	30	26	86.7	4	150	139	92.7	11	240	229
WORKMANS COMP	10	13	130.0	-3	38	41	107.9	-3	68	71
GROUP LIFE INSUR	5	11	220.0	-6	20	32	160.0	-12	35	47
FICA TAXES	-	-	-	-	-	-	-	-	-	-
UNEMPLOYMENT INSUR	-	-	-	-	-	-	-	-	-	-
* PAYROLL BASED EXP	45	50	111.1	-5	208	212	101.9	-4	343	347
OTHER EXPENSES										
OFFICE SUPPLIES	100	92	92.0	8	400	392	98.0	8	700	692
PROFESSIONAL FEES	1,000	1,121	112.1	-121	3,987	4,108	103.0	-121	6,987	7,108
OCCUPANCY EXPENSE	75	68	90.7	7	300	293	97.7	7	525	518
UTILITIES	175	210	120.0	-35	700	794	113.4	-94	1,225	1,319
ADVERTISING	-	-	-	-	-	-	-	-	-	-
* TOTAL OTHER EXPS	1,350	1,491	110.4	-141	5,387	5,587	103.7	-200	9,437	9,637
** TOTAL EXPENSES	4,595	4,964	108.0	-369	18,456	18,911	102.5	-455	32,241	32,696

10! * 4 'ALL PAST MO.S PLANS ARE ROLLED INTO COL4

20! 1000 1200
30! 1010 2011
40! 1020 40
50! 1030 8
60! 1040 5
70! 1070 100
80! 1080 1000
90! 1090 75
100! 1100 125
110! 1100 50

200! * 4
210! 1000 1200
220! 1010 2000
230! 1020 50
240! 1030 10
250! 1040 5
260! 1070 100
270! 1080 1000
280! 1090 75
290! 1100 125
300! 1100 50
400! * 4

410! 1000 1250
420! 1010 2000
430! 1020 30
440! 1030 10
450! 1040 5
460! 1070 100
470! 1080 987
480! 1090 75
490! 1100 125
500! 1100 50

510! * 0 'CUR MO. PLAN IS ROLLED INTO COLO

520! 1000 1200
530! 1010 2000
540! 1020 30
550! 1030 10
560! 1040 5
570! 1070 100
580! 1080 1000
590! 1090 75
600! 1100 125
610! 1100 50

700! * 8 'ALL FUTURE MO.S PLANS ARE ROLLED INTO COL8

710! 1000 1200
720! 1010 2000
730! 1020 30
740! 1030 10
750! 1040 5
760! 1070 100
770! 1080 1000
780! 1090 75
790! 1100 125
800! 1100 50

10! * 5 'ALL PAST MO.S ACTUALS ARE ROLLED INTO COL5
20! 1000 1234
30! 1010 2011
40! 1020 47
50! 1030 8
60! 1040 5
70! 1070 100
80! 1080 1000
90! 1090 75
100! 1100 125
110! 1100 112
200! * 5
210! 1000 1133
220! 1010 2000
230! 1020 36
240! 1030 10
250! 1040 5
260! 1070 100
270! 1080 1000
280! 1090 75
290! 1100 125
300! 1100 47
400! * 5
410! 1000 1311
420! 1010 2000
430! 1020 30
440! 1030 10
450! 1040 11
460! 1070 100
470! 1080 987
480! 1090 75
490! 1100 125
500! 1100 50
510! * 1 'LATEST MO. ACTUAL IS ADDED TO END OF FILE
AND ROLLED INTO COL1. NEXT MONTH, THIS
LINE IS CHANGED TO * 5, TO PUT IT INTO YTD

520! 1000 1347
530! 1010 2076
540! 1020 26
550! 1030 13
560! 1040 11
570! 1070 92
580! 1080 1121
590! 1090 68
600! 1100 134
610! 1100 76

4.3 DEMO4 EXAMPLE

This example is designed for the more experienced MAPS user who has some knowledge of BASIC. It also illustrates MAPS capability of printing row headings in the middle of a page.

