

W I N S L O W

Business Planner/Analyst  
for use with LOTUS 1-2-3

from

WINSLOW SOFTWARE

Division of Winslow Associates, Inc.

70 Stonington Place  
Marietta, GA 30068

U S E R M A N U A L

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Release 1.31

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Company: \_\_\_\_\_

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## TABLE OF CONTENTS

## I. INTRODUCTION

How to Use This Manual	I-3
A Note on LOTUS 1-2-3	I-4
Worksheet Overview	I-4
Principal Statements	I-4
Subsidiary Schedules	I-5
Summary Reports	I-5

## II. GETTING STARTED

Equipment	II-1
Make a Copy of the Planner/Analyst Files	II-1
Diskettes	II-3
Printer	II-3

## III. INITIALIZING THE WORKSHEET III-1

## IV. PLANNER/ANALYST PRIMER

Project Data	IV-1
General Assumptions and Reference Data	IV-2
User-Modifiable Assumptions	IV-3
Plan Years	IV-3
Interest Assumptions	IV-3
Financing Terms	IV-4
Depreciation	IV-5
Purchases Financed	IV-6
Minimum End-of-Period Cash	IV-7
Accelerated Debt Reduction	IV-7
% Receivables + Inventory for LOC	IV-8
Balance Sheet Days	IV-8
Tax Calculation Table	IV-9
Annual Multipliers	IV-9
User-Defined Assumptions	IV-10
Assumptions Reference Table	IV-11
Days Formula References	IV-12
Detailed Worksheet Statements	IV-12
Unit Sales Forecast/Personnel Schedule	IV-13
Income Statement	IV-15
Balance Sheet	IV-16
Cash Flow Statement	IV-20

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Capital Purchases Input Summary	IV-22
Depreciation Schedule	IV-23
Miscellaneous Cash Flow/Balance Sheet Calc.	IV-24
Summary Worksheet Statements	IV-24
Graph Data Table	IV-25
Planner/Analyst Work Area	IV-26
Special Planner/Analyst Precautions	IV-27
Worksheet Protection	IV-27

#### V. MANIPULATING THE WORKSHEET

Power File Manager	V-2
General Suggestions	V-2
Printing Reports	V-3
Saving Worksheets	V-6
Loading Worksheet Back-ups	V-10
Worksheet Set-Up	V-12
Testing Worksheet Balance	V-13
Copying Worksheet Formulas	V-14
Loading the ASSUMPTIONS REFERENCE TABLE	V-16
Creating Column Date Headings	V-17
Naming Worksheet Statements and Reports	V-19
Customizing Asset and Liability Labels	V-21
Diagnosing Worksheet Problems	V-22
Making Graphs	V-23

#### VI. CHANGING POWER FILES

General Change Procedure	VI-2
Changing Cover Page Spacing	VI-4
Adding New Range Names to the DATES/NAME	VI-5
Changing Month Label Formats	VI-6

#### VII. MODIFYING THE PLANNER/ANALYST

General Suggestions	VII-1
Customizing the Income Statement	VII-2
Altering the Balance Sheet or Cash Flow	VII-3
Starting a Forecast in Mid-Fiscal Year	VII-4
Altering Print Ranges	VII-6
Running Out of Memory	VII-6
Changing Depreciation Rates: Asset Types A, B	VII-7
Debugging a Worksheet	VII-8

#### VIII. REFERENCE

User Input Checklist
Index



## I.

## I N T R O D U C T I O N

Does this sound familiar?

One of your early PC experiences was tinkering with an electronic spreadsheet. You had heard a little about them, and it was time for you to experience one of the little devils first-hand. With the first recalculation, you felt a rush watching the blinding speed of all those rows and columns cross-footing flawlessly, and 95% of your old life with an adding machine and a pink pearl flashed before you. Your imagination popped with visions of all the things you would do with this new tool you now possessed.

It might be more accurate to say that it now possessed you. You have since discovered how easy it is to become bogged down in the process of developing models that do what YOU want them to do. Good models demand lengthy planning and development work to produce results that are useful and accurate.

The WINSLOW Business Planner/Analyst is a financial planning "template", a pre-programmed electronic spreadsheet that dramatically increases your productivity by eliminating much of the design drudgery that often accompanies models like this. Yet, you can easily modify it to fit any scenario. Developed in LOTUS 1-2-3 (IBM or 100% compatible), the Planner/Analyst provides a business owner, investor, or financial decision-maker with a planning model of sufficient sensitivity that the financial impact of alternative scenarios can be quickly and accurately evaluated.

The Planner/Analyst produces a detailed income statement and balance sheet, which it integrates into a cash flow forecast that continuously reflects changes in both income statement and balance sheet. The model also provides useful condensed summary reports of plan results.

The Planner/Analyst has been programmed to monitor a large number of interrelated variables, including:

- \* capital expenditures and depreciation (four types),
- \* loans (four types), including periodic amortization, accelerated payoff based upon excess cash availability, and revolving line of credit (you set the borrowing criteria as a percentage of Accounts Receivable and Inventory),



- 
- \* interest costs for borrowings (four types) and interest revenues from surplus funds,
  - \* cash flow effects of balance sheet transactions,
  - \* inflation, prime interest rate, and even erosion factors on prices, costs, or any expense you choose.
  - \* adjustable Accounts Receivable, Accounts Payable, and Inventory "days-outstanding" factors for each planning period, and
  - \* income tax calculations based upon the 1986 Tax Reform Act.

The Planner/Analyst is flexible. Unlike other spreadsheet templates, it has been designed with the presumption that you will change it (perhaps radically) to fit your unique application.

The Planner/Analyst simplifies. Worksheet statements "balance" because they are dynamically integrated. The Planner/Analyst gives you pre-defined options that allow you to avoid complicated double-entry logic. All you need to know about accounting to use the Planner/Analyst is a basic understanding of the flow-through effects of transactions in standard accounting statements.

The Planner/Analyst is powerful. In using its advanced features, both the beginner and the experienced spreadsheet user will appreciate the way the Planner/Analyst eliminates or sharply reduces (by 80% or more) much of the tedious work of formatting, building, debugging, and printing complex Worksheets. The result is a sophisticated spreadsheet that provides ample flexibility, detail, and accuracy in forecasting the financial impact of business decisions on income, the balance sheet, and cash flow.

An exclusive feature of the Planner/Analyst that increases productivity and gives you even greater control over your Worksheets is a software toolkit of "Power Files" (a Planner/Analyst name for LOTUS Keyboard Macros) that automate many tedious and repetitive Worksheet functions. Power Files provide:

- \* a menu-accessed table of values and labels to simplify Worksheet set-up and housekeeping for report headers, printing, file-naming and disk operations,
- \* a custom labeling routine that assigns customized names to asset and liability accounts and their related work areas on the Worksheet,
- \* pre-formatted print routines that produce crisp detailed

and summary reports with just a few keystrokes,

- 
- \* automatic generation and formatting of column date-headings. This routine also rapidly reformats column headings for new planning periods. This is a special timesaver for the frequently underrated task of keeping your Worksheets neat and readable,
  - \* pre-programmed file management routines that handle directories, sequential file names for alternative scenarios, and in the case of diskette back-up involving two diskettes, pre-programmed File Extract and File Combine command executions. The Planner/Analyst eliminates the need to keep track of file names and Worksheet reassembly instructions,
  - \* automated formula copying. This feature reduces and minimizes common errors in the copy process,
  - \* automatic generation of a table reference for assumptions that change annually. Mapped in a central assumptions area, this table simplifies the process of building formulas that refer to several external assumptions, and
  - \* an automatic test of the Worksheet to verify that formulas or structural alterations have not invalidated the logical relationship of Worksheet components.

The Planner/Analyst supplies an interface with Power Files that makes them appear to be an integral part of 1-2-3. You don't need detailed knowledge of LOTUS Keyboard Macros in order to use the Planner/Analyst Power Files.

#### HOW TO USE THIS MANUAL

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This manual is organized to get you started quickly, first with a bird's eye view of the model ("Worksheet Overview" in this section), then a step-by-step section on how to begin (Chapter II - GETTING STARTED and Chapter III - INITIALIZING THE WORKSHEET).

Finally, Chapter IV - PLANNER/ANALYST PRIMER provides a detailed explanation of each part of the model. You will find each of the major headings in the Planner/Analyst Worksheet listed in this Chapter in the same order as they appear in the model from the top down, grouped under major sections (General Assumptions, Balance Sheet, etc.). Keep this reference handy to minimize the potential for introducing errors into the Planner/Analyst as you redesign it for your own application.

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### A NOTE ON LOTUS 1-2-3

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To use the Planner/Analyst efficiently, a basic working knowledge of LOTUS 1-2-3 will be helpful. However, if you are a relative newcomer to LOTUS, the Planner/Analyst can boost your learning rate significantly. The Planner/Analyst can be a quick study in some of the advanced application features of LOTUS.

For example, in model formulas you will find a sampling of many common LOTUS functions (summations, absolute references, and table look-ups), as well as more sophisticated capabilities (logical "IF" statements, and Keyboard Macros). The Keyboard Macros ("Power Files" in the Planner/Analyst) are "managed" by a "supervisor" which is a separate Macro resident in the Planner/Analyst Worksheet. You need NO knowledge of LOTUS Keyboard Macros to use the Power Files. More about this later. For now, it may be helpful to keep both this Manual and the LOTUS 1-2-3 User Manual handy as you begin to work with the Planner/Analyst.

### WORKSHEET OVERVIEW

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The Planner/Analyst is a group of pre-formatted linked worksheets in a single LOTUS spreadsheet designed for projecting up to four years of financial activity for a business organized to earn a taxable profit, detailing the first forecast year monthly, and four additional years quarterly. The Planner/Analyst answers two fundamental questions about a business scenario:

- \* HOW MUCH CAPITAL IS REQUIRED TO FUND THE SCENARIO?
- \* WHAT IS THE PROFITABILITY OF THE SCENARIO?

The model answers these questions through a series of inter-related Worksheets:

#### (1) PRINCIPAL STATEMENTS:

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INCOME STATEMENT - a detailed operating statement of unit sales, revenues, cost of goods sold, gross margin, expense, net profit before tax, income tax, and net profit after tax.

BALANCE SHEET - a periodic statement of financial position for each corresponding Income Statement period.

CASH FLOW - a source and use of funds statement reflecting cash flow from operations, capital transactions, and changes in working capital. This statement analyzes the degree to which the business scenario requires new capital (loans or equity investment, depending upon Worksheet settings) or

generates cash flow.

(2) SUBSIDIARY SCHEDULES:  
-----

GENERAL ASSUMPTIONS AND REFERENCE DATA - a central reference table in the Worksheet where key variables are defined and "mapped".

UNIT SALES FORECAST - a line item projection of unit sales by user-defined product categories.

PERSONNEL SCHEDULE - a table indicating the cumulative number of employees by principal job category and pay rate for each forecast period.

CAPITAL PURCHASES - a work area for scheduling anticipated expenditures for Capital Equipment (two types) and Fixed Assets categories and calculating cumulative balances.

DEPRECIATION SCHEDULES - a work area for calculating period and cumulative depreciation (accelerated or straight-line basis) for each category of depreciable asset.

MISCELLANEOUS CASH FLOW/BALANCE SHEET CALCULATIONS - a work area that the Planner/Analyst uses to make input calculations for monthly and cumulative interest expense, and debt activity for regular borrowings and line-of-credit (increases, scheduled or one-time principal reductions, and end-of-period balances).

(3) SUMMARY REPORTS:  
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ABBREVIATED INCOME STATEMENT - a quick overview of profitability.

CAPITAL SUMMARY - an analysis summarizing end-of-period balances in debt and equity categories.

The Planner/Analyst template you have received through shareware (along with the Power Files and disk-based manual) is located in the archived file WINSLOW.ARC, which may be "un-arc'ed" with ARC software available from your bulletin board. The base model uses 28 columns and 744 rows of a standard LOTUS Worksheet (Release 1A). As it is presently designed, a fully implemented Planner/Analyst model requires at least a 512K RAM configuration. 640K RAM is recommended for added flexibility.

The next chapter, GETTING STARTED, covers preliminary matters. Chapter III - INITIALIZING THE WORKSHEET prepares the model for data entry. The PLANNER/ANALYST PRIMER details each section of the model.



## II.

## G E T T I N G   S T A R T E D

## EQUIPMENT

Your system should have the following configuration to be able to take advantage of all of the advanced features of the Planner/Analyst:

- \* IBM PC, PC-XT, PC-AT, PS/2 (or 100% compatible). DOS 2.0 or higher is recommended.
- \* 512K RAM minimum (640K recommended).
- \* A printer capable of printing on wide computer form paper (graphics optional).
- \* LOTUS 1-2-3 (any release) and User Manual.
- \* At least three blank formatted diskettes.
- \* A color graphics interface and color monitor (both optional).

## MAKE A BACKUP COPY OF THE PLANNER/ANALYST FILES

Turn on your computer and follow these steps:

1. Load DOS.
2. Place a blank formatted diskette in Drive A and close the drive latch. Set the DOS prompt to the drive and subdirectory containing the un-arc'ed Planner/Analyst files, type this DOS command exactly at the prompt

COPY \*.\* A:

and press [RETURN]. When the files are transferred, remove the back-up copy from Drive A and archive it in a safe place.

3. If you have a fixed disk, it is recommended that you transfer the Planner/Analyst files to their own directory. To save space, you might find it convenient to load only the Power Files to fixed disk (see the list of files below), loading a new blank template (PLAN4.WKS) from floppy only as you need one to start a new plan.

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If you are using DOS version 2.0 or higher, create a subdirectory (such as "C:\PLAN"), and use the copy command to transfer these files.

All template files in the Planner/Analyst are LOTUS Worksheet (Rel. 1A) files, as listed below:

PLAN4.WKS	Planner/Analyst Template
ANALYZE4.WKS	Power File
COPY4.WKS	Power File
DATES4.WKS	Power File
DATESORT.WKS	Power File
EDIT4.WKS	Power File
LOOKUP4.WKS	Power File
NAME4.WKS	Power File
PRINT4.WKS	Power File
RELOAD4.WKS	Power File
SAVE4.WKS	Power File
TEST4.WKS	Power File
READ2ND.PRN	Introduction
MANUAL.PRN	Manual
HELLO.BAT	Generates Opening message
HELLO.TXT	Opening message

The Planner/Analyst will run under all Releases of LOTUS 1-2-3. To run the Planner/Analyst under Release 2 and later, convert the files to Release 2 ".WK1" files by separately loading each of the un-arc'ed ".WKS" files to a blank Release 2 worksheet and immediately re-saving them to a new working directory (floppy or hard file) as ".WK1" files (Release 2 will beep and tell you that it is relabeling the file as a ".WK1" file). You will find that Rel. 1A ".WKS" files load slowly to a Release 2 worksheet; after conversion, they will load at normal speed.

Remember that worksheets are upwardly compatible only; you cannot run a Release 2 worksheet in Release 1A.

You may find available memory using Release 2 to be smaller after loading the Planner/Analyst worksheet due to the larger "overhead" of Release 2; because the Planner/Analyst is already a compact rectangular worksheet, the "sparse matrix" memory allocation technique of the new version does not save memory space noticeably.

## DISKETTES

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Have at least two blank formatted diskettes available prior to loading the Planner/Analyst if you plan on saving any Worksheet output to diskettes.

## PRINTER

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Load 15" computer fanfold paper in your printer. The Planner/Analyst uses the full 15" form with condensed print output (i.e. 17 characters per inch, 240 character width). If you prefer 8-1/2" paper, the Planner/Analyst can be modified accordingly, but modification of the PRINT Power File will be required. See Chapter VII - MODIFYING THE PLANNER/ANALYST.

## III.

## I N I T I A L I Z I N G   T H E   W O R K S H E E T

The Planner/Analyst comes in a form that requires some preparation before you begin using it.

The "initializing" procedure readies the Worksheet for data entry. Use this procedure each time you begin a fresh Planner/Analyst Worksheet (i.e., PLAN4.WKS). The Planner/Analyst assists you in this process with several Power Files designed for this purpose.

Here is the step-by-step start-up procedure:

1. Open a blank LOTUS 1-2-3 spreadsheet.
2. Insert a disk containing the un-arc'ed Planner/Analyst files in Drive A. If you transferred the Planner/Analyst files to your fixed disk, use the "C" drive reference below.
3. Check the file directory with the keystroke sequence:

/File Directory

Set the current directory displayed in the Control Panel to the appropriate drive (and optional subdirectory). For example:

A:\ [RETURN] or

C:\PLAN [RETURN]

NOTE: if you are running on DOS 2.0 or higher, the sample "A" drive command above will set the current directory to the root directory of Drive A. Earlier DOS versions (which do not recognize subdirectories) use a letter and colon only and will not recognize the backslash. See your DOS 2.0 User Guide for additional information on subdirectories.

4. After setting the proper directory, load the Planner/Analyst as a LOTUS Worksheet with the keystroke sequence:

/File Retrieve "PLAN4" [RETURN]

5. When the file is loaded, the Planner/Analyst pauses at the entry screen; the MODE indicator "CMD READY" appears

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in the upper right corner of the screen.

Press [RETURN]. The Planner/Analyst displays the "WORKSHEET PROMPTS/STATUS MESSAGES" screen and "Current Worksheet Set-up Data".

6. The Planner/Analyst displays this information each time it is loaded (or reloaded). "Worksheet Set-Up Data" catalogs default information on the Worksheet, which can be reviewed or changed at the opening of the session or at any other time, as you will see.

Note the LOTUS menu format. Selection options in the LOTUS Control Panel correspond to line items in the display. To select an item for entry, use the pointer (which is moved with the arrow keys) and [RETURN] to make a choice, or type the first letter of a selection to make a choice.

Each of the selection options creates entries in "Worksheet Set-Up" that may be accessed and changed at any time during a session. For additional information on each of these entries, see Chapter IV - THE PLANNER/-ANALYST PRIMER.

NOTE: If you wish to leave any item blank, at the appropriate Control Panel input request simply press [RETURN].

\* Menu

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This choice terminates the "Worksheet Set-Up Data" routine and returns you to the "POWER FILE MANAGER."

\* Ident

-----

The Planner/Analyst uses the Company name to identify Worksheet statement sections and printouts, printing it on each report along with the current date and an abbreviation for the current Worksheet Scenario (see below).

At the Control Panel prompt

Enter Company name (30 char max):

type in the Company Name and press [RETURN]; the display will be updated (at the same time, PROJECT DATA is updated as well - see page IV-1).

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\* Purpose/Author

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This choice involves two items each time it is selected: a phrase describing the plan (such as "Bank package" or "Plant addition") and the name or initials of the primary individual responsible for authoring the Worksheet. At the Control Panel prompts, type in the appropriate information and press [RETURN]. Both lines will be updated in the display (and in PROJECT DATA).

\* Path/Directory for Power Files

-----

This is the disk drive (and optional subdirectory if you use DOS 2.0 or higher) where the Planner/Analyst will find Power Files during Worksheet operations. This is necessary because Planner/Analyst Power Files reside on disk to save spreadsheet space. This entry identifies the path where they can be found by the Power File Manager (a worksheet-resident Macro described in Chapter V).

If you intend to use the Power Files on the back-up diskette, for DOS 1.1 applications enter "A:" or "B:" here; for DOS 2.0 or higher you should enter the root directory "A:\". Insert your working copy of the Planner/Analyst Disk in the selected drive now.

If you transferred the Power Files to fixed disk, for DOS 1.1 applications enter "C:"; for DOS 2.0 or higher enter "C:\" plus the subdirectory name, such as "C:\PLAN" created in Getting Started.

As you will see shortly, when you identify the file directory here, it will not be necessary to manually reset the file directory in LOTUS, which may have been set to "A" in step (3) above, to access the Power Files. The Planner/Analyst resets the file directory when you invoke the Power File Manager and looks in the directory file you designate here.

\* Printer Strings ("N" String, "C" String)

-----

These are the LOTUS printer "set-up strings" for what the Planner/Analyst refers to as "normal" (i.e., 10 character-per-inch) print and "compressed" (i.e., 17 character-per-inch) print. At the Control Panel prompts, type in the set-up strings appropriate for your printer. (Entries in the original PLAN4.WKS template drive an Okidata Microline 93.)

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If you wish to print reports at 10 cpi for readability, you will have to perform some minor surgery on the PRINT Power File. This procedure is explained in Chapter VI - CHANGING POWER FILES.

The "Printer Control Codes" section of your LOTUS 1-2-3 User's Manual explains how to convert decimal ASCII codes in your printer manual to LOTUS set-up string format.

\* Scenario Abbreviation  
-----

This is a unique seven-character (maximum) abbreviation that identifies the Worksheet you will build. The Planner/Analyst uses the eighth position for naming disk files (see Chapter V - MANIPULATING THE PLANNER/ANALYST, "Saving Worksheets").

This abbreviation will also be placed in page footers to identify specific scenario printouts and will be used to generate file names automatically (if you use the SAVE Power File) to distinguish those files on disk. Select any working Scenario Abbreviation now; you will have the option to change it later.

\* Archive File Directory  
-----

This is the file directory you intend to use for saving Worksheets to or loading files from. Enter the directory you think you will use. The SAVE Power File also has a change option that allows you to alter this before you save a file.

You can find additional detail on each of these Worksheet Set-up items in Chapter IV - PLANNER/ANALYST PRIMER.

7. When the entries in the "Current Worksheet Set-up Data" display are complete, select "Menu" in the Control Panel. The display shifts to WORKSHEET PROMPTS/STATUS MESSAGES and the entry screen for the POWER FILE MANAGER (the resident Macro that handles all Power File Macros for you). The Control Panel now displays a menu of options. Use the right pointer arrow to scroll through the menu and note the detailed description in the second row.

Select "More Files..." for additional selections. Note that "Return..." re-displays the initial menu. As with LOTUS command prompts, you may select a menu choice by (a) moving the pointer and pressing [RETURN], or (b) typing the first letter of the menu choice.

8. By either method, select DATES (for generating column date headings) from the "More Files..." group. The Planner/Analyst retrieves the Power File from the disk you designated in "Worksheet Set-Up" above and displays the entry screen.

This is an appropriate time to mention that if you should ever wish to terminate a Power File, you can always do so with the keystroke combination [CTRL-BREAK]. However, it will be helpful for you to exit Power Files at a programmed termination point.

The DATES menu offers the "GO" option that generates headers with current settings, the "Sequence" option for reordering the sequence of months in the first plan year for non-calendar fiscal years, the "Replace" option for placing a heading that you customize manually in all other column date heading locations, the "Menu" option for returning to the Power File menu if you inadvertently accessed the wrong Power File, and "Quit" for terminating the Power File and returning directly to the Worksheet if you choose before executing the Power File. (All Power Files are structured with termination options at appropriate decision points. See Chapter V - MANIPULATING THE PLANNER/ANALYST for additional detail on this and other Power Files.)

If your plan begins on any month other than January, select "Sequence" and follow the prompts (you may wish to turn to "Creating Column Date Headings" in Chapter V - MANIPULATING THE PLANNER/ANALYST as you do this). Otherwise, select "GO". The DATES Power File builds the new date column headings in the UNIT SALES FORECAST section of the Worksheet (range "DATES1") using the current month sequence and year labels in USER-MODIFIABLE ASSUMPTIONS, then copies the result in pre-programmed locations around the Worksheet, pausing to give you the option of copying the new heading to presently unprogrammed areas of the Worksheet you add later. For now, terminate DATES by selecting "Menu" (because you will use another Power File right away).

9. Next, select NAME from the "More Files..." group. After the file is loaded the entry screen is displayed.

As with DATES, another menu appears which includes a fourth option, one that gives you the opportunity to change the Company Name you entered in "Worksheet Set-Up". The current name is displayed on the screen; to change it, select "Name" and follow the prompts. The entry screen will be displayed again with the revised name. If it is correct, select "GO".



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The Power File inserts the Company name in all programmed Planner/Analyst Worksheet Statement Title Blocks. When the initial insertion is complete, NAME pauses to give you the option, as with DATES, of inserting the new Company Name in other locations in the Worksheet. Since this is the initializing procedure, there are no "Other" Worksheet Statement Title Blocks to be filled in. However, you will use one more Power File before beginning work on the Worksheet, so select "Menu" again.

10. Next, select EDIT, again from the "More Files..." group. This Power File helps with the task of customizing certain Asset and Liability labels in the several interrelated statements in the Planner/Analyst, saving you the hassle of having to locate and manually change each individually.

You may ignore EDIT right now if you wish; once you have made more detailed decisions about the structure of your model, you may come back to EDIT to implement them. For now, select GO and step through the four display screens (pressing [RETURN] as indicated) that explain the EDIT functions. When the following message appears:

Select from the Control Panel to enter the labels you have chosen (maximum 16 characters) and press [RETURN]...

select "Quit" to continue with this initialization procedure. If you have made decisions about labeling, continue with "Labels" by selecting "Enter" in the Control Panel and go to Chapter V - MANIPULATING THE PLANNER/ANALYST, "Customizing Balance Sheet Accounts."

11. As the final step in initialization, select "More Files...", then select "Test", the Worksheet Balance Power File. Select "GO" to initiate the Power File. TEST is explained further in the Chapter VI - MANIPULATING THE PLANNER/ANALYST and is recommended here only to insure that the base Planner/Analyst model has been loaded and initialized without any difficulty. After a few seconds, you should obtain a screen display indicating that the Worksheet Test is satisfactory.

If the display indicates that TEST is "...NEGATIVE", repeat steps (1) through (10) again. If you reach the same "NEGATIVE" response, turn to Chapter VII - MODIFYING THE PLANNER/ANALYST, "Debugging a Worksheet." If the Worksheet TEST is "...POSITIVE", terminate the Power File with "Quit". The Worksheet mode indicator returns to READY. You are now ready to move directly into Worksheet entry.

=====

Other Power Files will assist you in building formulas, copying formulas, printing reports, saving Worksheets, and analyzing Worksheet logic.

You can find more about the Power Files in Chapter V - MANIPULATING THE PLANNER/ANALYST. In the meantime, you are now ready to begin the actual construction of a Worksheet. Until you become familiar with the Planner/Analyst, you may find it helpful to keep this Manual open to Chapter IV - PLANNER/ANALYST PRIMER.

## IV.

## P L A N N E R / A N A L Y S T P R I M E R

This chapter gives you detail about each part of the Planner/Analyst so that you can use each of its features productively.

This chapter is organized to be a reference as well as descriptive summary. Each major section of the Worksheet is described in descending sequence from the top of the Worksheet according to the following format:

- \* SECTION TITLE and brief description. These are also listed in the same order in the Table of Contents.
- \* RANGE NAME AND DESCRIPTION, which will be helpful in giving you immediate access to the Worksheet section using an "[F5] [F3] [RANGE]" command.
- \* USER INPUT required in the section.
- \* USER HINTS that amplify the Worksheet section and will enhance your productivity.

If you are not working on a current Worksheet, you may find it helpful to work through this chapter with an initialized Worksheet (see the previous chapter) loaded into your computer for reference.

## PROJECT DATA (Row 2)

This section contains Worksheet identification information entered in "Worksheet Set-Up", which is used in printing the Cover Page during print sequences.

## RANGE:

- \* "PROJECT-A", "-B", "-C", "-D"

## USER INPUT - Project Data:

- \* Make all changes to PROJECT DATA through the "Worksheet Setup" option in the Power File Manager. See Chapter III - INITIALIZING THE WORKSHEET-(6).



## =====

## USER HINTS - Project Data:

- \* Sections of PROJECT DATA were assigned separate ranges to create compactness on the Worksheet and formatting flexibility on the printed Cover Page. Line spacing for the cover page in printouts is adjustable through a simple change to the PRINT Power File (see Chapter VI - CHANGING POWER FILES).
- \* Be sure that any LOTUS "MOVE" command involving PROJECT DATA includes all four named ranges for this block.
- \* During Planner/Analyst print routines, you will see that the printer control codes are changed to print PROJECT DATA in normal or enhanced (10-pitch) print (or any print format of your choice). See Chapter III - INITIALIZING THE WORKSHEET, "(6) Printer Set-up String."

## -----

## GENERAL ASSUMPTIONS AND REFERENCE DATA (GENERAL 1,2)

The Planner/Analyst centrally documents key variables of the Worksheet in GENERAL ASSUMPTIONS AND REFERENCE DATA for quick reference and convenience when manipulating the Worksheet.

Often, the feature that distinguishes a good spreadsheet model from a mediocre one is the documentation of assumptions; without such documentation, the basis for a scenario can be difficult (even impossible) to analyze or reconstruct. Handwritten notes can become separated from results; multiple scenarios complicate the picture further.

The Planner/Analyst excels by providing a way to document assumptions clearly and conveniently. First, assumptions are defined by you during the formula-building process. Optionally, variables that you may wish to assign different annual values during the plan period ("annually variable constant cell references" - see ASSUMPTIONS REFERENCE TABLE below) are loaded to a table that simplifies formula building. Finally, the PRINT Power File prints the assumptions as part of the print output routine.

The Planner/Analyst uses two kinds of assumptions: USER-MODIFIABLE and USER-DEFINED.

=====
USER-MODIFIABLE ASSUMPTIONS (range GENERAL 1)
-----

These are variables already incorporated into the Planner/Analyst formulas. They may be reset but should NOT be erased, unless you are performing advanced Worksheet alterations (See Chapter VII - MODIFYING THE PLANNER/ANALYST).

For example, Interest Income and Interest Expense calculations have already been programmed in interest formulas in several Worksheet locations. The assumptions on rate may be modified in USER-MODIFIABLE ASSUMPTIONS here and will be reflected correspondingly in Worksheet calculations. However, erasing these assumptions or destroying them with overlapping "MOVE" operations may produce errors in the Worksheet.

The following USER-MODIFIABLE ASSUMPTIONS are those that can have new values assigned to them but should NOT be deleted (of course, you may also add some new ones of your own):

=====
PLAN YEARS (Row 18):
=====

\* These items are the "year" labels used by the DATES Power File for creating column date-headers, whether fiscal or calendar.

RANGE:
-----

\* "YR1", "YR2", "YR3", "YR4".

USER INPUT - Plan Years:
-----

\* Enter years initially as centered labels (using the prefix "^"). You may wish to modify this format later. See Chapter VI - CHANGING POWER FILES.

USER HINTS - Plan Years:
-----

\* The DATES Power File contains references to "Plan Years" ranges, so do not alter them (of course, format is your choice, i.e., "1988", "'88", "1", "YEAR 1", "YR1", etc.).

=====
INTEREST ASSUMPTIONS (Row 20):
=====

This is the anticipated ANNUAL prime interest rate for calculating interest paid on loans of various types and interest earned on idle funds.

=====
USER INPUT - Interest Assumptions:
-----

\* Enter the decimal value of the estimated annual prime rate for each plan year at "Prime rate-annual"; the monthly factor will be calculated automatically in the row below at the next Worksheet recalculation.

"Increments" are the differences between the annual prime rate and the individual annual interest rate factors. "Annual" figures are the annual increment values you enter as decimal percentages; "Monthly" figures are calculated at the next Worksheet calculation and are used by the Planner/Analyst.

For example, if the rate for "Long Term Debt" is anticipated to be 3 percentage points over prime, enter the VALUE ".03" in Row 29 next to "Long Term Debt"; the new monthly factor will be refigured at the next Worksheet recalculation.

\* "Money Market" increment is the rate earned on any cash surpluses accumulating in "Money Market Acct" in the Balance Sheet. It is presently set at 2.5 percentage points under prime (the value ".025").

=====
USER HINTS - Interest Assumptions:
-----

- \* By calculating all interest factors in relation to prime rate, the impact of changing rates can be evaluated by varying only one rate, the annual prime.
\* With up to four annual prime rate factors at your disposal, you can conveniently evaluate the effect of interest rates on your forecast. If your plan includes significant leverage, you may wish to run separate "what-ifs" to evaluate the impact of differing interest rate scenarios on profitability.
\* You can further refine your interest rate predictions in the first year by manually changing the prime rate entries in Assumptions Reference, assigning different values for each month if you wish. See ASSUMPTIONS REFERENCE TABLE below.

=====
FINANCING TERM (Rows 35-37):
=====

The length of the period for repayment of loans in the three loan categories. You will rename these categories using EDIT (see Chapter III - INITIALIZING THE WORKSHEET). See also CAPITAL PURCHASES INPUT SUMMARY, DEPRECIATION SCHEDULE, and MISC CASH FLOW/BALANCE SHEET CALCULATIONS below.





=====
USER INPUT - Financing Term:
-----

- \* Enter the value for the financing periods in months for each category. Follow the guidelines in EDIT: Debt Type 1 is associated with Asset Types A and B, which you should use for assets of 3- and 5-year asset depreciation range. Debt Type 2 in the Planner/Analyst is associated with Asset Types C and D, which should be used for longer Asset Depreciation Ranges, or ADRs (i.e., 10 years or more). The corresponding line labels in all the other statements will be changed automatically by EDIT.

-----
USER HINTS - Financing Term:
-----

- \* The Planner/Analyst has four generic categories of depreciable assets, which are explained further in the section on the BALANCE SHEET under DETAILED WORKSHEET STATEMENTS. EDIT changes these to custom labels of your choice (see the guidelines above and in Chapter V - MANIPULATING THE PLANNER/ANALYST).
\* Asset and Liability types are related as shown in Table 1.
\* Be consistent with these asset/debt type guidelines. Assign financing periods no greater than the depreciation periods for assets.

TABLE 1

-----
Table with 3 columns: Asset Type, Related to Debt Type:, Depreciation Range. Rows include Asset Type A, B, C, and D with their corresponding debt types and depreciation ranges.

"DDB" = Double Declining Balance

=====
DEPRECIATION (Rows 38-41):
=====

The depreciation period assumptions for the standard categories of depreciable assets in the Planner/Analyst.

=====
USER INPUT - Depreciation:
-----

- \* Depreciation periods for Asset Types A and B are set at 36 and 60 months respectively. Do not change these without reading Chapter VII - MODIFYING THE PLANNER/ANALYST, "Changing Depreciation Rates for Asset Types A and B." Enter the value for the length of the depreciation period for Asset Types C and D in months (no value less than 120).

-----
USER HINTS - Depreciation:
-----

- \* Four categories of assets are carried in the Planner/Analyst. These are generic categories that are intended to be specifically named and tied to appropriate depreciation rates to meet your specific requirements using EDIT.
\* See DEPRECIATION SCHEDULE under DETAILED WORKSHEET STATEMENTS in this chapter for a fuller explanation of why the rates for Asset Types A and B are fixed at 36 and 60 months.

=====
PURCH FINANCED (Row 42-46):
=====

The percentage of capital equipment purchases financed through loans.

-----
USER INPUT - Purch Financed:
-----

- \* Enter the decimal percentage of purchase amount borrowed; the cell is formatted to display the value as a percentage.

-----
USER HINTS - Purch Financed:
-----

- \* The Planner/Analyst increases borrowings automatically for purchases of capital assets (from CAPITAL ASSETS PURCHASES SUMMARY) by multiplying the amount of each asset purchase by this percentage and treating the difference as a downpayment from internal funds.
\* Detailed calculations for purchases, debt, interest, and repayment take place in MISCELLANEOUS CASH FLOW/BALANCE SHEET CALCULATIONS (range MISCCF 1, MISCCF 1-10).
\* Use Asset Types C and D for Long Term Capitalized Leases, labeling through EDIT.

MINIMUM END-OF-PERIOD CASH (Row 48):

The minimum operating cash balance to be maintained in the BALANCE SHEET and CASH FLOW at the end of each period.

USER INPUT - Minimum End-Of-Period Cash:

- \* Enter the value (in thousands) representing the end-of-period minimum balance you desire to maintain.

USER HINTS - Minimum End-Of-Period Cash:

- \* Any cash on hand each month in excess of this figure appears as surplus in "Money Market Acct" and earns interest at the rate indicated in USER-MODIFIABLE ASSUMPTIONS.
- \* As described in the section on the CASH FLOW (see DETAILED STATEMENTS), the model generates an analysis by period of the overall changes in the cash position of the business resulting from both operating and BALANCE SHEET transactions. Minimum cash is one of the criteria that also must be met.

ACCELERATED DEBT REDUCTION (Row 49):

The amount by which Long Term Debt will be further reduced each month (beyond programmed debt reduction) when certain cash flow criteria are met.