DEMO4 illustrates a typical problem of reporting monthly, quarterly and year-to-date information as well as trend reports. This information is reported in an identical format for a number of entities (departments).

General Model Structure

The model is structured with the first 12 columns (0 - 11) representing monthly budgets, the second 12 columns representing monthly actuals, and the last 9 columns representing the month, quarter and year information. 3 different reports can be printed from this model including 1) Year-to-date performance, 2) Monthly actual expenses and 3) Monthly budgets.

Data for budgets and actuals is stored on a monthly basis and is read into the monthly columns via a data and a roll file.

PARM4510 contains the calendar month number (1-12) of the current month being processed. It is prompted from the terminal.

Calculation of monthly figures (reference file line numbers).

5560 - The variable D% contains the current month number (from PARM4510). The current month actual data (column D%+11) is moved into the printing column for current month actual from its input column.

5570 - The current month budget (column D%-1) is moved to the printing column.

5590 - YTD actual is computed as the sum of columns 12 (the first month actual) thru D%+11 (the current month).

5600 - YTD budget is computed in a similar fashion.

5620 - Compute variable D1% as the starting month number of the current quarter less 1 using integer arithmetic. I.E., if the current month was MAY (5),

$$D1% = ((5-1)/3)*3$$

$$D1% = (4/3)*3$$

$$D1% = 3$$

5630 - Using D1%, compute QTD actual as the sum of the starting month of the quarter thru the current month. I.E., for MAY, sum columns D1%+12 (15) thru D%+11 (16).

10! OPTIONS

20! WIDTH 132
 30! NEGATIVE R
 40! S-ZERO R
 50! VIRTUAL
 60! REPEAT T
 70! MARGINB 5
 80! MARGINT 5
 100! INPUT
 110! DATA FFPROMPT 'DATA FILE FOR BUDGETS
 120! ROLL FFPROMPT CUM 'ROLL FILE WITH ACTUALS (MONTH BY MONTH)
 200! OUTPUT
 210! WRITE FFPROMPT 'SAVED RESULTS
 400!

TITLE 'REPORT 1

410! CDEF 1 24 32
 415 RHAFT 26
 420! DATE
 430! TIME
 440! "D E M O N S T R A T I O N C O M P A N Y , I N C."
 450! LEFT " "
 460! "MONTHLY, QUARTERLY, YEAR-TO-DATE PERFORMANCE"
 470! PROMPT
 480! "AS OF JUNE 30, 1976"
 490! LEFT " "
 510!

TITLE 'REPORT 2

520! CDEF 1 12 23
 530! DATE
 540! TIME
 550! "D E M O N S T R A T I O N C O M P A N Y , I N C."
 560! LEFT " "
 570! "ACTUAL EXPENSES TREND REPORT"
 580! PROMPT
 590! "AS OF JUNE 30, 1976"
 600! LEFT " "
 700!

TITLE 'REPORT 3

710! CDEF 1 0 11
 720! DATE
 730! TIME
 740! "D E M O N S T R A T I O N C O M P A N Y , I N C."
 750! LEFT " "
 760! "MONTHLY BUDGET REPORT"
 770! PROMPT
 790! LEFT " "
 1000!

COLUMNS

1010! 11 "JAN " "-----" 'COLO STARTS MONTHLY BUDGETS
 1020! 11 "FEB " "-----"
 1030! 11 "MAR " "-----"

1040! 11 "APR " "-----"
 1060! 11 "MAY " "-----"
 1070! 11 "JUN " "-----"
 1080! 11 "JUL " "-----"
 1090! 11 "AUG " "-----"
 1100! 11 "SEP " "-----"
 1110! 11 "OCT " "-----"
 1120! 11 "NOV " "-----"
 1130! 11 "DEC " "-----"
 1150! 11 "JAN " "-----"
 1160! 11 "FEB " "-----"
 1170! 11 "MAR " "-----"
 1180! 11 "APR " "-----"
 1190! 11 "MAY " "-----"
 1200! 11 "JUN " "-----"
 1210! 11 "JUL " "-----"
 1220! 11 "AUG " "-----"
 1230! 11 "SEP " "-----"
 1240! 11 "OCT " "-----"
 1250! 11 "NOV " "-----"
 1260! 11 "DEC " "-----"
 1300! 11 "*-----" "ACTUAL "
 1310! 11 "----MONTH----" "BUDGET "
 1320! 10 "-----*" "VARIANCE "
 1330! 11 " *---CURREN" "ACTUAL "
 1340! 11 "T QUARTER-T" "BUDGET "
 1350! 11 "O-DATE---*" "VARIANCE "
 1360! 11 " *-----Y" "ACTUAL "
 1370! 11 "EAR-TO-DATE" "BUDGET "
 1380! 11 "-----*" "VARIANCE "
 3000!

'COL12 STARTS MONTHLY ACTUALS

'COL 24 STARTS REPORT 1

ROWS

3010! HD B1 "INCOME"
 3020! "101-INCEPT. INC."
 3040! "102-INCEPT. INC., ADJ"
 3050! "105-CSA INC."
 3060! O- A1 " TOT. INCEPT. INC."
 3070! "100-PREV. INC."
 3080! "104-RENEW. INC."
 3090! "106-PREV. INC.-CSA"
 3100! O- A1 " TOTAL LEASE INC."
 3110! "109-REBATE INC."
 3120! "110-ASSET SALE GAIN"
 3130! "190-ADMIN INC."
 3140! "191-RENT INC."
 3150! "192-TIRE SALE"
 3160! "193-LATE CHG."
 3170! "194-INT. INC."
 3180! "196-ADVISE FEES"
 3190! "199-MISC."
 3200! "202-EMP. CAR RENT"
 3210! O- " TOT. OTHER INC."
 3220! B1 U= "TOTAL INCOME"
 3230! B2 HD "EXPENSE DIRECT"

3240!		"300-INTEREST-CNB,CNC"
3250!		"302-INTEREST-OTHER"
3260!		"311-INTEREST-OTHER"
3270!	O- A1	" TOTAL INTEREST"
3280!		"906-AGENT COMM."
3290!		"899-SALES, DRAW DEFEC."
3300!		"902-COMMISSION/BONUS"
3310!	O- A1	" TOTAL COMMISSION"
3320!		"900-SALARY"
3330!		"903-BONUS"
3340!	O- A1	" TOTAL SALARY"
3350!		"908-FICA/FUTA"
3360!		"909-SUI"
3370!		"910-EMPL. BENEFITS"
3380!		"912-PROFIT SHARING"
3390!	O- A1	" TOTAL BENEFITS"
3400!		"905-EMP. AGENCY FEES"
3410!		"907-TEMPORARIES"
3420!		"913-EDUC & SEMINARS"
3430!		"914-MOVING EXP."
3440!	O- A1	" TOT OTHER COMP."
3450!	O- A1	" TOTAL COMPENSATION"
3460!		"200-DEPR-EXP, STD"
3470!		"201-DEPR.-EXP SHORT TERM"
3480!	O- A1	" TOTAL DEPREC."
3490!		"401-MAINT. EXP STD"
3500!		"402-MANT. EXP. SHORT TERM"
3510!		"407-MISC. VEH. EXP."
3515!		"409-TAXES,LOSSES,MISC."
3520!		"410-LICENSE"
3530!	O- A1	" TOTAL MAINT."
3540!		"411-COURTESY DEL."
3550!		"412-PICK UP"
3560!	O- A1	" TOTAL VEH PRE DEL"
3570!		"959-EMPL. AUTO"
3580!		"960-TRAV./ENTER."
3590!	O- A1	" TOTAL TRAVEL"
3600!		"985-BAD DEBT EXP."
3610!	U= B1	"TOTAL DIRECT EXPENSE"
3620!	HD B2	"ADMIN. EXPENSE"
3630!		"965-ADVERTISING"
3640!		"962-TEL & TEL"
3650!	B1	"974-UTILTIES"
3660!		"975-RENT"
3670!		"976-PROP. TAX"
3680!	O- A1	" TOTAL OCCUP."
3690!		"952-DEPR.-OFF FURN"
3700!		"953-DEPR-LEASEHOLD"
3710!	O- A1	" TOTAL DEPREC."
3720!		"942-INSURANCE"
3730!	B1	"970-DUES,PUB,SUBSC."
3740!		"971-OFFICE SUPPL."
3750!		"972-POSTAGE"
3760!		"973-OUTSIDE SVC"
3770!	O- A1	" TOTAL OFFICE,SUP,SVC"

```

3780!          "954-DEPR.-DP"
3790!          "979-DP EXP."
3800!   O- A1  "   TOTAL DP."
3810!          "980-AUDITING"
3820!          "981-RECORD,FILE,NOTARY"
3830!          "982-LEGAL"
3840!   O- A1  "   TOTAL LEG & AUDIT"
3850!   O- A1  "TOTAL ADMINISTRATION"
3860! B2 HD    "OTHER EXPENSE"
3870!          "992-MISC. BUS. TAX"
3880!          "993-DONATIONS"
3890!          "994-COLL. FEES/CRED.SVC"
3900!          "995-MISC."
3910!          "996-EXTRAORDINARY"
3920!   O- A1  "TOTAL OTHER"
3930!   B1 U=  "TOTAL EXPENSES"
3990!   B1    O- U= "PROFIT BEFORE TAX"
4500!
    
```