USER INPUT - Accelerated Debt Reduction:

- \* Enter the value for the monthly amount of accelerated reduction in thousands (ie. "25.0" for "\$25,000") to be made over and above the scheduled payment.

USER HINTS - Accelerated Debt Reduction:

- \* See CASH FLOW STATEMENT in the DETAILED WORKSHEET STATEMENTS section for a full explanation of "Accelerated Debt Reduction".
- \* As explained in CASH FLOW STATEMENT, to disable Accelerated Debt Reduction, enter the value "0" on this line in GENERAL ASSUMPTIONS.

=====
% RECEIVABLES + INVENTORY FOR LOC (Row 50):
=====

The percentage of combined Accounts Receivable and Inventory used to establish availability of credit under a revolving line feature in the Planner/Analyst.

USER INPUT - % Receivables + Inventory for LOC:
-----

\* Enter the decimal percentage to be used by the Planner/Analyst to determine LOC availability.

USER HINTS - % Receivables + Inventory for LOC:
-----

- \* The LOC feature of the Planner/Analyst, which calculates revolving credit borrowings in the CASH FLOW (see rows 387-388) is optional. You can disable it completely by simply entering the value "0" here.
\* See "CASH FLOW" in this Chapter for additional information on LOC.

=====
BALANCE SHEET DAYS (Col. Q, Row 17+):
=====

The "days" factor used in calculating BALANCE SHEET "Accounts Receivable", "Inventory", and "Current Liabilities-A/P" balances at the end of each plan period.

USER INPUT - Balance Sheet Days:
-----

\* The value for the number of days (0-90) for each of the year groups indicated.

USER HINTS - Balance Sheet Days:
-----

\* Each of these BALANCE SHEET factors modifies values obtained from Sales (for Accounts Receivable), Cost-of-Goods-Sold (for Inventory), and Expenses and Cost-of-Goods-Sold (for Accounts Payable). For example, a "30" day value for "Accounts Receivable" means that the figure at the end of the period will include all the current month's sales. A "45" day value means that the figure at the end of the period will include all the current month's sales plus half the prior month's sales (the other half of the prior month's sales is assumed to have been collected).

- \* In subsequent plan years where these figures are based upon quarterly or annual values, the Planner/Analyst calculates average monthly amounts when figuring Accounts Receivable, Inventory, and Accounts Payable in the BALANCE SHEET.
- \* The data which is used to generate these values is defined in the ASSUMPTIONS REFERENCE TABLE. "Receivables", "Inventory", and "Payables" in the BALANCE SHEET combine their respective monthly values in the ASSUMPTIONS REFERENCE TABLE according to the "Days" factor to create the actual values entered in the BALANCE SHEET.

=====

TAX CALCULATION TABLE (Col M, Row 25+):

=====

A table used by the Worksheet to calculate income tax in the INCOME STATEMENT. The table is used by formulas in the "Income Tax" line (row 268).

USER INPUT - Tax Calculation Table:

-----

- \* None

USER HINTS - Tax Calculation Table:

-----

- \* Income Tax is calculated according to 1986 Tax Reform Act rates and net income from operations in row 266 of the model.

=====

ANNUAL MULTIPLIERS (Col M, Row 36+):

=====

These are decimal values for annual inflation or erosion in certain expenses (such as "Salaries" or "Travel & Entertainment") or certain income items (such as prices on mature products selling into a competitive market).

USER INPUT - Annual Multipliers:

-----

- \* Enter the decimal percentage (i.e., ".07" for "7%") inflation or erosion factor between the locating arrows above the labels "Inflation" or "Erosion"; the cells are formatted for percentage display. Annual percentage factors will be generated automatically at the next Worksheet recalculation.

## =====

## USER HINTS - Annual Multipliers:

- 
- \* You can produce considerable flexibility in your model by referencing these inflation or erosion factors in formulas, disabling them if you choose by setting them to zero and recalculating.
  - \* Inflation/erosion factors are incorporated in formulas through the ASSUMPTIONS REFERENCE TABLE (see below).

-----

USER-DEFINED ASSUMPTIONS (range GENERAL 2)

-----

This is an open work area for variables that you define. As with USER-MODIFIABLE ASSUMPTIONS above, creating useful documentation is a high priority. Sample variables for INCOME STATEMENT items (i.e., sales, cost of sales, personnel relationships or productivity, and expenses) are provided in the base model.

You will find two columns labeled "Variable 1" and Variable 2" next to the sample expense line and sample formula references for "Advertising & Promotion." You could add more columns if you need them. A tabular method like this gives you good documentation and centralized control of variables (see how the corresponding Expense formula in Row 235 is constructed). The typical expense rarely has more than two independent variables associated with it (in addition to variables already defined in USER-MODIFIABLE ASSUMPTIONS above). If you define the expense factors here and build the formulas by referencing these cells, not only do you have clear documentation but you can run separate scenarios simply by revising the assumptions instead of the original formulas; printing these assumptions along with the related Worksheet creates solid current documentation.

Note that the listing of expense categories in this area is identical to the list in the DETAILED INCOME STATEMENT. (Be sure to add rows in both sections if necessary to accommodate a longer list. Insert rows anywhere in this area. A sample sets assumptions has been entered in USER-DEFINED ASSUMPTIONS and the INCOME STATEMENT.

## =====

## ASSUMPTIONS REFERENCE TABLE (Row 95+)

=====

ASSUMPTIONS REFERENCE TABLE is an internal work area which is used to simplify the copying of formulas that look back to assumptions in the GENERAL ASSUMPTIONS section of the Worksheet that have changing values throughout the planning period, such as interest rate, gross margin %, inflation, etc.

## RANGE - Assumptions Reference Table:

- 
- \* "LOOK-UPS"

## USER INPUT - Assumptions Reference Table:

- 
- \* Any GENERAL ASSUMPTION that changes (or could change) in any plan year (that is, an "annually variable constant cell reference") should be loaded in ASSUMPTIONS REFERENCE.

## HINTS - Assumptions Reference Table:

- 
- \* Cell references in formulas you are copying are "relative" unless made "absolute" (the "\$" is used in LOTUS for this purpose). Absolute cell references in formulas make copying them easier. However, setting up a separate assumption value for each plan period means that Worksheet formulas referencing those assumptions will require manual changes to the references in GENERAL ASSUMPTIONS for each change in period (for instance, look at the "Prime rate projection" assumption in GENERAL ASSUMPTIONS). These manual changes to Worksheet formulas can be especially annoying when you are copying a complex formula that references several assumptions that have changing values through the plan.

The Planner/Analyst to the rescue. To enjoy the flexibility that these annually variable assumptions give to the Planner/Analyst while avoiding the tedium of laborious copying, the ASSUMPTIONS REFERENCE TABLE was created. The table is a central location where assumption variables can be spread in advance so that Worksheet formulas that reference them can treat them as relative cell references; the formula merely "looks up" to the appropriate relative cell in the same column in ASSUMPTIONS REFERENCE, which contains the correct value for each plan period. Scan the entries already loaded in the table.

=====

To aid you further, the LOOKUP Power File automates the process of loading table entries. See Chapter V - MANIPULATING THE PLANNER/ANALYST.

- \* Do not disturb the first five entries already in the Table. With the exception of "Inflation", they are used in pre-programmed formulas. Because it is commonly used, "Inflation" has been loaded to the table for you, although in the base model no pre-programmed formulas use it.

=====

DAYS FORMULA REFERENCES Row 113+

=====

DAYS Formula References are the multipliers calculated using the "DAYS..." assumptions in USER-MODIFIABLE ASSUMPTIONS and Accounts Receivable, Inventory, and Accounts Payable "Items" in the ASSUMPTIONS REFERENCE TABLE.

RANGE - Days Formula References: None

USER INPUT - Days Formula References: None

USER HINTS - Days Formula References:

- \* These factors are used by formulas in Receivables, Inventory, and Payables in the BALANCE SHEET to establish balances in these accounts according to the DAYS OUTSTANDING factors entered in USER-MODIFIABLE ASSUMPTIONS. The values they are applied to are themselves generated in the ASSUMPTIONS REFERENCE TABLE. Inspect these "Items" formulas; you may wish to change their makeup. Otherwise, no user entry is required; values are automatically calculated based upon entries in "DAYS" assumptions in USER-MODIFIABLE ASSUMPTIONS.]

-----

DETAILED WORKSHEET STATEMENTS

-----

The main body of the Worksheet contains (a) the Principal Statements and (b) Subsidiary Schedules that perform supporting calculations for the Principal Statements, and (c) Summary Reports. They will be described here in the order in which they appear in the Planner/Analyst.



=====  
 First, a note on the logical structure of the Planner/-Analyst. It is like a double-entry accounting system in that the Worksheet "balances" at the end of each period. Simply stated, in the CASH FLOW, operating results (from the INCOME STATEMENT) are combined with net changes from non-operating transactions (capital purchases, equity infusions, loans), changes in working capital and the cash balance from the end of the previous period to generate an "ADJUSTED ENDING CASH" figure for the current period. The transactions that generate this ending balance in the CASH FLOW are also reflected in the BALANCE SHEET, in which the equality of Assets and Liabilities plus Equity must be maintained.

Therefore, if Worksheet logic is consistent, the sum of BALANCE SHEET "Cash" and "Money Market Acct" (i.e., total "Cash") at the end of each period should equal "ADJUSTED ENDING CASH" in the CASH FLOW for the same period. The sum of BALANCE SHEET "Cash" plus "Money Market Acct" and CASH FLOW "ADJUSTED ENDING CASH" are derived by separate, independent calculations; therefore, if they are equal after the Worksheet is re-calculated, the relationship of the data is valid. This, in fact, is how the TEST Power File determines for you whether or not the Planner/Analyst "balances".

An understanding of this logic is important if you intend to make changes to the BALANCE SHEET or CASH FLOW. First, study the formulas in these statements, then read Chapter VII - MODIFYING THE PLANNER/ANALYST.

You do not have to concern yourself with initial Worksheet logic; it has been verified for you already in the base model. However, if you perform any surgery on the BALANCE SHEET or CASH FLOW, you may unexpectedly find the Worksheet filled with "ERR's", forcing you to trace formula relationships in the Planner/Analyst, which, as in any spreadsheet, can be accidentally disturbed. See Chapter VII - MODIFYING THE PLANNER/ANALYST for suggestions on how to accomplish this with minimal frustration.

=====  
 UNIT SALES FORECAST/PERSONNEL SCHEDULE (Row 123+):  
 =====

The UNIT SALES FORECAST/PERSONNEL SCHEDULE is a forecast of unit sales and cumulative employees for the plan period.

RANGE - Units:  
 -----

\* "UNITS 1" (Year 1), "UNITS 2-4" (Years 2-4).

## =====

## USER INPUT - Units:

-----

- \* Product names, unit prices, unit volumes, employee titles, monthly salary (in thousands), cumulative number of employees by period and position (rows to fill in indicated by "(\*)").

## USER HINTS - Unit Sales Forecast:

-----

- \* Many Worksheets originate naturally with unit and sales price forecasts, which are entered here.
- \* Begin by specifically defining the line item products you wish to forecast.
- \* You may enter a value or a formula for each monthly unit projection (for example, sales of a particular product may be a function of the number of salesmen employed, who have to be hired 60 days prior to the generation of sales to account for training time). If you use a formula, embed it in the "@ROUND" function to avoid fractional calculations (UNITS is formatted "Fixed, 0 decimals").
- \* Use the USER-DEFINED ASSUMPTIONS section of the GENERAL ASSUMPTIONS AND REFERENCE DATA area to locate variables or note assumptions.
- \* Use this schedule for sales as they are recognized; the BALANCE SHEET takes into account the collection of Accounts Receivable.

## USER HINTS - Personnel Schedule:

-----

- \* Begin by defining the relevant job categories to be forecasted, along with the appropriate average monthly salary in thousands for each position.
- \* Enter the cumulative number of employees for each position for each period. As with UNIT SALES FORECASTS, if you use a formula, embed it in the "@ROUND" function.
- \* You may want to subtotal sections of this schedule to facilitate easy comparisons with regular financial statement categories for "Salaries and Wages."

=====

INCOME STATEMENT (Row 169+):

=====

The INCOME STATEMENT is the detailed statement of revenue, cost of sales, expense, income tax, and net profit for the plan period.

RANGE:

-----

- \* "INC 1A", "-B", "-C" (Year 1), "INC 2-4A""-B", "-C" (Years 2-4).

USER INPUT:

-----

- \* Sales and Cost of Sales "product" category labels, personnel category labels in Payroll Expense, all Other Expense category labels and formulas (indicated by "(\*)").

USER HINTS:

-----

- \* You have wide latitude in the construction of this statement. Although not reflected in the sample accounts in the original Planner/Analyst model, something like "Manufacturing Cost of Goods Sold" can be added to both "Cost of Sales" and/or "Other Expense", at your discretion.
- \* When creating and copying complex formulas, keep an eye on available Worksheet memory with

/-WORKSHEET-STATUS

The more complex the formulas, the faster memory is used up.

- \* Sample "Revenue" and "Payroll Expense" formulas are entered in column G. You can see that these are straight-forward sequential calculations based upon UNIT Schedules and simple to copy if the labels on the Unit Schedule are identical to the list here. A sample "Cost of Sales" formula is included just for reference. Notice how it uses a value loaded to the ASSUMPTIONS REFERENCE TABLE, and can be copied easily into future periods referencing the correct gross margin value.
- \* Use caution when inserting or deleting rows in sections in this or any other Planner/Analyst statement (see "General Suggestions" in Chapter VII - MODIFYING THE PLANNER/-ANALYST).

- \* Do not alter or erase the "Depreciation" or "Amortization" expense rows, which contain pre-programmed formulas that are linked to Depreciation and Amortization calculations in the MISC CASH FLOW/BALANCE SHEET CALCULATIONS section of the Planner/Analyst (see below). Naturally, you may use the LOTUS "Move" command (NOT "Copy") to relocate them wherever you wish within the "Other Expense" range.
- \* Load to the ASSUMPTIONS REFERENCE TABLE any annually changing assumptions in the GENERAL ASSUMPTIONS section used in building formulas (see above), then build formulas using relative cell references to cells in ASSUMPTIONS REFERENCE. The COPY Power File can then be used to automate formula copying; for more on this, see Chapter V - MANIPULATING THE PLANNER/ANALYST, "Copying Worksheet Formulas".
- \* Do not erase "Interest Expense" or "Interest Income"; these calculations are pre-programmed in other areas of the Worksheet. If there are no borrowings in your plan, these calculations will be zero.
- \* "Contingency" is a cushion which is added to Total Expense to account for unbudgeted miscellaneous items. It may be modified or disabled by setting the "%" value in cell E253 between the locating arrows to another value, or to "0".
- \* "Income Tax" is also a programmed calculation that includes cumulative loss carryforward balances. The tax rate on taxable income is obtained from the "Tax Calculation Table" in USER-MODIFIABLE ASSUMPTIONS. Further discussion of the way tax is calculated can be found in USER-MODIFIABLE ASSUMPTIONS above.

=====

BALANCE SHEET (Row 279+):

=====

The BALANCE SHEET is a summary statement of financial position of the business for the plan period.

RANGE - Balance Sheet:

-----

- \* "BAL 1" (Year 1), "BAL 2-4" (Years 2-4).

## =====

## USER INPUT - Balance Sheet:

- 
- \* Determine the format you wish to use for the BALANCE SHEET, adjust the labels accordingly (see also Chapter V - MANIPULATING THE PLANNER/ANALYST, "Customizing Statements"). Enter "actual" opening balances (column F). All inputs to the BALANCE SHEET are supplied internally by the Planner/Analyst from other parts of the Worksheet.

## =====

## USER HINTS - Balance Sheet:

- 
- \* The minimum balance in "Cash" is a variable in the USER-MODIFIABLE ASSUMPTIONS section of GENERAL ASSUMPTIONS.
  - \* "Accounts Receivable" is a formula that processes the values for Receivables "Days" for each plan year (from the calculation in "DAYS Formula References" - see Columns C through T, row 115) with the figures that are included in "Accounts Receivable Items" defined in the ASSUMPTIONS REFERENCE TABLE (row 98). No input is required directly in the BALANCE SHEET, although you should look at the "Accounts Receivable Items" formulas in the ASSUMPTIONS REFERENCE TABLE to be sure they reflect what you want included.
  - \* "Inventory" is a formula similar to "Accounts Receivable" that processes assumptions in GENERAL ASSUMPTIONS AND REFERENCE and in the ASSUMPTIONS REFERENCE TABLE. Similarly, any change in the specification of accounts that are used in this calculation must be made in the "Inventory Items" line of the ASSUMPTIONS REFERENCE TABLE (row 99).
  - \* "Current Liabilities-A/P" is also a calculation based upon variables from "DAYS Formula References" and the ASSUMPTIONS REFERENCE TABLE. No direct entry is required here, although the values that produce the figure are in ASSUMPTIONS REFERENCE and should be reviewed ("Accounts Payable Items" - row 100).
  - \* BALANCE SHEET Assets and Liabilities/Equity balance because the sum of "Cash" and "Money Market Acct" is the "net" or "plug" total required to create balance. If you scroll through the formulas for the BALANCE SHEET, you will see that transactions for this statement are loaded from the INCOME STATEMENT, CASH FLOW, and MISC BALANCE SHEET/CASH FLOW CALCULATIONS. The sum of "Liabilities" and "Equity" is "plugged" into the Total Assets line, and all other assets are subtracted to force the "Money Market Acct" figure. As indicated above, the sum of "Cash" and "Money Market Acct" will equal "ADJUSTED ENDING CASH" in the CASH FLOW when the Planner/Analyst Worksheet is in balance (test this with the TEST Power File.)



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- \* A reminder: if this is the plan for an established business, the actual BALANCE SHEET for the period ending just prior to the commencement of the forecast is manually entered in the "Actual" column of the BALANCE SHEET. Use caution to make sure that this manually entered statement balances EXACTLY (no rounding errors). Otherwise, the BALANCE SHEET and CASH FLOW will not balance and the TEST Power File will produce a "NEGATIVE" outcome.
  - \* If you can, avoid starting a forecast in mid-year. That is, if your fiscal year is "Jan-Dec" and you are starting your forecast in June, it will be more advantageous for you to reorder the months so that the first month of the forecast is June. Refer to Chapter VII - MODIFYING THE PLANNER/ANALYST, "Starting a Forecast in Mid-Fiscal Year".
  - \* You may make one-time manual entries in the BALANCE SHEET. Remember, however, that the impact of manual entries must also be reflected in the CASH FLOW for statement balance to be maintained. Until you are comfortable with the overall logical flow of the Planner/Analyst, you may find it helpful to use the "Other" lines in the BALANCE SHEET and CASH FLOW before taking on a reorganization of existing line items in either statement.

Remember that generally, an increase on the "Asset" side of the BALANCE SHEET in any individual period must be reflected in the CASH FLOW as a "Use" of cash, and an increase on the Liabilities and Equity side of the BALANCE SHEET must be reflected in the CASH FLOW as a "Source" of cash. (Use the "Other Sources" or "Other Uses" categories in the CASH FLOW for this purpose.) Remember also that if you make manual entries to the BALANCE SHEET, you must deal with those entries for each period of the forecast. The base model offers guidance: enter a formula like the one in "Current Assets - Other" (Row 291) that uses the previous month's entry until you change it. When you finish making these kinds of entries, immediately execute the TEST Power File to check the accuracy of your entry.

- \* User input for setting up Assets in the BALANCE SHEET is required in three places: (1) USER-MODIFIABLE ASSUMPTIONS, rows 38-41, where values for depreciation periods are entered (NOTE: Depreciation for Asset Types A and B are modifiable only with special care described in Chapter VII. For now, leave the values at "36" and "60" respectively); (2) for existing businesses, current BALANCE SHEET values must be entered in corresponding line items in the "Actual" column of the BALANCE SHEET, column F, rows 297-300; (3) any new non-current assets acquired

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during the plan are entered manually in the appropriate section and column of the CAPITAL PURCHASES INPUT SUMMARY and CASH FLOW respectively.

- \* The Planner/Analyst BALANCE SHEET features three generic borrowing categories to accommodate specific borrowing for capital asset purchases ("Debt Type A" and "Debt Type B") and general borrowing ("Debt Type C").

User input for setting up Liabilities in the BALANCE SHEET is required in four places: (1) in USER-MODIFIABLE ASSUMPTIONS fill in line item assumptions for debt interest rates for "Debt Type 1" "-2", and "-3" in rows 27-29 and for "Financing Term" in rows 35-37. These cells presently contain sample values only and can be set to any appropriate value; (2) enter in USER-MODIFIABLE ASSUMPTIONS the percentage amount of each purchase financed in "% Purch Financed-Asset Type A & B" and "% Purch Financed-Asset Type C & D." If the "% Financed..." assumptions are non-zero, capital purchases entered in the CAPITAL PURCHASES INPUT SUMMARY will trigger automatic loan increments in an amount equal to the "%" figure entered here, interest will begin calculating, and debt repayment will start in the following period for the appropriate capital purchases category; (3) for existing businesses, enter the current balances of the various Debt types in the "Actual" column of the BALANCE SHEET (column F, Rows 317-319); (4) enter the actual purchases during plan periods in the appropriate categories of CAPITAL PURCHASES INPUT SUMMARY - see below.

- \* EDIT is the Power File that automates the process of assigning names to generic asset and liability categories in the Planner/Analyst. See Chapter III - INITIALIZING THE WORKSHEET and Chapter V - MANIPULATING THE PLANNER/-ANALYST, "Customizing Statements".
- \* Once "Line of Credit" (described in CASH FLOW below) is triggered and rises above the "Minimum End-of-Period Cash" entered in cell H48, it will show a balance of at least this amount, even when cash surpluses pay off any LOC balances.
- \* The BALANCE SHEET "Equity" account is relatively straightforward: "Paid-In Capital" is carried forward from the manually-entered actual opening balance; "New Investment" is derived from calculations in the CASH FLOW; "Current Period Earnings" are cumulated from the INCOME STATEMENT; "Retained Earnings" is updated annually by "Current Year Earnings". There are no direct entries made in this section of the BALANCE SHEET (see CASH FLOW STATEMENT for the mechanics of a separate, one-time equity infusion).



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CASH FLOW STATEMENT (Row 339+)

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RANGE - Cash Flow:

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\* "CF 1" (Year 1), "CF 2-4" (Years 2-4)

USER INPUT - Cash Flow:

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\* Make direct entries for general debt or equity infusions not generated automatically by the model, "Other Sources", "Other Uses" (optional entry rows indicated by "(\*)").

USER HINTS:

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\* As in the BALANCE SHEET, most CASH FLOW STATEMENT data is supplied internally by the Planner/Analyst from other sections of the Worksheet.

\* The CASH FLOW STATEMENT combines operating results (adjusted for non-cash expenses) with non-current BALANCE SHEET transactions (asset purchases, loans, new investment), adjusted for changes in "Current Assets" and "Current Liabilities", generating net "Changes in Cash". This figure, combined with prior period "Ending Cash", establishes current period "ENDING CASH (+/-)". If necessary, the Planner/Analyst then calculates the amount of cash required (if any) to cover deficit cash flow in the period so that "ADJUSTED ENDING CASH" is at least equal to the "Minimum Cash Balance" defined in USER-MODIFIABLE ASSUMPTIONS (see also BALANCE SHEET).

The model automatically "draws" cash to make up deficits from two sources: first, the model looks for availability in the revolving line of credit, based upon the "% Receivables + Inventory for LOC" factor in USER-MODIFIABLE ASSUMPTIONS (cell H50). (The actual calculation takes place in MISC CASH FLOW/BALANCE SHEET CALCULATIONS - see below.) If this is zero, or if there is no further availability based upon current borrowings on the line, the model calculates the required amount to make up cash deficits and accumulates it in "Add'l Capital Investment." Increments to "LOC Draws" and "Add'l Capital Investments" also accumulate in "Line of Credit" and "New Investment" respectively in the BALANCE SHEET.

Alternatively, if the model generates cash surpluses for the period, they are first applied to reductions of any outstanding LOC balances ("LOC Reductions" in the CASH FLOW - row 388), then to additional accelerated retirement

of general bank debt ("Debt Type 3") according to the "Accelerated Debt Reduction" factor entered in USER-MODIFIABLE ASSUMPTIONS (cell H49). (The actual calculation takes place in MISC CASH FLOW/BALANCE SHEET CALCULATIONS - see below.)

Note that "Add'l Capital Investment" is a holding area to identify resource requirements beyond the scenario's own ability to fund itself internally. If the scenario eventually begins producing consistent cash surpluses, the "Memo: Cumul Investment" figure eventually stops increasing and levels off, telling you how much investment is required to fund the scenario.

- \* Of course, in the real world, actual investment (the maximum requirement for which is determined as described above) usually does not occur on a monthly basis until cash flow becomes positive. Rather, a combination of cash and debt will be infused at an earlier point in the plan cycle and absorbed until cash flow becomes positive, which event is anticipated BEFORE additional investment is necessary. In the CASH FLOW, the "Sources" categories "Debt Type 3" and "Equity Financing" are for the purpose of MANUALLY entering the actual plan investment in the appropriate period (i.e., at the time of the investment).
- \* Let the Planner/Analyst calculate and accumulate the additional monthly net investment required to fund your scenario BEFORE manually entering any initial investment in "Debt Type 3" or "Equity Financing" in an early plan period. The highest value that "Add'l Capital Investment" reaches is the minimum amount of new loans and/or equity required to be invested earlier so that the scenario does not go into a deficit cash position. Remember that this figure includes the "Minimum Cash Balance" defined in USER-MODIFIABLE ASSUMPTIONS. Remember also that if you make any of the initial investment in the form of debt, you may need to increase funding slightly to cover interest costs over the course of the plan. Running several debt-equity combinations gives you a very specific feel for the effect of leverage on your plan.
- \* A common shortcoming of plans developed with electronic spreadsheets is that surplus cash accumulates even though unsecured debt is still outstanding. You have the option in the Planner/Analyst of accelerating the repayment of any outstanding "Debt Type 3" if surplus cash flow is available. This is accomplished through "AVAIL FOR DEBT RETIREMENT" (row 394), which accumulates any positive "Change in Cash" (before adjustment for the previous period ending balance or minimum cash balance and before taking into account any current additional general debt - "Debt Type 3" - or investment - "Equity Financing" - and

assumes this surplus is available for accelerated reduction of "Debt Type 3."

- \* "Accel Debt Reduction" defined in USER-DEFINED ASSUMPTIONS (cell H49) is the amount over and above the regular automatic principal payment paid on the outstanding balance of "Debt Type 3" in any period in which the balance in "Debt Type 3" is at least as great as the defined payment AND the amount of cash flow for the period is at least double the defined payment. (These are arbitrary criteria that you can change.) The regular term payment to retire debt is unaffected and will be paid as long as there is an outstanding balance on the liability.
- \* If you make changes in the layout of the "Current Assets" or "Current Liabilities" sections of the BALANCE SHEET, be sure that you make appropriate adjustments to formulas in the CASH FLOW for "Incr in Curr Assets" (row 377) and "Incr in Curr Liabilities" (row 379) to include any new rows added to the BALANCE SHEET.

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CAPITAL PURCHASES INPUT SUMMARY (Row 399+)

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The CAPITAL PURCHASES INPUT SUMMARY is the input schedule for entering additions to Capital Assets during the plan period.

RANGE - Capital Purchases Input Summary:

- 
- \* "CP 1" (Year 1), "CP 2-4" (Years 2-4).

USER INPUT - Capital Purchases Input Summary:

- 
- \* Line-item asset descriptions and purchase amounts by asset type and period.

USER HINTS - Capital Purchases Input Summary:

- 
- \* Asterisks "(\*)" indicate rows in which labels and values are to be entered.
  - \* Determine the asset category (based upon depreciation) that fits the acquired asset. Enter asset descriptions and net acquisition cost in the appropriate column. The Planner/-Analyst will handle asset depreciation accounting from there.

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\* You noted earlier in discussions about generic asset and liability accounts that "Asset Type A" and "Asset Type B" are linked with "Debt Type 1," and "Asset Type C" and "Asset Type D" are linked with "Debt Type 2," meaning that if there are values in "% Purch Financed" value in USER-MODIFIABLE ASSUMPTIONS (cells H42 and H45), loans to finance respective asset purchases will be triggered automatically. You can disable any loans by entering "0" in these cells.

On the other hand, if you have some purchases of a particular asset that are financed and some that are not, you may need to modify this section of the model. See Chapter VII - MODIFYING THE PLANNER/ANALYST for guidelines on doing this.

\* Save memory by minimizing the number of rows you use to list purchases.

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DEPRECIATION SCHEDULE (Row 447+):

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This is a pre-programmed table where depreciation figures are calculated for the INCOME STATEMENT, BALANCE SHEET and CASH FLOW.

RANGE - Depreciation Schedule:

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\* "DEP 1" (Year 1), "DEP 2-4" (Years 2-4).

USER INPUT - Depreciation Schedule:

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\* None.

USER HINTS - Depreciation Schedule:

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\* Depreciation in the Planner/Analyst is calculated on a 200% declining balance method for "Asset Type A" and "Asset Type B", and on a straight-line basis for "Asset Type C" and "Asset Type D" (no residual value considered). If you examine the formulas in this table, you will see that the values that determine depreciable life come from the CAPITAL PURCHASES INPUT SUMMARY, which themselves come from the values entered in USER-MODIFIABLE ASSUMPTIONS (range GENERAL 1).

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\* Depreciation for ADRs (Asset Depreciation Ranges) less than four years are specially handled by the Planner/Analyst. This is because depreciation on, for example, three year ADRs will result in fully depreciated assets before the end of the four-year Planner/Analyst projection. Successive formulas would, unless eliminated, result in depreciation greater than the asset value, producing some odd BALANCE SHEET results (i.e., negative asset values).

The Planner/Analyst uses a short-cut method here and simply uses formulas that calculate depreciation one way for these shorter-lived assets. This is rationalized in part by the fact that since the Planner/Analyst is primarily a cash flow model, an approximation of depreciation is satisfactory. Nevertheless, if you wish to change the depreciation ranges for "Asset Type A" and "Asset Type B," see Chapter VII - MODIFYING THE PLANNER/ANALYST.

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MISCELLANEOUS CASH FLOW/BALANCE SHEET CALCULATIONS (Row 499+):

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This area of the Worksheet is a calculation table where inputs to the primary schedules are generated.

RANGE - Miscellaneous:

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\* "MISCCF 1" (Year 1), "MISCCF 2-4" (Years 2-4).

USER INPUT - Miscellaneous:

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\* Starting Values for "Sched Principal Payment" in sections for "Debt Type 1," "Debt Type 2," and "Debt Type 3" (cells F512, F522, and F530 respectively) can be manually entered if the formula, which amortizes the current balance by the financing term entered in USER-MODIFIABLE ASSUMPTIONS, does not produce a workable approximation.

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SUMMARY WORKSHEET STATEMENTS (Row 550+):

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In addition to Detailed Worksheet Statements, the Planner/-Analyst also includes two pre-formatted Summary Worksheet Statements. The "Abbreviated Summary Income Statement" presents plan results in annual total format. The "Capital Analysis" summarizes total capital, showing the relationship of debt and equity to total resources throughout the plan.

These are handy one-page reports that offer a quick overview of plan results that are appropriate for summary presentations, and that are effective for monitoring at a glance the effects of changes in the Worksheet when alternative scenarios are tested.

RANGES - Summary Worksheet Statements:

- \* "ABBREVINC" (Abbreviated Summary Income Statement) contains annual totals of major line item categories (i.e. Sales, Payroll Expense, Other Expense, etc.)
- \* "SUMCAP" (Capital Analysis) contains annual totals and line item expense detail.

USER INPUT - Summary Worksheet Statements:

- \* Changes in the Detailed Worksheet Statements may require modification of these reports. Also, changes made in "Year" labels for Planner/Analyst column date headings (in USER-MODIFIABLE ASSUMPTIONS) will not be reflected in annual column headings in the SUMMARY REPORTS. These must be changed manually.

Use a LOTUS window to compare the summation formulas in summary reports with Detailed Statements in the event of any substantial reorganization of the reports.

USER HINTS - Summary Worksheet Statements:

- \* When making changes to formats, follow the "General Suggestions" in Chapter VII - MODIFYING THE PLANNER/ANALYST.

GRAPH DATA TABLE (Row 620+)

This is the Table where Worksheet data is "normalized" for generation of user-defined graphic output. See the discussion on "MAKING GRAPHS" in Chapter V - MANIPULATING THE PLANNER/ANALYST.

RANGE - Graph Data Table:

- \* "GRAPHICS"

=====
USER INPUT - Graph Data Table:
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\* Access graphs with:

    /-GRAPH

Your LOTUS 1-2-3 User Manual will explain how to define the graphs you wish to make. Five criteria are defined in the GRAPH DATA TABLE; you are not limited in the number or types of data from the Worksheet you may wish to add. LOTUS remembers graph settings with the "Name" function for access later on.

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USER HINTS - Graph Data Table:
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\* In order to produce the Planner/Analyst graphs, you must have a graphics interface and monitor installed in your PC.

\* The table is organized to supply 12 values (four per quarter for three years) for each data range. Alternatively, if you would rather display four annual totals, you will need to redefine the data ranges, which are already available in the SUMMARY REPORTS just above.

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PLANNER/ANALYST WORK AREA (Row 635+)
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If you explore below GRAPH DATA TABLE, you will find several sections of the Worksheet that the Planner/Analyst uses when you invoke Planner/Analyst Power Files.

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RANGE - Planner/Analyst Work Area:
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\* "MACROPAGE," "\Z," "HEADER," etc.

-----
USER INPUT - Planner/Analyst Work Area:
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\* None.

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USER HINTS - Planner/Analyst Work Area:
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\* DO NOT INSERT OR DELETE ANY ROWS BETWEEN ROW 634 AND ROW 744. The Power File Manager, which is a macro which begins in cell M637, and a group of cells containing ALL the range names for ALL the individual Power Files (Column D in this range) would be corrupted. If you are

attempting alterations to the Power File Manager, use LOTUS "Move" commands to create room in the "\Z" macro column only. See Chapter VI - CHANGING POWER FILES.

- \* Range ENTERFILE is the block of cells below the "WORKSHEET PROMPTS/STATUS MESSAGES" screen that is used for running Power Files. The Power File Manager uses "FILE-COMBINE" commands to enter the selected Power File in ENTERFILE from disk and erases this area when it is finished.

#### SPECIAL PLANNER/ANALYST CAUTIONS

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You should be especially careful NOT to alter the following Worksheet areas:

- \* Columns A and B, which are part of the print formatting and are used by the LOOK-UPS and COPY Power Files.
- \* Row 1 and Row 338, which contain the range addresses for XTRACT, used in the SAVE Power File.
- \* Rows 635 to 744, containing the Power File Manager and all Power File ranges, No rows may be deleted or inserted in this section of the Worksheet.
- \* Vertical columns of the worksheet area. In order to expand the worksheet, use "/-MOVE" commands to open additional columns for the Planner/Analyst.

#### WORKSHEET PROTECTION

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As a safety measure, to insure against accidental destruction of data in a Worksheet, the Planner/Analyst turns on Global Protection through an auto-execute macro each time a worksheet is loaded. Areas of the Worksheet that need to be "unprotected", such as ranges for DATES, NAME, COPY, and LOOKUPS Power Files (see the next Chapter), as well as data entry ranges, have been "unprotected" for you. If you choose to build the Worksheet with protection "off", you must disable it with the following keystrokes after the Worksheet is loaded:

/-WORKSHEET-GLOBAL-PROTECTION-DISABLE



Remember to manually "unprotect" any new rows you add to the Worksheet as you modify the original Planner/Analyst model; this will save the annoyance of "protected cell" ERROR when you attempt to enter data with "Protection Enabled".

If you want to permanently remove the automatic enabling of Worksheet protection each time the Worksheet is loaded, type:

[F5]-"\M"

The pointer will rest on a cell with the following macro line in it:

'/WGPE{GOTO}header~{GOTO}...

Press:

[F2]-[HOME]-[Right Arrow]

and delete the characters "/WGPE". Press [RETURN] and save the Worksheet. From now on, Worksheet Protection will not be enabled.

## V.

## M A N I P U L A T I N G    T H E    P L A N N E R / A N A L Y S T

If you spend any significant time developing and manipulating sophisticated spreadsheet models, you understand the time that can be absorbed in routine tasks such as Worksheet layout, labels and column headings, print formats and routines, copy commands involving changing cell references, disk file maintenance, and so forth.