PARMS

```

4520!   "MONTH TO PROCESS"=PROMPT          '1=JAN, 12=DEC
5500!
    
```

LOGIC

5510! SEGMENT BD03L

5530!'

```

*****
*** LOGIC FOR MTD,QTD,YTD (REPORT 1)      ***
*****
    
```

```

5540!   D%=PARM4520          'MONTH NUMBER TO PROCESS (1=JAN, 2=FEB, ETC.)
5550!   FOR ROW=0% TO L%    'DO FOR ALL ROWS
5560!   COL24=M(ROW,D%+11%) 'EXTRACT CURRENT MONTH ACTUAL, PUT IN COL24
5570!   COL25=M(ROW,D%-1%)  'CURRENT MONTH BUDGET
5580!   COL26=COL24-COL25   'CURRENT MONTH VARIANCE
5590!   COL30=SUM(12%,D%+11%) 'YTD ACTUAL (SUM MONTHLY AMTS)
5600!   COL31=SUM(0%,D%-1%)  'YTD BUDGET
5610!   COL32=COL30-COL31   'YTD VARIANCE
5620!   D1%=(D%-1%)/3%*3%   'COMPUTE FIRST COLUMN OF QTR,
                               (0, 3, 6, OR 9)
5630!   IF D1%>0% THEN
           COL27=SUM(D1%+12%,D%+11%) ELSE
           COL27=COL30      'QTD ACTUAL
5640!   IF D1%>0% THEN
           COL28=SUM(D1%,D%-1%) ELSE
           COL28=COL31      'QTD BUDGET
5650!   COL29=COL27-COL28   'QTD VARIANCE
5680! NEXT ROW
5890!
    
```

```

*****
*** COMPUTE ALL ROW TOTALS          ***
*****
    
```

```
5900! FOR COL=0% TO W%
5910!  ROW3220=SUM(3020%,3200%)
        \ROW3060=SUM(3020%,3050%)
        \ROW3100=SUM(3070%,3090%)
5920!  ROW3210=SUM(3140%,3200%)
        \ROW3610=SUM(3240%,3600%)
        \ROW3450=SUM(3280%,3430%)
5930!  ROW3270=SUM(3240%,3260%)
        \ROW3310=SUM(3280%,3300%)
        \ROW3340=SUM(3320%,3330%)
5940!  ROW3390=SUM(3350%,3380%)
        \ROW3440=SUM(3400%,3430%)
        \ROW3480=SUM(3460%,3470%)
5950!  ROW3530=SUM(3490%,3520%)
        \ROW3560=SUM(3540%,3550%)
        \ROW3590=SUM(3570%,3580%)
5960!  ROW3850=SUM(3630%,3830%)
        \ROW3680=SUM(3650%,3670%)
        \ROW3710=SUM(3690%,3700%)
5970!  ROW3770=SUM(3730%,3760%)
        \ROW3800=SUM(3780%,3790%)
        \ROW3840=SUM(3810%,3830%)
5980!  ROW3920=SUM(3870%,3910%)
        \ROW3930=ROW3610+ROW3850+ROW3920
5990!  ROW3990=ROW3220-ROW3930 IF ROW3220 <> 0
6000! NEXT COL
8000!
      REM **** END OF MODEL ****
```

DATE: 12-Aug-77
 TIME: 09:19 AM

DEMONSTRATION COMPANY, INC.