In addition to providing a time-saving and flexible format that can be modified relatively easily, the Planner/Analyst comes equipped with "Power Files" that greatly accelerate your productivity as you build the Worksheet.

In LOTUS terms, Power Files are Keyboard Macros that are invoked indirectly by way of the single "resident" Keyboard Macro "\Z", the Power File Manager. Through its menu, the Power File Manager lets you select a Power File and prompts you appropriately through the execution of the selected file. Power Files reside in the Planner/Analyst directory or disk, saving Worksheet memory. The Power File Manager handles all Power File importing, initiating and terminating.

To enter the Power File Manager, invoke the "\Z" Keyboard Macro, by holding down the "[Alt]" key and pressing "Z". While your LOTUS 1-2-3 User's Manual can give you complete instruction on using Keyboard Macros, Planner/Analyst Power Files require virtually no knowledge of them; Power Files are designed with LOTUS-like menus. The only command that must be remembered is the "[Alt]-Z" combination to invoke the Power File Manager.

Power Files can be modified if you make extraordinary changes to the basic Planner/Analyst Worksheet format. However, extreme caution must be exercised in making such changes. Be sure to see Chapter VI - CHANGING POWER FILES before attempting to alter any Power Files.

This chapter covers Worksheet manipulation that is supported by Power Files. When you use Power Files, prompts will appear either on the screen or in the LOTUS Control Panel above the LOTUS border; these prompts give you control over the Power File once you have familiarized yourself with this Chapter.

At this point, if you have not designated the Active File Directory and loaded the Planner/Analyst Disk, follow instructions in Chapter III - INITIALIZING A WORKSHEET, Steps 1-5 and 6: "Path/Directory for Power Files."



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## POWER FILE MANAGER - "[Alt] Z"

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The Power File Manager is the Supervisory Keyboard Macro that "manages" the execution of the Power Files. Invoke the Power File Manager with the simultaneous keystrokes "[Alt]-Z". The Power File Manager opens with an entry screen and menu.

There are actually two Power File menus:

- \* I/O-type selections for input and output tasks (the menu displayed now), and
- \* A second menu accessed by selecting the "More Files..." option in the "I/O" menu, a group of Power Files that perform administrative Worksheet tasks. Move between menus by selecting "More Files..." and "Return" accordingly.

As described in Chapter III - INITIALIZING A WORKSHEET, the Power File menus are handled in much the same way as LOTUS command menus; you can select a menu choice with the pointer or by typing the first letter of your choice.

A choice causes the Power File Manager to access and select the Power File. The Power File then takes control, identifying itself with an introductory screen and menu that includes a termination option. "GO" begins the operation of the Power File, in some cases producing further Control Panel options and screen prompts.

The "Menu" selection in each Power File returns you to the Power File menu for another selection. The "Quit" option hands control back to the Power File Manager, which moves the pointer back to the Worksheet area where the pointer was located when the Power File Manager was originally invoked.

## GENERAL SUGGESTIONS

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- \* The system for using the Power Files is structured to avoid the accidental starting of a Power File. Remember that Power Files are just fancy Keyboard Macros, and can ALWAYS be stopped using [CTRL-BREAK].
  - \* All Power File Control Panel entries are processed as labels (with the exception of the DATESORT routine in DATES). No pre-screening of input takes place; the Power File acts on what it receives. Invalid input can produce a bad branch in a Power File which can create bizarre

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results, ERROR beeps and messages. There is no sure way of avoiding this, except to exercise caution during input. Fortunately, there is usually no harm done. When ERROR occurs, press [Esc] to return the Worksheet to READY mode. Then, re-enter the Power File Manager with "[Alt]-Z" and reselect the appropriate file.

- \* After you have used [CTRL-BREAK] to interrupt an executing Power File, your system may hesitate several seconds when invoking the Power File Manager with "[Alt]-Z." This is normal, because when invoked, the Power File Manager first names the current cell pointer location with the range name "LAST", so the Planner/Analyst knows where the pointer was and can return there when the Power File Manager finishes. The hesitation is due to the fact that the Power File Manager is attempting to name a range that already exists. In this case, the previously interrupted Power File Manager did not terminate, leaving the range name "LAST" undeleted. You are now instructing LOTUS to again name range "LAST", which already exists. (This hesitation can be avoided by striking the key sequence:

/RANGE-NAME-DELETE-"LAST"

before re-invoking the Power File Manager).

- \* Although you can terminate a Power File at any time using [CTRL-BREAK], it will be to your advantage to terminate the Power File at a programmed "Quit" point. For all Power Files, this clears the Power File program range (ENTERFILE) and screens, and deletes range name "LAST". A good rule of thumb is to terminate each Power File in this way, avoiding inconvenience.

#### PRINTING REPORTS - the PRINT Power File

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The PRINT Power File may be one of your biggest time-savers in the Planner/Analyst. It allows you to issue pre-formatted print commands that are executed automatically.

PRINT opens with a Worksheet recalculation, then displays currently logged information that will be printed on output; namely, Company Name and Worksheet Abbreviation.

Both of these identifiers are used in page footers to unambiguously identify the current scenario. This preview feature in the Power File can be useful when you are running several scenarios and forget to update these items through the "Worksheet Set-Up" option in the Power File Manager.

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Select the "Name" and "Abbrev" options to enter changes and follow Control Panel messages; the revised entries will be displayed once more before you proceed. Select "GO" to display the list of PRINT options.

The current PRINT options are:

- \* COVER SHEET: a centered label containing formatted information from the "PROJECT DATA" area near cell A1 in the Planner/Analyst Worksheet.
- \* ASSUMPTIONS: a two-page printout of the Planner/Analyst Worksheet area entitled GENERAL ASSUMPTIONS AND REFERENCE DATA, which contains both USER-MODIFIABLE and USER-DEFINED information.
- \* ABBREVIATED SUMMARY INCOME STATEMENT: a summary printout of INCOME STATEMENT categories containing annual totals for each plan year by major line item category.
- \* CAPITAL ANALYSIS: a report that analyzes total debt and equity (i.e., total capital) utilized by the plan.
- \* INCOME STATEMENT - YEAR 1 ONLY: a printout of the INCOME STATEMENT for the first plan year only by month.
- \* BALANCE SHEET - YEAR 1 ONLY: a printout of the BALANCE SHEET for the first plan year only by month.
- \* CASH FLOW - YEAR 1 ONLY: a printout of the CASH FLOW for the first plan year only by month.
- \* INCOME STATEMENT - YEARS 2-4: a single page printout of the INCOME STATEMENT for the second through fourth plan years.
- \* BALANCE SHEET - YEARS 2-4: a single page printout of the BALANCE SHEET for the second through fourth plan years.
- \* CASH FLOW - YEARS 2-4: a single page printout of the CASH FLOW for the second through fourth plan years.
- \* OTHER DETAIL - YEARS 2-4: a printout of the second through fourth plan years of the following schedules:
  - (a) UNIT SALES FORECAST
  - (b) PERSONNEL SCHEDULE
  - (f) CAPITAL PURCHASES INPUT SUMMARY

- (g) DEPRECIATION SCHEDULE
- (h) MISC CASH FLOW/BALANCE SHEET  
CALCULATIONS

\* RETURN...: An option that returns you to the opening screen in PRINT to allow you to re-enter set-up information.

Make sure the printer is READY and loaded with wide form paper, enter a selection in the Control Panel and press [RETURN]. The selected report is printed. If the printer is not READY, LOTUS will beep and display the "Printer not ready" ERROR message, interrupting the Power File. Strike [Esc], which returns you to READY mode. READY the printer and re-enter PRINT through the Power File Manager [Alt-Z]. When printing the Title Page ("PROJECT DATA"), PRINT changes the printer set-up string according to the entry made in "Worksheet Set-Up" (which you get to from the Power File Manager) for normal (i.e., 10 cpi) printing. After the Title Page is printed, PRINT restores the code for compressed print (i.e., 17 cpi). The Title Page is currently the only pre-programmed report in which non-compressed print is used.

After a report is sent to the printer, PRINT pauses for instructions to continue or terminate. "GO" sets up the Control Panel for the next selection; "Menu" or "Quit" terminates the Power File.

#### USER HINTS:

- \* When loading paper in the printer, manually set the form to the top of the page; PRINT will accept this form position as the top-of-form.
- \* Once the Company Name and Worksheet Abbreviation have been confirmed, the Power File creates the page footer, which consists of the Company Name in PROJECT DATA (entered through "Worksheet Set-Up" in the Power File Manager), the current date, and the Worksheet Abbreviation (also entered in "Worksheet Set-Up") in brackets.

[A TECHNICAL NOTE: If you get an error after invoking PRINT, there may be no "Footer" option defined in the LOTUS Print menu. Press [Esc] to return the Worksheet to READY, strike the key sequence:

/PPOF@[RETURN]QQ

=====  
This enters a "current date" footer. Restart the Power File. (See the LOTUS Operating Manual for additional information on footers, including page numbering, justification, and other descriptive information.)

- \* If changes are made to the print ranges in the detailed Worksheet through the insertion or deletion of rows or "Move" operations, check to see that the PRINT ranges conform to the data (use the sequence "/-R-N-C-[Range Name]"). The range will be painted on the screen and described in the Control Panel. Press [Esc] repeatedly or [CTRL-BREAK] to restore READY if there are no changes; otherwise, make changes and press [RETURN]). As long as changes to the Worksheet involving row insertions or deletions are made WITHIN range definitions, ranges will be adjusted by LOTUS accordingly.
  
- \* Range names are used extensively in the Planner/Analyst to simplify the execution of PRINT and other Power Files. Care must be taken to assure that Worksheet range NAMES, if altered or changed, are MANUALLY revised in the Power Files. Remember that Worksheet changes made using LOTUS commands (such as Worksheet "Move" commands) will not update Power Files, which are a form of Keyboard Macro. If, however, a range DEFINITION (i.e., cell addresses defining the range) is changed but the range NAME remains unchanged, the Power File will operate on the redefined range accordingly. Remember that any radical reorganization (i.e., "Move" operations on large sections of the Worksheet) must include the entire range; otherwise you may create some offbeat results when you use PRINT or SAVE functions.

#### SAVING WORKSHEETS - the SAVE Power File

-----

[NOTE: Due to the enhanced file-handling features of Release 2, this Power File can be used only if you are using the Planner/Analyst with Release 1A of LOTUS 1-2-3. As indicated below in the section on RELOAD, you may find it useful to manually use the technique SAVE uses in Release 1A. If you do this, you may use RELOAD in Release 2.]

File operations with Planner/Analyst Worksheets can involve some special considerations. Several of these are addressed by the SAVE Power File.

First, it is easy to underestimate the confusion that can result when you create files without using a logical file naming scheme, especially when you are running a number of different scenarios. SAVE prompts you to check this ahead of time.



Next, especially when you are backing up to fixed disk, you may have set up several sub-directories for different Worksheets. SAVE eliminates the problem of accidentally backing up to the wrong directory by prompting you with the file directory it will use before the back-up begins, and gives you the option of changing it if appropriate.

Finally, and most importantly, due to the amount of working storage required for a full Planner/Analyst Worksheet, if you do not utilize fixed disk for file back-up, a back-up will have to be made using two diskettes. Ordinarily, this would require a manual:

```
/-FILE-XTRACT-[Range Name]
```

("Range" being the part of the file to be extracted) and the separate notation of that range for the subsequent:

```
/-FILE-COMBINE
```

that puts the files back together when reconstructing the Worksheet.

Conveniently, the Planner/Analyst makes all this unnecessary. With SAVE, the Planner/Analyst creates a two-diskette back-up automatically using a preset "XTRACT" range, a standard file-naming scheme, and automatic execution of the appropriate LOTUS commands. Even the careful prompting of SAVE, however, is not fail-safe; carelessness can result in overwriting existing files with the same name (i.e., earlier back-ups).

Simply stated, when SAVE makes diskette back-ups, it saves the Worksheet range XTRACT (roughly the top half of the Worksheet) with the command:

```
/-FILE-XTRACT-"XTRACT"
```

naming the resulting file using the current Worksheet Scenario Abbreviation and an "-X" suffix (identifying it as the "eXtract" portion). After erasing range XTRACT, SAVE saves the remainder of the Worksheet (which includes the erased range XTRACT with all its range names intact) with the command:

```
/-FILE-SAVE-[Range Name]
```

naming the resulting file with the current Worksheet Scenario Abbreviation and an "-S" suffix (identifying it as the "Save portion").

=====

The entry screen of SAVE is a display of the currently logged parameters required for backing up Worksheets, along with a menu of options that allow you to alter any of these parameters; select the option and simply follow the prompts. If changes in parameters are made, the entry screen will be displayed again with the revised parameters. Make sure that the disk TYPE is consistent with the disk FILE DIRECTORY, and that the File Directory is consistent with the version of DOS you are running (ie. "A:\\" with DOS 2.0 or greater; otherwise "A:").

"Check" displays the names of files names in the current directory if you are uncertain about whether or not you are already using a file name.

"GO" begins the appropriate file back-up operation. The FIXED DISK back-up is straight-forward; the Worksheet Abbreviation is used to name the file, and the file is backed up to the designated sub-directory. ANY PREVIOUS VERSION UNDER THE SAME ABBREVIATION AND SAME SUBDIRECTORY WILL BE OVERWRITTEN.

Alternatively, a DISKETTE file operation initiates a series of prompts, some of which require operator action. First, the prompt to load the diskette for the "-X(tract)" file is displayed. The actual back-up then begins, starting with range "XTRACT". During the first half of SAVE with diskettes, the display will indicate that SAVE is "Saving XTRACT range..." Once this file is made, the contents of range "XTRACT" is erased; the display will indicate "Erasing XTRACT range..." When the "Erase" command is complete, the "-S(ave)" diskette load prompt appears. After removing and labeling the "-X(tract)" diskette, insert the "-S(ave)" diskette and press [RETURN]. The prompt "Saving..." will be displayed as the remaining portion of the Worksheet is backed up.

When SAVE is finished, it pauses to give you the option to resume the present Worksheet. However, resumption requires that the "-X(tract)" diskette (i.e., the erased portion of the Worksheet) be reloaded. "Resume" performs this process automatically for you; follow Control Panel prompts (see USER HINTS below and the next section on loading Worksheets.)

#### USER HINTS:

- 
- \* When creating a diskette back-up with SAVE, have two BLANK diskettes handy BEFORE starting. Carefully mark the output files as "-X" and "-S" files; you will need to know which is which when reassembling the Worksheet.

- =====
- \* If you are using SAVE to create a temporary DISKETTE back-up and plan on returning immediately to the Worksheet, you will first have to reload the "-X(tract)" file (which is erased from the Worksheet after it is saved to allow the Planner/Analyst to save the remainder on a second diskette). You may continue immediately with Worksheets backed up temporarily on FIXED disk.
  - \* SAVE names the files it creates according to the 7-character Worksheet Abbreviation entered in "Worksheet Set-Up" unless you change the name at the file name change prompt in SAVE (in which case WORKSHEET SET-UP and PROJECT DATA-"Scenario" are also automatically updated). If you back-up to DISKETTE, SAVE uses this abbreviation, adding an "-X" suffix when naming the first ("Xtract") diskette and an "-S" suffix when naming the second ("Save") diskette. A back-up to FIXED disk uses the seven-character abbreviation only with no suffix. If you run a series of scenarios for which you wish to maintain separate files, establish a naming scheme you are comfortable with and enter a separate abbreviation either through "Worksheet Set-Up" or at the option in SAVE for each run. (Be sure to label output diskettes accordingly.)
  - \* When SAVE is finished, it resets the current directory to the path/directory designated in "Worksheet Set-Up" for the Planner/Analyst Power Files.
  - \* The Planner/Analyst creates Worksheets of such size that when a complex Worksheet is being backed up to diskettes with SAVE, each diskette can be more than half full when this routine is finished. Occasionally, you may inadvertently insert diskettes that already have other files on them, causing a "Disk full" ERROR in the middle of SAVE. This is generally not a problem. (Don't worry: the Planner/Analyst will not erase the XTRACT range unless the "-X(tract)" operation has been successful.) Follow these steps:
    - (a) If the Power File stopped during the "Xtract" portion (ie., the "-X" diskette), press [Esc] to restore READY, insert a fresh blank diskette in Drive A, and restart SAVE through the Power File Manager "[Alt]-Z". Alternatively, if you do not need to keep the files on the current diskette, issue the command  

```
/-FILE-ERASE-WORKSHEET-[Name]
```

to clear the disk.

- (b) If the Power File stopped during the "Save" portion (i.e., the "-S" diskette), press [Esc] to restore READY, insert a fresh blank diskette in Drive A, and execute a MANUAL command:

/-FILE-SAVE

of the displayed Worksheet.

\*\*\* CAUTION \*\*\*

DO NOT restart SAVE under these circumstances; if you were to do so and use the same disks again, you would overwrite the Xtract portion of the Worksheet just backed up and create a new back up of the BLANK range XTRACT. For consistency, manually name the file using the current 7-character abbreviation with an "-S" suffix.

LOADING WORKSHEET BACK-UPS  
The RELOAD Power File

[NOTE: If you are using Release 2 of LOTUS 1-2-3, this Power File may only be used to reload multiple disk worksheets MANUALLY saved using the method described above in SAVING WORKSHEETS -- remember that SAVE will not work in Release 2. If worksheets have been saved by any other means, do NOT use RELOAD.]

As you noted above, the SAVE Power File creates back-ups on either fixed disk or diskette.

Loading from FIXED DISK:

In the case of FIXED DISK, your saved Worksheet is a single file on the disk. With the File Directory set on the directory containing the Worksheet file, you issue the command:

/-FILE-RETRIEVE

You can begin work right away.

## Loading from DISKETTE:

-----  
Worksheets backed up on DISKETTE using the SAVE require an extra step to reload. These files are split between two diskettes, so the method to recombine them must be exact. Furthermore, when a temporary back-up of an active Worksheet is made to diskette, you cannot return immediately to the Worksheet without reconstructing it; during back-up, the extracted portion is erased to allow the remainder (with all the ranges names intact) to be saved with a "Save" command. The RELOAD Power File handles the reconstruction, whether you are making a back-up to return to later, or a temporary back-up of a Worksheet you intend to return to immediately.