MONTHLY, QUARTERLY, YEAR-TO-DATE PERFORMANCE
 DEPARTMENT 01
 AS OF JUNE 30, 1976

-----MONTH-----				*---CURRENT QUARTER-TO-DATE---			*-----YEAR-TO-DATE-----*		
ACTUAL	BUDGET	VARIANCE		ACTUAL	BUDGET	VARIANCE	ACTUAL	BUDGET	VARIANCE
			INCOME						
110	115	5-	101-INCEPT. INC.	110	115	5-	375	385	10-
40	35	5	102-INCEPT. INC., ADJ	40	35	5	200	190	10
-----	-----	-----		-----	-----	-----	-----	-----	-----
150	150	-	TOT. INCEPT. INC.	150	150	-	575	575	-
1,050	1,000	50	104-RENEW. INC.	1,050	1,000	50	3,940	3,649	291
-----	-----	-----		-----	-----	-----	-----	-----	-----
1,050	1,000	50	TOTAL LEASE INC.	1,050	1,000	50	3,940	3,649	291
450	425	25	193-LATE CHG.	450	425	25	1,800	1,700	100
650	650	-	194-INT. INC.	650	650	-	2,750	2,650	100
-----	-----	-----		-----	-----	-----	-----	-----	-----
1,100	1,075	25	TOT. OTHER INC.	1,100	1,075	25	4,550	4,350	200
-----	-----	-----		-----	-----	-----	-----	-----	-----
2,300	2,225	75	TOTAL INCOME	2,300	2,225	75	9,065	8,574	491
-----	-----	-----		-----	-----	-----	-----	-----	-----
			EXPENSE DIRECT						
100	100	-	300-INTEREST-CNB,CNC	100	100	-	400	400	-
640	630	10	302-INTEREST-OTHER	640	630	10	2,500	2,511	11-
5	5	-	311-INTEREST-OTHER	5	5	-	20	20	-
-----	-----	-----		-----	-----	-----	-----	-----	-----
745	735	10	TOTAL INTEREST	745	735	10	2,920	2,931	11-
50	45	5	906-AGENT COMM.	50	45	5	200	180	20
100	95	5	899-SALES, DRAW DEFEC.	100	95	5	400	380	20
-----	-----	-----		-----	-----	-----	-----	-----	-----
150	140	10	TOTAL COMMISSION	150	140	10	600	560	40
680	690	10-	900-SALARY	680	690	10-	2,350	2,260	90
45	45	-	903-BONUS	45	45	-	180	180	-
-----	-----	-----		-----	-----	-----	-----	-----	-----
725	735	10-	TOTAL SALARY	725	735	10-	2,530	2,440	90
-----	-----	-----		-----	-----	-----	-----	-----	-----
875	875	-	TOTAL COMPENSATION	875	875	-	3,130	3,000	130
-----	-----	-----		-----	-----	-----	-----	-----	-----
1,620	1,610	10	TOTAL DIRECT EXPENSE	1,620	1,610	10	6,050	5,931	119
-----	-----	-----		-----	-----	-----	-----	-----	-----

ADMIN. EXPENSE

DATE: 12-Aug-77
 TIME: 09:30 AM

D E M O N S T R A T I O N C O M P A N Y , I N C .