To begin a Worksheet reload from diskette, insert the "-Save" diskette in any drive and issue the command:

/-FILE-RETRIEVE

You will not invoke RELOAD; it is invoked automatically by the loaded "-S(ave)" file and displays a drive that was previously entered in "Worksheet Set-Up." This drive is where the second "-X(tract)" diskette must be placed; otherwise, a "File Not Found" error will occur, and you will have to resort to a manual method to continue (see USER HINTS below).

When the "-X(tract)" diskette is inserted in the drive named in the RELOAD prompt, simply press [RETURN] to complete the file loading; the Power File moves the Worksheet pointer to the appropriate cell (range XTRACT) and a screen display indicates that the Power File is combining the "-X(tract)" file. When complete, RELOAD pauses for your decision to move to the Power File menu or the Worksheet.

## USER HINTS:

- 
- \* When RELOAD issues the "Combine" command for the second "-X(tract)" diskette, it will use the File Directory in WORKSHEET SET-UP in the back-up designating the SAVE/RELOAD source drive. If you prefer another drive, change the designation for the "Archive File" in WORKSHEET SET-UP BEFORE saving the file.
  - \* RELOAD will be activated only after a manual:

/-FILE-RETRIEVE

is issued for the "-S(ave)" diskette of a Worksheet backed up with SAVE on two diskettes. Only when used in this sequence can you be assured that the Power File-implemented "Combine" is executed in a range (named XTRACT) that will be blank. Refer to your LOTUS Operating Manual for more details on disk file extract and combine operations.

- \* If the RELOAD sequence is interrupted for any reason (i.e., the "-X(tract)" diskette is put in the wrong drive), you do not have to reload the first diskette. Simply issue the following commands:

```
/-FILE-DIRECTORY-[correct drive name]
[F5]-"XTRACT"
/FILE-COMBINE-COPY-ENTIRE-FILE-"XTRACT"
```

You are merely accomplishing manually what RELOAD does automatically for you.

- \* When it is finished, RELOAD resets the current directory to the drive and directory designated in "Worksheet Set-Up Data - Path/Directory for Power Files".
- \* After the Power File has completed the recombination of the two diskettes, select "Menu" and run TEST to confirm Worksheet balance as a double check on the integrity of the recombined files.

#### WORKSHEET SET-UP Preparing the Worksheet

---

The Planner/Analyst simplifies the maintenance of Worksheet parameters by centralizing them in this Macro-controlled table that is selected in the Power File Manager ("Worksheet Set-up"). This table contains housekeeping information about the Worksheet, such as Worksheet identification information, the drive path/directory for the Planner/Analyst Files, printer strings, and so forth. When set-up criteria are changed, the Power File Manager updates pertinent sections of the Worksheet automatically.

For example, the Company name, which appears in PROJECT DATA at the top of the Worksheet, is changed by entering a new name in the "Worksheet Set-up Data" screen (you will have to re-run the NAME Power File to place the new name in each of the Worksheet Statement Title Blocks).

TESTING WORKSHEET BALANCE  
The TEST Power File

---

As described in the introduction to DETAILED STATEMENTS in Chapter IV, Planner/Analyst statements have a logical relationship which results in an equality between the "Adjusted Ending Cash" figure in the CASH FLOW and the sum of "Cash" plus "Money Market Acct" in the BALANCE SHEET. This "balance" will be maintained as long as changes made to formulas are handled properly in the related statements.

The TEST Power File performs this evaluation automatically. A "GO" at the entry screen immediately executes the Power File.

USER HINTS:

---

- \* You do not need to re-calculate the Worksheet prior to initiating TEST.
- \* The File pauses after displaying the result of the balance test with the option to return to the Power File menu or the Worksheet.
- \* A "NEGATIVE" result means that one or more entries have been made that "unbalance" the statements. Debugging by on-screen inspection usually results in an isolation of the problem (see the section on "Debugging a Worksheet" in Chapter VII - MODIFYING THE PLANNER/ANALYST).
- \* Before getting into detailed analysis, however, make sure that the "Actual" BALANCE SHEET figures entered in column F are in EXACT balance. These cells are formatted to one decimal, so they could contain errors not reflected in the rounded totals. An imbalance here will cause TEST to turn out "NEGATIVE."
- \* Your increasing familiarity with the Planner/Analyst as you use it is likely to make you more comfortable altering the formats that you find in the original Planner/Analyst template to meet your own special needs. This can generally be accomplished without difficulty. However, to be sure that you don't inadvertently create formula relationships that "unbalance" the Worksheet, you should use TEST often during structural alterations to assure the continuing integrity of the Planner/Analyst.

- =====
- \* You may make changes to your Worksheet, run TEST, obtain a "POSITIVE" outcome, and then move to the Statements only to find them peppered with ERR entries. This is probably because an error in a formula entry has flowed through the Worksheet to the "Adjusted Ending Cash" and "Cash" plus "Money Market Acct" ranges, which the Power File uses in its evaluation. Any formula with ERR in it will be evaluated as "0", so that conceivably, the outcome could be equality. Locate the ERR source and re-run the TEST.

COPYING WORKSHEET FORMULAS  
The COPY Power File

-----

A complex formula can be tedious to copy because the forecast shifts to annual values after the first forecast year, requiring some (but not all) of the elements of the formula to be adjusted.

The COPY Power File speeds the process of building a Worksheet and assures accuracy. It is an automatic formula copier that needs only the first month formula in column G to create the full four-year series.

Remember that in order for this Power File to work properly, assumptions used by the target formula that have changing values (i.e., a separate Gross Margin percentage for each plan year) should be loaded to the ASSUMPTIONS REFERENCE TABLE and referenced in the formula. (See ASSUMPTIONS REFERENCE TABLE. It is not necessary to load single-cell constant references in the ASSUMPTIONS REFERENCE TABLE.)

You use COPY in the Worksheet area containing the formulas you plan to copy; therefore, after invoking the Power File Manager and selecting COPY, the pointer will be placed back in the cell in which it rested just prior to invoking COPY to avoid a hunt through the statements to relocate formulas to be copied.

Operating like other Power Files, COPY can be used as many times as you wish until you close it at a "Continue" pause. Exercise care moving the pointer cell while using COPY in "hot-pause" mode. The pointer can be moved only by means of the arrow and Page keys during a "hot-pause"; the [F5] "go-to" function key is disabled during Power File use. COPY operates on only one formula at a time, and ONLY when the copying process begins in Column G, the first plan month.



=====  
Locate the pointer on the cell in Column G (the first plan month) containing the formula you wish to copy. Press [RETURN]. If this is a second or subsequent use of COPY, a final check of your intentions is made by offering you an "Abort" option, and COPY begins.

The first year is copied. COPY continues into the Year 2 cell and pauses. The Control Panel then displays the "Adjust-Do Not Adjust" option.

Here you are being asked by COPY whether or not the formula under the pointer must be multiplied by "12" to be accurate in the annual sections of the Worksheet. (Remember that ASSUMPTIONS REFERENCE variables are generally MONTHLY figures, even in subsequent years. However, other variables in the formula may already adjust a formula to reflect annual amounts. Your decision here will depend upon how you construct formulas.)

"Adjust" multiplies the whole formula by 3, "Do Not Adjust" leaves the formula as it is, and COPY continues until it finishes the fourth year.

When COPY finishes with a formula, it pauses again at a "Continue" prompt. A "Continue" selection relocates the pointer to column A, where the "RELOCATE POINTER" message is displayed, and COPY shifts again to "hot-pause" mode. Move the pointer to the new cell in column G ONLY (pointer arrow and Page keys only). Press [RETURN] and ignore the final "Abort" decision to restart the copy function on the selected cell.

USER HINTS:

-----

- \* An efficient way to use COPY is to create a group of first-month formulas and process them sequentially with COPY, selecting "Continue" after each formula is copied.
- \* At the end of the first year, when COPY pauses at "Adjust-Do Not Adjust", the pointer rests on the Year 2 cell containing the UNMULTIPLIED formula being copied, displaying this formula in the first line of the Control Panel. You should be able to determine by inspection whether the formula is correct for annual values.

[TECHNICAL NOTE: COPY cannot be used on all types of formulas in the Planner/Analyst. Its use is limited to formulas that are valid when a multiplication of the whole formula by three is appropriate when the forecast shifts to annual periods.]

- =====
- \* As mentioned above, when COPY is selected, the pointer is returned to the Worksheet cell where it rested just prior to the invocation of the Power File Manager. Specifically, when the Power File Manager is invoked with "[Alt]-Z", it first assigns a temporary range to the pointer cell. When COPY is selected and started, it executes a [GOTO] command to that cell. When LOTUS executes the [GOTO], the target cell will be positioned in the upper left-hand corner of the screen. To display the SCREEN which was displayed prior to invoking the Power File Manager, move the pointer to the upper left-hand corner of the SCREEN you wish to return to BEFORE invoking the Power File Manager.

LOADING THE ASSUMPTIONS REFERENCE TABLE  
The LOOKUP Power File

-----

The ASSUMPTIONS REFERENCE TABLE section describes the purpose of this intermediate Table. LOOKUP is the Planner/Analyst tool that automates the process of filling it.

First, an important caution: LOOKUP will not operate properly unless there is AT LEAST one row (blank or erasable) available in the ASSUMPTIONS TABLE for EACH use of the Power File BEFORE it is invoked. If not, use:

/-WORKSHEET-INSERT-ROW

now to add enough rows to meet your requirements.

LOOKUP is self-prompting. "GO" shifts the display to the ASSUMPTIONS REFERENCE area. A prompt appears in columns A and B explaining that while LOOKUP pauses you may freely move around the Worksheet using pointer keys to obtain or verify the group of cell addresses of the assumption in GENERAL ASSUMPTIONS you will be supplying to LOOKUP as it runs (i.e., one address for each plan year).

When you press [RETURN], the pointer will return to the ASSUMPTIONS REFERENCE description column, and a second message in the margin will direct you to locate the pointer on the first available row in the label column (Column "C").

After positioning the pointer with the pointer movement keys, press [RETURN]; the message in the margin will be erased, and a request for "Assumption title" will appear in the Control Panel.

=====  
Type in the appropriate title phrase and press [RETURN]. The title is entered and the pointer moves to the first data column in the Table. After erasing the target row, LOOKUP displays a Control Panel prompt asking for the "YR1" assumption cell address.

Enter a cell address only; LOOKUP adds the "absolute" cell specification ("\$"). After the first year is entered, another Control Panel request is made for the "YR2" assumption cell address, and so on, until the addresses for the four separate annual assumptions have been loaded.

Next, LOOKUP pauses with options to "Continue", return to the Power File "Menu", or "Quit". If you have additional assumptions to load, select "Continue" to reposition the pointer and repeat the sequence. As before, "Menu" returns to the Power File menu, and "Quit" returns to the Power File Manager, which moves the pointer back to the last active Worksheet cell, returning LOTUS to READY mode.

USER HINTS:

- 
- \* After entering the cell address of the assumption for the first year, it is not necessary to wait until the Power File pauses to enter the second and subsequent year cell addresses. The keyboard buffer can hold most of the keystrokes required to complete the row (don't forget the [RETURN] key).
  - \* Since LOOKUP operates on whatever cell addresses you supply at the pause, scan the end result quickly for accuracy.

CREATING COLUMN DATE HEADINGS  
The DATES Power File

-----

DATES saves time in the tedious job of designing and aligning the date column headings. It generates the complete heading with appropriate over- and under-scoring. In the Planner/Analyst, the column date heading is a standardized four-row heading (year, underscore, period name, underscore) that is customized and generated automatically. Year labels are copied directly from the entries made in "Plan Years" in USER-MODIFIABLE ASSUMPTIONS.

=====

The target of DATES is the set of column labels in the Worksheet statement UNIT SALES FORECAST. This heading area has the range name DATES1, and it is empty in the raw Planner/Analyst template.

The opening screen of DATES displays the current beginning month of the first year of the forecast, along with a Control Panel menu that includes "Sequence" and "Replace" options.

"Sequence" tells DATES to change the order of months for your plan to a non-calendar fiscal year. Select "Sequence" now. "Sequence" actually involves a separate Power File called DATESORT (you will see the current file drive activate when you select "Sequence"). Another menu and screen appears displaying the current starting month. Select "New month."

A request for a new starting month appears in the Control Panel. For demonstration purposes, enter "6" for a new starting month in June and press [RETURN]; the display shifts momentarily to a table where the months are resorted, then returns to the DATESORT screen where the revised starting month is displayed. When the starting months are correct, select "Return" to go back to DATES.

"Replace" bypasses the automatic building process in DATES. You use this option after you have MANUALLY built or modified the header in range DATES1. Invoking DATES and pressing "Replace" puts the current column headings in range DATES1 in all other programmed locations. "Replace" is an alternative to the surgery described in Chapter VI - CHANGING POWER FILES, "Changing Month Label Formats".

"GO" starts DATES. It is not necessary to locate the pointer first. When DATES is finished constructing the new set of column headings in range DATES1, it continues by copying the newly created DATES1 heading to preset column heading ranges throughout the Worksheet. The status message "Copying..." appears in the display. (NOTE: the "copy-to" addresses are range names so that later modification to the Worksheet will not effect DATES.)

At the end of copying, which results in the updating of only the original Planner/Analyst column date heading range names listed in DATES, a "Continue" prompt is displayed to allow you to make additional copies for new or unranked column date headings that you have added to your specific plan. Selecting "Continue" will shift the Power File to "hot-pause" mode, meaning that the DATES function (i.e., copying the date heading) will occur wherever you place the pointer. Since DATES does not know the location of these other ranges, it

will is necessary to move the pointer before pressing [RETURN]. Carefully move the pointer with Arrow and Page keys only. Locate the pointer in the cell to contain the upper-left corner of the heading range to be created (i.e., the first "year" label) and press [RETURN].

When in the "Continue" option, DATES gives you a final "Abort" opportunity (plus "Menu" and "Quit" alternatives) to force you to check one last time that the pointer is in the right place (remember, when you proceed, an area four rows deep and twenty-eight columns wide will be overwritten by the date heading). Select "Copy" and the heading is inserted. Another "Continue" prompt is displayed, and DATES repeats the process.

#### USER HINTS:

- \* Remember to use caution when DATES is in "hot-pause" (i.e., when a "Continue" decision is made after the original copying is completed). If you cause DATES to execute before properly locating the pointer, you will destroy any data in the path of the copy.
- \* The month re-sorter that goes with DATES can be handy when you are creating several different Worksheets or updating a current Worksheet. Or, you may wish to make aesthetic changes to the format (such as repositioning the underscoring, or adding new permanent ranges to DATES itself). This can be done easily, but requires care. Consult Chapter VI - CHANGING POWER FILES for specific instructions on making alterations to this file and others.
- \* To change the format of the "Year" labels in the column-date heading, make modifications to the labels in row 18. These labels are used directly by DATES in creating the heading.

#### NAMING WORKSHEET STATEMENTS AND REPORTS

##### The NAME Power File

NAME is a small convenience that allows you to quickly copy the Company name entered in the "Worksheet Set-Up" option in the Power File Manager into the appropriate Statement Title Blocks throughout the Worksheet.

=====

Like DATES, NAME copies the Company name to all the original Planner/Analyst ranges named in the Power File. First, however, NAME displays the current Company name it will use to allow you to change it without going back to "Worksheet Set-Up". Simply select the "Name" option at the entry screen. A request will appear in the Control Panel for the new name. Make the entry and press [RETURN]. The entry screen will be updated with the revision.

Once the change is made, or if no change is made, select "GO" to start NAME. It is not necessary to locate the pointer when executing NAME.

At the end of the copying operation, a "Continue" pause allows you to make additional copies to other unranked Title Blocks. This choice will shift NAME to "hot-pause". Move the pointer to the location for the new label (using Arrow and Page keys only), and press [RETURN]. After the "Abort" option to double-check pointer location, the name will be copied to the pointer location and another "Continue" pause will occur. Repeat the process as many times as necessary. Terminate with "Menu" or "Quit".

USER HINTS:

- 
- \* As with DATES, use caution when locating the pointer (with the Arrow and Page keys only) in "hot-pause" mode after pre-programmed copying is finished.
  - \* NAME can be modified to accommodate new ranges that you wish to add permanently to your Worksheet design. See Chapter VI - CHANGING POWER FILES.
  - \* The same "Company Name" from "Worksheet Set-Up" is used in printout footers by the PRINT Power File. You will have the same opportunity to change the name in PRINT as you do in NAME.

For identifying separate scenarios, use the "Scenario Abbreviation" in "Worksheet Set-Up" to identify alternative Worksheet scenarios. As explained in Chapter III - INITIALIZING THE WORKSHEET, this abbreviation is also used in print footers in brackets, and is designed for coding alternative individual scenarios.

---

CUSTOMIZING ASSET AND LIABILITY LABELS  
The EDIT Power File

---

No spreadsheet template can be useful if it cannot be conveniently modified to suit the needs of a specific situation. Accordingly, the Planner/Analyst has the features built into it that facilitate the customizing process, especially in areas of the Worksheet involving multiple interrelationships. The BALANCE SHEET accounts involving non-current assets and liabilities are examples.

EDIT is a Power File that can be particularly helpful in customizing these BALANCE SHEET accounts because each account has a half-dozen or so related entries in several areas of the Worksheet that a novice user of the Planner/Analyst would be unfamiliar with.

EDIT opens with "GO" and "Update" options in addition to "Menu" and "Quit." "GO" starts a short tutorial on the EDIT function which leads to actual entry of the custom labels you want to enter into the Worksheet.

As explained in EDIT itself, Asset Types A and B have Asset Depreciation Ranges ("ADRs") that are arbitrarily set at 3 and 5 years. These ADRs can be changed, but corresponding changes must be made in formulas in the Depreciation Schedules; formulas for these Asset Types calculate depreciation for 3 and 5 years respectively. See Chapter VII - MODIFYING THE PLANNER/ANALYST, "Changing Depreciation Rates for Asset Types A and B."

EDIT explains that Debt Type 1 (with a 36-month amortization set in USER MODIFIABLE ASSUMPTIONS) is for financing the acquisition of Asset Types A and B. Debt Type 2 (presently with a 120-month amortization set in USER MODIFIABLE ASSUMPTIONS) is for financing the acquisition of Asset Types C and D. Debt Type 3 (presently with an 84-month amortization set in USER MODIFIABLE ASSUMPTIONS) is a general borrowing category not tied to any asset type.

The label modifications occur at the end of the tutorial, with all entries made through prompts in the Control Panel. "Next" and "Previous" allow you to move through the list at random. When the last label is entered, select "Quit" to return to the original opening menu.

"Update" is the last step in EDIT. It inserts the custom labels in all the appropriate rows of the Worksheet. When the Power File is finished, it displays a message and gives you a final option to return to the label customizer again, or "Quit."

## =====

## USER HINTS:

- 
- \* Before using EDIT, load a fresh Planner/Analyst Worksheet, stepping through the opening screens with [RETURN] until the mode indicator says READY. Press

[F5]-A279

Browse through the generic titles in the BALANCE SHEET and decide how to label these items.

- \* If you do not borrow any money to finance asset acquisition, simply ignore labels for Debt Types 1 and 2; you can erase them later (see Chapter VII - MODIFYING the Planner/Analyst, "Cleaning Up Unused Asset and Debt Categories").
- \* The Planner/Analyst also has a revolving line-of-credit facility that is based upon a percentage (set in USER-MODIFIABLE ASSUMPTIONS - cell H50) of Accounts Receivable and Inventory on hand. See Chapter IV - PLANNER/ANALYST PRIMER, "% Receivables + Inventory for LOC." This line of credit is increased and decreased based upon the CASH FLOW. Its operation is explained in the section on the CASH FLOW in Chapter IV.

DIAGNOSING WORKSHEET PROBLEMS  
The ANALYZE Power File

-----

The Planner/Analyst involves some complicated logic and formulas, which means that occasionally you may find yourself with a NEGATIVE outcome from TEST (i.e., the Worksheet is "out of balance") and no immediate solution is apparent from inspection. ANALYZE facilitates your review.

Before using ANALYZE, SAVE THE WORKSHEET, even though it contains errors. You should do this in a separate file just in case you are unsuccessful in finding the error and are forced to restart from the last back-up.

ANALYZE simply prepares the current Worksheet in a form convenient for analysis and then prints it. ANALYZE first numbers the Worksheet rows and labels columns for reference, changes the width of columns F, J and K, and switches to formula text display in these columns.

Once activated with the Power File Manager and a "GO"



=====  
selection is made at the entry screen, ANALYZE requires no further intervention, except to affirm that the printer is READY.

With the ANALYZE print-out, you should be able to quickly identify the problem source.

#### MAKING GRAPHS (Graphics Board and Monitor required)

-----

The Lotus 1-2-3 GRAPH facility is sufficiently simple to use that no separate Planner/Analyst Power Files are necessary. Further, the LOTUS capacity to remember graph settings eliminates the need to document or save criteria. Finally, there are so many individual variables in the GRAPH function that you will probably have custom ideas for your specific plan graphics that are just as easily selected directly in the GRAPH menu.

The Planner/Analyst does, however, offer some tools. First, the Planner/Analyst includes a table that summarizes the first year by quarter and the entire Worksheet by annual totals. (This table is located at the bottom of the Planner/Analyst Worksheet, and has the range name "GRAPHICS".) Next, using the command:

    /-GRAPH-NAME-USE

you will find a menu of sample graphs that you may find instructive as well as useful.

See the GRAPH section of your LOTUS 1-2-3 User Manual for more on the GRAPH function.

## VI.

## C H A N G I N G P O W E R F I L E S

By now you know that the Planner/Analyst is a highly flexible tool that you can modify to fit almost any format. This flexibility extends to the Power Files as well, which are designed to handle many routine functions. You can modify these too as you require, giving you true Worksheet customization.

For example, you may wish to change the footer format used when printing, or create new areas in the Worksheet into which you would like to have company name and date headings automatically inserted, or add new print ranges. All these changes can be made relatively easily, as long as you carefully follow the procedures described here.

An important caveat: you should be familiar with the section in your LOTUS Manual entitled "Keyboard Macros: the Typing Alternative" before going any further.

As mentioned earlier, Planner/Analyst Power Files are menu-driven LOTUS Keyboard Macros that reside in the Planner/Analyst directory. Access to the Power Files is controlled by the Power File Manager, a Worksheet-resident macro ("Z") that accepts keyboard entry, sets up the requested Power File, initiates it and wraps it up when terminated.

All Power Files are loaded into and executed in the same area of the Worksheet, a range named ENTERFILE (beginning in cell C654 in the original Planner/Analyst Worksheet). For discussion purposes here, load an uninitialized Planner/Analyst Worksheet (file PLAN4.WKS) to a fresh LOTUS spreadsheet. Press [Alt]-Z to invoke the Power File manager. Select PRINT from the Power File Menu. PRINT is loaded, recalculating the Worksheet. At the PRINT entry screen pause, press [CTRL-BREAK]. Press [PgDn] once. You are looking at range ENTERFILE and the beginning of PRINT.

In the Planner/Analyst, all Power Files, which are LOTUS Macros, consist of two columns, a label column on the left, and the Macro column immediately to its right (remember that a Macro is an uninterrupted column of single-cell labels containing the keystroke sequence to be executed). Press the sequence:

[F5]-[F3]-BR50P

=====

(you can type the range "BR50P" or select it in the range name list that appears in the LOTUS Control Panel using pointer arrow keys). The pointer moves to the cell immediately to the right of the label "BR50P". Try this several times on other range labels. Browse through the range names in the range name directory.

The object of this exercise is this VERY IMPORTANT POINT: Power Files, which are imported through:

/-FILE-COMBINE

in the Power File Manager, DO NOT CARRY A RANGE DIRECTORY WITH THEM; the ranges for ALL Power Files are in the main Planner/Analyst Worksheet directory. This means that the Macro column of ENTERFILE contains the range definitions for ALL Power Files, not just the active Power File. NEVER EXECUTE A /MOVE COMMAND INVOLVING THE RANGE "ENTERFILE" THAT DOES NOT INCLUDE THE WHOLE RANGE (C654..K744 in the original Planner/Analyst model). To do so will displace not just the ranges for the presently displayed Power File, but ALL OTHER Power File ranges in the altered area as well.

#### GENERAL CHANGE PROCEDURE

-----

Here is how you change a Power File without disturbing the range descriptions of other Power Files:

- (1) Save any current Worksheet you are using. (You can use SAVE for this back-up).
- (2) After backing up the current Worksheet, erase it with the command:

/-WORKSHEET-ERASE

- (3) In the blank LOTUS spreadsheet with the file directory set to your working Planner/Analyst directory, load the Power File you wish to change with the command:

/-FILE-RETRIEVE-[File Name]

- (4) Make whatever changes you wish, including inserting or deleting rows in the Power File the command:

/-MOVE-[Range Name] or

/-WORKSHEET-INSERT-ROW-[Range Name]

=====

(be sure to keep range labels aligned with their corresponding rows). Some common types of changes follow this section.

- (5) When you have finished your revision, print a hard copy of the revised Power File for reference.
- (6) Save the Power File to the Planner/Analyst directory under its appropriate file name with the command:

/-FILE-SAVE-[File Name]-REPLACE

Note that there is a blank row above the first line of each Power File.

- (7) Reload the current Planner/Analyst Worksheet.
- (8) IMPORTANT: If the revision to the Power File resulted in any additions, changes or deletions to the range names in the Power File, or any new rows that shift existing range names up or down from their original position, perform the following steps. Otherwise go to (9).

- \* With the active Worksheet reloaded and in READY mode, locate the pointer at range name ENTERFILE with the command:

[F5]-ENTERFILE

- \* Load the revised Power File with:

/-FILE-COMBINE-COPY-ENTIRE-[Power File Name]

at this EXACT pointer location.

- \* With the pointer in cell C654, issue the command:

/-RANGE-NAME-LABELS-RIGHT

and use the Down Arrow to include all range names involving single rows.

Ranges with the prefix "PRMPT-" are generally not single-celled ranges and must be manually named. Place the pointer in the first cell in Column D of an individual range and use the command:

/-RANGE-NAME-CREATE-[Range Name]

There also may be individual cell ranges within some "PRMPT-" ranges that must be individually named as well.

- =====
- \* Remember that any OTHER WORKSHEETS you have generated will also need range name adjustments if you plan on using the revised Power File in them as well.

- (9) Test the revised Power File by entering through the Power File Manager "[Alt]-Z". If you encounter any problems or ERROR conditions, analyze the problem with the printed version you made, and repeat Steps 1 through 8 above and retest.

Should you inadvertently damage the range name list in ENTERFILE, or if you accidentally issue the command:

```
/-RANGE-NAME-RESET
```

which erases the entire Worksheet range list, you will have to return to the last backup, unless you wish to manually re-enter the several hundred Planner/Analyst ranges listed in the Index.

DO NOT make changes to an individual Power File inside a Planner/Analyst Worksheet. First, any changes to ranges in one file using this method will destroy the range relationships for all other Power Files. Second, when you save any file with the command:

```
/-FILE-XTRACT
```

you will save the entire Worksheet range name list with it. Make all changes to Power Files in a blank LOTUS Worksheet.

#### SOME COMMON CHANGES

-----  
Using the "General Change Procedure" described above, here are some examples of how changes are made:

#### Changing Cover Page Spacing

-----  
The area at the top of the Worksheet labeled "PROJECT DATA" contains the information used by PRINT, Option 1, to print the Cover Page. This change procedure will allow you to customize the Cover Page to your preferences.

- =====
- \* If you have not already done so as suggested in the section on "PROJECT DATA" in Chapter IV - PLANNER/ANALYST PRIMER, load any Planner/Analyst Worksheet and familiarize yourself with the ranges "PROJECT-A", "-B", "-C", and "-D". Use:

    / -RANGE-NAME-CREATE... [Esc]

- \* Erase the Worksheet and load PRINT with:

    / -FILE-RETRIEVE

to a BLANK LOTUS worksheet.

- \* Locate the section in PRINT containing the keystrokes for printing PROJECT DATA just below range "BR1P". The "L's" in the keystroke sequence are LOTUS Keyboard line feed commands which insert vertical spacing between "PROJECT-" ranges. (Note that changes in horizontal centering require adjustments to the cell entries themselves in "PROJECT-A", "-B", "-C", or "-D" ranges in the Worksheet, not the Power File). Add or delete line feeds in the macro line as you desire.
- \* Save the revised Power File to the Planner/Analyst directory with:

    / -FILE-SAVE-REPLACE
- \* Reload the Worksheet, invoke PRINT through the Power File Manager ([Alt]-Z), and run Option 1, "Cover Page", to test your change.
- \* If you are not satisfied with the result, repeat the above steps for changing cover page spacing.

#### Adding New Range Names to DATES/NAME

-----

This would be appropriate if you add a new statement section to the original Planner/Analyst template and want these Power Files to operate on them each time you make changes to your Worksheet.

- \* Load DATES or NAME to a blank LOTUS worksheet.
- \* Find the section containing the individual copy commands and target range names. Select range names for the new target ranges and enter them directly along with the appropriate LOTUS keystrokes (NOTE: if you need to add a new line or lines to the Power File you may insert additional rows here).

- 
- \* Save the revised Power File with  
  
    /-FILE-SAVE-REPLACE  
  
to the Planner/Analyst directory.
  - \* Remember that if new rows are added or new Power File ranges are created, you must update the Worksheet range names (see the bullets in (8) above under "General Change Procedure").
  - \* Don't forget to add identical range names to the new areas of the Worksheet; otherwise the Power File will terminate with ERROR and display a "Range name does not exist" message.

#### Changing Month Label Formats

---

If you prefer a different format for the month labels (like "Mo 1" or "1") when DATES makes its initial heading, make changes using this procedure:

- \* Issue the command:  
  
    [F5]-"U657"  
  
This moves the pointer to the "Month Label Sorter Table."
- \* Make modifications directly to the labels in column W, being careful not to alter the "{RIGHT}" on each line.
- \* You may have to experiment with spacing to make it suitable. When corrections are finished, move the pointer back to U657, press [Alt]-Z, and select and run DATES.

Remember that if you change current ranges names of lines in a Power File (or add new ones), the Power File will not operate properly when loaded into Planner/Analyst Worksheets that have not been properly updated with the revised ranges using "General Change Procedures" - (8) above. You will have to judge whether or not the task of updating old Worksheets is worth the effort. If not, make sure you use the proper separate directory (which would include the proper Power File version for that Worksheet) when running old Worksheets.

## VII.

## M O D I F Y I N G   T H E   P L A N N E R   A N A L Y S T

To be useful, a pre-formatted Worksheet must be adaptable to a variety of applications. On the other hand, format changes in a tightly constructed Worksheet can introduce potential error in logical structure. This applies to the Planner/Analyst as well, except that it was designed with the idea that you would inevitably want to make changes in format or structure.

The section on DETAILED WORKSHEET STATEMENTS in Chapter IV begins with a discussion of the logical structure of the Planner/Analyst. Re-read this now. An important underlying goal of any format alterations will be to maintain Worksheet integrity.

## GENERAL SUGGESTIONS:

- \* Before embarking on any Worksheet modification, run the ANALYZE Power File on the Worksheet you plan on modifying (see Chapter V - MANIPULATING THE PLANNER/ANALYST, "Diagnosing Worksheet Problems"). This listing can be a handy reference. (If you have done some work on a model that you now want to change, be sure to save the Worksheet. ANALYZE gives you this option in its opening sequence.)
- \* Do not use or alter the blank columns A or B when making changes to your Worksheet.
- \* When inserting new rows which you will want included in a summation formula, or deleting unneeded rows, be sure that these insertions or deletions do not disturb formulas. For example, if your summation is @SUM(G100..G108) and you delete row 100, your formula will become @SUM(ERR). Similarly, if you insert new rows at row 99 that you wish to have included in the same summation, the existing rows in the summation will be adjusted but the formula will NOT be updated to include the NEW rows.

You will observe that most summation formulas in the Planner/Analyst use summation ranges that exceed the general working rows to be summed, minimizing this problem.



- 
- \* All major sections of Planner/Analyst are named ranges. The list of ranges in the Planner/Analyst is considerable; you can scan it with the command:

[F5]-[F3]

If you decide to restructure the Worksheet by moving major sections, be sure to check the ranges first, and be sure to move the ENTIRE range.

- \* Due to the sheer size of the Planner/Analyst Worksheet, it is good policy to delete any unneeded rows to save memory.
- \* Whenever you decide to relocate data in a Planner/Analyst Worksheet (except for row insertions or deletions), ALWAYS use "Move", NEVER use "Copy", unless specifically directed to do so in this manual. This is because range names will not be relocated with "Copy," and relative cell references in the copied range will make the formula invalid.
- \* When adding to a Worksheet (new summary reports, expanded statements, etc.), keep an eye on available Worksheet memory with:

/-WORKSHEET-STATUS

RAM resources are not unlimited.

- \* Don't forget to make appropriate changes to the formulas in SUMMARY reports where new information is added to the DETAIL sections of the Planner/Analyst.

#### Customizing the INCOME STATEMENT

---

- \* Changes to this statement (including UNIT schedules) are the simplest to make. The most common changes here are to the title column for Sales, Cost of Sales, or Expense account labels.
- \* Follow these steps:
  - (a) Make changes first to the labels in UNIT SALES FORECAST and PERSONNEL SCHEDULE. Then erase the corresponding labels in the DETAILED INCOME STATEMENT section, insert or delete rows to match the length of the revision in the UNITS sections, and use LOTUS "Copy" to reproduce the UNIT label list in the DETAIL section. Note that making the DETAIL labels identical to the UNIT labels will simplify DETAIL formula generation; sequential formulas are simple to copy and less prone to error.



- =====
- (b) Enter the appropriate expense labels for your particular Worksheet in the "Other Expense" section of the DETAILED INCOME STATEMENT (Rows 235-252). DO NOT DISTURB "Contingency," "Interest Expense," "Depreciation," "Amortization," or "Interest Income;" these are pre-programmed calculations utilizing data generated in other sections of the Planner/Analyst and must be specially handled if you wish to delete them.
  - (c) Once you have completed format changes in DETAIL statements, make the number of rows in USER-DEFINED ASSUMPTIONS (Rows 73-94) equivalent and use LOTUS "Copy" to reproduce the list from the DETAIL statement in that area.
  - (d) If you inspect PRINT using the procedure at the beginning of Chapter IV, you will note that PRINT uses the labels in column C as a border for ALL print-outs; therefore, keep all labels in column C.

#### Customizing the BALANCE SHEET or CASH FLOW

-----

- \* For account label changes, use the same procedure recommended in "Customizing the INCOME STATEMENT" above. Common changes involve redefinition of accounts, along with modifications to the depreciation rates or amortization calculations. Changes to formulas in these statements are more complex.
- \* Before attempting any changes to these statements, it is advisable for you to familiarize yourself thoroughly with formula relationships linking the BALANCE SHEET, CASH FLOW, CAPITAL PURCHASES INPUT SUMMARY, DEPRECIATION SCHEDULE, and MISC CASH FLOW/BALANCE SHEET CALCULATIONS. Also remember that a number of assumptions that drive these calculations are located in USER-MODIFIABLE ASSUMPTIONS (Range GENERAL 1). A good way to familiarize yourself is to use ANALYZE to print a diagnostic print-out (BACK UP the Worksheet before using ANALYZE; you can do this from ANALYZE itself).
- \* If you decide to modify existing Planner/Analyst logic, keep these general rules in mind:
  - (a) Any decrease in an asset account or increase in a liability account must be reflected somewhere in the "Sources" section of the CASH FLOW. Conversely, any increase in an asset or decrease in a liability in the BALANCE SHEET must be reflected somewhere in the "Uses" section of the CASH FLOW.

- (b) A convenient way to manage the loan amortizations or depreciation for the four generic Asset categories is to rename them appropriately with EDIT (see Chapter III and Chapter V) and modify the assumptions in USER-MODIFIABLE ASSUMPTIONS.
- (c) TEST will help during the modification process. It re-calculates the Worksheet and then tests its integrity by horizontally totalling "Cash" and "Money Market Acct" in the BALANCE SHEET and comparing this total to similar totals for "ADJUSTED ENDING CASH" in the CASH FLOW. If these totals equal, the result is "POSITIVE" and Worksheet integrity is maintained.