ACTUAL EXPENSES TREND REPORT
 DEPARTMENT 01
 AS OF JUNE 30, 1976

	JAN	FEB	MAR	APR
INCOME				
101-INCEPT. INC.	90	80	95	110
102-INCEPT. INC., ADJ	20	40	100	40
TOT. INCEPT. INC.	110	120	195	150
104-RENEW. INC.	900	1,100	890	1,050
TOTAL LEASE INC.	900	1,100	890	1,050
193-LATE CHG.	450	450	450	450
194-INT. INC.	600	800	700	650
TOT. OTHER INC.	1,050	1,250	1,150	1,100
TOTAL INCOME	2,060	2,470	2,235	2,300
EXPENSE DIRECT				
300-INTEREST-CNB,CNC	100	100	100	100
302-INTEREST-OTHER	610	620	630	640
311-INTEREST-OTHER	5	5	5	5
TOTAL INTEREST	715	725	735	745
906-AGENT COMM.	50	50	50	50
899-SALES, DRAW DEFEC.	100	100	100	100
TOTAL COMMISSION	150	150	150	150
900-SALARY	500	500	670	680
903-BONUS	45	45	45	45
TOTAL SALARY	545	545	715	725
TOTAL COMPENSATION	695	695	865	875
TOTAL DIRECT EXPENSE	1,410	1,420	1,600	1,620

ADMIN. EXPENSE

 * SUMMARY OF OPTIONS SECTION *

Option to be Specified	Keyword	Section
printing negative numbers	NEGATIVE	5.1.2
terminal page width	WIDTH	5.1.3
suppressing commas in numbers	NOCOMMA	5.1.4
printing zero values	ZERO	5.1.5
suppressing zero rows or columns	S-ZERO	5.1.6
repeating titles and headings	REPEAT	5.1.7
left margin	MARGINL	5.1.8
top margin	MARGINT	5.1.9
bottom margin	MARGINB	5.1.10
terminal form feed characteristic	FORM	5.1.11
lines per page	LINES	5.1.12
printing row numbers on reports	TEST	5.1.13
printing a parameter list	PLIST	5.1.14
accessing the matrix from core or disk	VIRTUAL	5.1.15
making your model executable	LOAD, USE	5.1.16
arithmetic precision	PRECISION	5.1.17

* OPTIONS SECTION *

5.1.1 In this section you may specify the way MAPS handles certain report characteristics and other features.

Only the OPTIONS line is required. It must be the first line in your model.

None of the OPTIONS commands need be specified. Each defaults to a value which is appropriate for general MAPS use.

5.1.2 NEGATIVE L OR R OR P

Default: NEGATIVE R

This option allows you to specify a print format for negative numbers:

NEGATIVE L	Left-hand minus	-	36
NEGATIVE R	Right-hand minus		36-
NEGATIVE P	Parentheses	(36)

5.1.3 WIDTH NNN

Default: WIDTH 72

Indicates page width in characters. From this, MAPS determines how many columns will fit on a page.

5.1.4 NOCOMMA

Default: Commas will be printed.

Suppresses the printing of commas in numbers greater than 1,000. This option is useful when you need to minimize column width on your report.

5.1.5 ZERO B or - or 0

Default: ZERO -

Causes zero values in the matrix to be printed as blank (), dash (-) or zero (0).

5.1.6 S-ZERO R or C or B

Default: None of the above.

S-ZERO R suppresses printing of any row whose matrix elements (i.e., columns) are all zero.

S-ZERO C suppresses printing of any column whose matrix elements (i.e., rows) are all zero.

S-ZERO B suppresses both zero rows and zero columns.

Note: This option may be selectively overridden for individual rows and columns. Refer to the PP option in the ROWS and COLUMNS sections.

5.1.7 REPEAT T or R or C or A

Default: None of the above.

REPEAT T repeats title and column headings for each new page of a report, whether or not the new page is due to row or column overflow.

REPEAT R repeats row headings for each column overflow page that is printed. This occurs when your model contains more columns than will fit on a page.

REPEAT C repeats column headings for each row overflow page that is printed. This occurs when your model contains more rows than will fit on a page.

REPEAT A includes all of these options.

5.1.8 MARGINL n

Default: MARGINL 0

Indicates the number of spaces allowed for a left page margin.