TEST should be used frequently to narrow the sources of any problems that occur as a result of changes made to a Planner/Analyst Worksheet.

#### Starting a Forecast in Mid-fiscal Year

---

- \* If you are structuring a forecast that does not begin on the first month of the fiscal year, but you want it to connect properly to Year 2, you may begin the forecast in the appropriate period, leaving the months not used blank, provided you follow a strict procedure.

The Planner/Analyst requires a starting Balance Sheet (which is entered in the "Actual" columns of the Planner/Analyst BALANCE SHEET). Certain BALANCE SHEET calculations, namely depreciation and loan amortizations, calculations for Receivables, Inventory, Payables, and LOC calculations, are generated in successive months by these formulas, even though there is no forecast for this period.

The solution is to "turn off" the subsidiary calculations that produce these figures (in DEPRECIATION SCHEDULE and MISC CASH FLOW/BALANCE SHEET CALCULATIONS). For example, cell F512 is the calculation for the loan amortization for Debt Type 1. If the new forecast starts in column L, the formula:

```
@IF(K514=F512,F512+E511/$H35,F514)
```

should be edited to convert all "K" references to "F" references:

```
@IF(F514=F512,F512+E511/$H35,F514)
```

=====

If you make these changes properly throughout, then the "Actual" Balance Sheet will carry forward properly to the beginning of the forecast. Remember these points:

- (a) BALANCE SHEET logic for each period is dependent upon results in the prior period. This dependency is what allows a Planner/Analyst Worksheet to be able to use and reflect "Actual" current information (inserted in the "Actual" BALANCE SHEET column F). If you look at column F of MISC CASH FLOW/BALANCE SHEET CALCULATIONS (range MISCCF 1), you will find several "seed" values extracted from the "Actual" BALANCE SHEET (for example, cell F317), and you will note that these "seed" values are used in calculations in this schedule. You will need to create new "seed" values in this schedule in the month column JUST PRIOR TO the new forecast start month and adjust any formula references that use the old "seed" references.
- (b) No "Actual" CASH FLOW is required; only the ending cash balance from the BALANCE SHEET (note the way this occurs through cell F392 in column F in the CASH FLOW).
- (c) "Accounts Receivable," "Inventory," and "Accounts Payable" are values which are based upon prior period sales and expense information from the INCOME STATEMENT. If you insert cumulative year-to-date sales or expense values in the period just prior to your forecast start, make manual estimates of these values for the first three periods of the new forecast.
- (d) You will need to review each section of the Worksheet to determine what adjustments are necessary to keep statements in balance.
- (e) Use TEST after every change to keep track of Worksheet balance.
- (f) Be patient.

\* An alternative solution to this problem is to build two separate plans:

- (a) In the first, use the "Sequence" option in DATES to sort the month labels for the first year to be consistent with the starting month of the plan you are building. Then start the plan with the current BALANCE SHEET entered in the "Actual" column. Run the

projection through the end of the current fiscal year (after re-sequencing the months, the latter portion of the first year will be blank). Do not project any subsequent years in this plan. You may wish to erase years 2-4 to save memory, since you are using only part of the first year of this plan; the Worksheet will fit on a single diskette as a result.

- (b) In the second plan, begin fresh with the date heading labels sequenced for the correct fiscal year, using the last BALANCE SHEET figures from the first plan for the "Actual" figures in the second.

### Altering Print Ranges

-----

- \* If you load the PRINT Power File according to the procedure outlined at the beginning of Chapter VI, you can see that range names are used exclusively for defining reports. Print-outs for Summary reports are single-step; Detailed Worksheet Statements are split into "Yr 1" and "Yr 2-4" reports.
- \* You may decide to create a Planner/Analyst model that is fewer than four years in length, in which case the later years in the print-out will contain irrelevant or meaningless data.
- \* You can eliminate this extraneous output by redefining the print ranges. For example, the right hand boundary of the print range "ABBREVINC," the Summary Income Statement, can be adjusted left to include only those columns needed. "Worksheet Detail" can also be adjusted accordingly. In fact, if the forecast is for no more than three years, "Worksheet Detail" can be printed in one pass by expanding the "Yr 1" ranges to include the second and third years. You will simply have to remember that the menu selection in the PRINT Power File referring to "Year 1" includes those subsequent periods (unless you revise the menu in PRINT, which is done using the revision procedure in Chapter VI - CHANGING POWER FILES).

### Running Out of Memory

-----

- \* Unless you are operating under one of the new expanded memory options, it is possible with a very large or complex Worksheet that you will run out of memory even with 640K working storage. The degree of complexity of your Worksheet will determine whether or not this will happen. The solution is simple: shorten the forecast by

erasing the detail for last year or two from the top of the Worksheet to the bottom, save the Worksheet (you can use SAVE for this), then reload.

\* Keep these things in mind:

- (a) Power Files that perform copy functions for you (i.e., COPY, DATES, LOOKUP) will continue to put results in the last column of the forecast, unless they are changed using procedures in Chapter VI. When this occurs, just erase these columns when you finish BEFORE you save the Worksheet.
- (b) Any formula that depends upon a future event will need to be adjusted in the new last year of the plan (such as "Inventory" in the BALANCE SHEET). You can spot these formulas by inspection.
- (c) You may wish to print out your model BEFORE erasing Year 4 to capture the data for a future plan.

#### Changing Depreciation Rates for Asset Types A and B

---

Before you decide to change depreciation rates for Asset Types A and B, consider that the Planner/Analyst is not a tax model as much as a cash flow model, and that depreciation is added back to net income in establishing capital needs.

In spite of this, if you still wish to modify the Depreciation calculations, inspect the Depreciation Schedule for Asset Types A and B. Note that the Planner/Analyst uses the half-year convention. Depreciation for the full first year is spread evenly over the whole year.

To change the depreciation of Asset Types A and B to 84 months, for example, make the following changes:

\* Examine the current formulas to make sure you understand the logic of the existing calculations.

\* In cell S473, change the formula to:

`@SUM(G423..R423)*0.286/2`

(with the 200% declining balance method, 0.286 is double the straight line rate of 0.143).

\* change the multiplication in subsequent year cells to 0.286, altering the remaining depreciable amount accordingly and extending the calculations to seven years.

- 
- \* Do the same with rows 474-482.
  - \* Unprotect cell H39 and enter the value "84".
  - \* Run TEST, which recalculates the Worksheet. The result should indicate "Worksheet in Balance."
  - \* If the result of TEST is "Worksheet Out of Balance," see "Debugging a Worksheet" below.

#### Debugging a Worksheet

---

- \* When a Worksheet is "out-of-balance", the first step in analyzing the problem is to examine the net difference between BALANCE SHEET "Cash" plus "Money Market Acct" and CASH FLOW "ADJUSTED ENDING CASH." Do this by creating a LOTUS horizontal "window" and displaying the BALANCE SHEET items in the upper half and CASH FLOW items on the bottom.
- \* Tab right and note the difference between the figures in the first plan month. Does the difference grow with each successive period? If so, the error is cumulative and probably involves missing information in the BALANCE SHEET relating to loans or capital assets. Is the difference constant? The problem is likely in a one-time entry in the CASH FLOW.
- \* Normally, you can spot a problem calculation right away by looking for the entry that has the value of the net difference calculated above.
- \* Generally, out-of-balance conditions are caused by one of the following problems:
  - (a) The opening "Actual" Balance Sheet does not balance. When entering these numbers, be certain that the figures for "Total Assets" and "Total Liabilities" are EXACTLY EQUAL. This should be checked by temporarily expanding the cell format of this column to three decimal places. If this "Actual" statement does not balance, the Planner/Analyst will produce erroneous "Cash" and "Money Market Acct" totals in the BALANCE SHEET because these figures "fall out" based upon all other net calculations. TEST will fail. [Although LOTUS 1-2-3 carries out calculations to 15 decimals, TEST has been adjusted to ignore a modest degree of cumulative decimal error.]



- 
- (b) The BALANCE SHEET does not balance properly due to changes in formulas on the "Asset" side.
  - (c) You have forgotten to properly offset manual changes in the CASH FLOW with similar manual changes in the BALANCE SHEET, or vice versa.
  - (d) Changes in format in one statement may not be reflected correspondingly in others. For example, if you expand the definitions of "Current Assets" or "Current Liabilities" in the BALANCE SHEET to accomodate additional rows, you must make corresponding changes in the formulas in the CASH FLOW which calculate increases or decreases in these items (rows 377 and 379 respectively in the original Planner/-Analyst model).
- \* When you encounter "ERR," it will probably occur widely throughout the Worksheet, because the Planner/Analyst is made up of many "dependent" formulas, and an "ERR" in a source statement can have a substantial ripple effect throughout the remainder of the Worksheet.
- \* Use this procedure when you obtain an "ERR" entry:
- (a) Begin in the CASH FLOW. Place the pointer on the first "ERR" in Column G and examine the formula in the LOTUS Control Panel. If there is no "ERR" in the formula, check the cells referenced in the formula until one is encountered. Each time an "ERR" is corrected (and a correction is copied across the Worksheet, if necessary), press recalculate [F9] and scan the Worksheet again.
  - (b) If "ERR" still persists, go to the BALANCE SHEET, and INCOME STATEMENT and continue the search for "ERR" until they are systematically eliminated.
- \* Circular references (indicated by the "CIRC" flag in the lower right hand corner of the display) are caused by cell references containing formulas that depend upon each other in recalculation and cannot settle on final values as a result. Circular references are difficult errors to correct in LOTUS 1-2-3 Release 1A because this version of LOTUS offers no help in finding the source of the problem. The quickest solution is to save the Worksheet and reload it using the Release 2 version. The command:

/-WORKSHEET-STATUS

=====

in Release 2 will display the addresses of cells involved in circular references to help you locate a problem.

Here, you appreciate the value of frequent recalculation: circular references are easier to trace if you have to sift through only a limited number of Worksheet changes. Fortunately, you should need to make very few alterations involving basic Planner/Analyst template logic, in which all the formula relationships have been tested prior to delivery to you.

## VIII.

## R E F E R E N C E

## Range Index

- 
- \* An alphabetical index of ranges used in the Planner/Analyst is included in this section for your convenience. The list will allow you to find ranges according to their name and allow you to cross-reference them to Power Files. Also included are the range description and addresses in the original Planner/Analyst template. [To save space, this index has been deleted from this version of the software. The range index is included in the complete manual supplied to you when you register.]

## User Input Checklist

- 
- \* This form will guide you in collecting input information required to construct a Worksheet.

## Program Listings

- 
- \* This section contains formula listings of the complete Planner/Analyst Worksheet and listings of the commands in each of the Power Files. [To save space, this index has been deleted from this version of the software. The program listings are included in the complete manual supplied to you when you register.]

## Index

- 
- \* A handy topical index of subjects covered in the User Manual.

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U S E R I N P U T F O R M

PRO/CAST

User Input Checklist

GENERAL

\* Plan period: \_\_\_\_\_ to \_\_\_\_\_.

Fiscal Year starts: \_\_\_\_\_.

\* Type of Sales Forecast:

Units ( ) Sales Dollars ( )

\* Changes in the forecast are based upon:

Manual entries ( ) Percent Changes ( )

1 2 3 4 5  
--- --- --- --- ---

\* Prime rate projection

BALANCE SHEET ASSUMPTIONS

\* Asset matrix:

Type	Depreciation Period	% of New Purchases Financed	Financing Period
-----	-----	-----	-----

\* Anticipated capital purchases by type:

Type/Description	\$ amount	Date (mo/yr)
-----	-----	-----

\* DAYS OUTSTANDING ASSUMPTIONS

	1	2	3	4	5
A/R Days	---	---	---	---	---
Inventory Days					
A/P Days					

\* Minimum cash balance to be maintained (\$000): \_\_\_\_\_

BORROWING

for Capital Equipment:           % Borrowed \_\_\_\_\_

Description	Cost	Term (Mos)	@ Prime +
-----	-----	-----	-----

for Fixed Assets                   % Borrowed \_\_\_\_\_

Description	Cost	Term (Mos)	@ Prime +
-----	-----	-----	-----

for Long Term Debt

Description -----	Cost -----	Term (Mos) -----	@ Prime + -----
----------------------	---------------	---------------------	--------------------

• Line of Credit Yes ( ) No ( )

% of Accounts Receivable + Inventory req'd: %

• Obtain latest or current Balance Sheet

• Anticipated future capital sources:

Debt ( )	Equity ( )
\$ _____	\$ _____

INCOME STATEMENT ASSUMPTIONS

Line Item Products -----	Unit Prices -----
-----------------------------	----------------------

• Line item unit sales forecast

• Gross Margin assumptions

• Personnel

Titles	Average Compensation (\$000)
-----	-----

• Unit employee position forecast by period by title

• Expenses

Line-item expenses

Line-item expense assumptions

Contingency/Other Expense assumption as  
a % of Total Expense: \_\_\_\_\_%

---



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 I N D E X

## A

---

Abbreviated Summary Income Statement	IV-24
Absolute cell references	IV-11
Accelerated Debt Reduction	IV-20, 21 IV-7, IV-22
Accelerated payoff	I-1
Accessing Power Files	V-2
Accounts receivable	IV-17
Actual opening balance sheet	IV-17, 18
Add'l Capital Investment	IV-20
Adjusting formulas for quarterly figures	V-15
ADRs	IV-5
ADRs	IV-24
Amortization	I-1
ANALYZE Power File	VII-1, V-22
Annual Multipliers	IV-9
Asset financing - disabling	IV-23
Asset Type - relationships to debt	IV-5
Assumptions Reference	IV-11, 15, V-14, 16
Assumptions Reference - Balance Sheet Days	IV-9

## B

---

Backups	II-1
Balance Sheet	IV-13
Balance sheet customization	V-21
Customization	IV-8
Logic	VII-5
Asset/liability categories	IV-19
Treating manual changes	IV-18
Setting up values	IV-18

## C

---

Capital Analysis	IV-24
Capital purchases	IV-22
Cash Flow	IV-13
Logic	IV-20
Cash Position	IV-7
Cautions	IV-27
Changes in working capital	IV-22



---

Changing	
Balance Sheet/Cash Flow	VII-3, 4
Depreciation rates	VII-7
Power Files	VI-1
Range names	V-6
Cover page	VI-4
CIRC flags	VII-9
Circular Reference	See "Endless Loop"
Compatibility between releases	II-2
Constant cell references	IV-11
Contingency expense - disabling	IV-16
Converting worksheets to other releases	II-2
COPY - why use	V-14
COPYING formulas	V-14
Cover page reformatting	IV-2
Current Liabilities - A/P	IV-17
Current Period Earnings	IV-19
D	
-----	
Date headings - manually replacing	V-18
DATES Power File	III-5, V-17
Additional customization	V-19
Changing the order of months	V-18
Target Range DATES1	V-18
Days Formula References	IV-12
Debt retirement	IV-21
Debt Type & financing term	IV-5
Debugging a worksheet	V-13
Deleting rows - caution	IV-15
Depreciation	I-1, IV-5
Methods	IV-24
Fixed A & B amounts	IV-5
Depreciation/Amortization - Income Statement	IV-16
Disabling automatic worksheet protection	IV-28
Disk Full errors - restarting	V-9
Diskettes	II-1, II-3
E	
-----	
EDIT Power File	III-6, IV-19, V-21
EDIT when customizing statements	VII-4
Endless Loop	See "Circular Reference"
ENTERFILE range	VI-1
Caution concerning range names	VI-2
Entering initial investment in cash flow	IV-21
Equipment requirements	II-1
Erosion	IV-9
ERR	IV-13, VII-9
ERR in cells	V-14
Error in Power Files	V-3

## F

---

Financing asset purchases	IV-19
Financing Term	IV-4

## G

---

General borrowing	IV-19
Generic Asset/Liability categories	IV-5, IV-23
Graph data table	V-23
Graphics	IV-25, V-23

## H

---

"Hot Pause mode"	V-14, 18
	V-19, 20

## I

---

Income Statement	IV-13
Creating	IV-15
Rows not to change	VII-3
Income tax	I-2
Increments - Interest	IV-4
Inflation	I-2, IV-9
	IV-12
Inflation/Erosion - disabling	IV-10
Initializing a worksheet	III-1
Inserting rows in Power Files	VI-5, 6
Inserting/deleting rows	VII-1
Warning	IV-26, 27
Installing on fixed disk	II-1,2
Interest	I-2
Interest Assumptions	IV-3
Interest expense/income - Income statement	IV-16
Inventory	IV-17

## L

---

Line of Credit	IV-19, 20
	V-22
Disabling	IV-8
Loading/starting a new worksheet	III-1
Loan amortizations	IV-24
Loans	I-1
LOOKUP for the Assumptions Reference Table	V-16
LOTUS 1-2-3, knowledge of	I-4
LOTUS macros	I-3,4
LOTUS menu format	III-2
LOTUS menu format - selecting a menu choice	III-4
LOTUS releases	II-2

## M

---

Macros in the Planner/Analyst	V-1
Manual, use	I-3
Memory	II-1, II-2 IV-15, VII-7
Memory - unneeded rows	VII-2
Mid-year beginning forecasts	IV-18
Minimum End-of-Period Cash	IV-7, IV-17
Relationship to Money Mkt	IV-7
Modifying	
DATES, NAME	VI-5
Power Files	V-1
PRINT	VI-5
Range Names in Power files	VI-6
MOVE commands - use of	IV-16, VII-2
Moving sections of worksheet	V-6

## N

---

NAME Power File	III-5, V-12
Identifying Worksheet statements	V-19
Names for backups	V-9
Naming files	V-6
Negative TEST results	V-13, V-22
New Investment	IV-19

## P

---

% Receivables + Inventory for LOC	IV-8
Plan Years	IV-3
Planner/Analyst defined	I-1, 2
Entry screen	III-1
Logical structure	IV-13
Overview	I-4
Statements	I-4
Subsidiary schedules	I-5
Summary reports	I-5
Variables	I-1, 2
Power File errors	V-3
Power File input	V-2
Power File Manager	III-4, VI-1 V-1, 2
Power File - interrupting with Ctrl-Break	V-3
Power Files	I-2, 3 V-1
Preparing worksheet	III-1
Prime rate	IV-4
Print ranges - changing	V-6, VII-6
Printer	II-3
Printer Control Codes	IV-2

---

Printing	V-3
Page footers	V-3
Preformatted reports listed	V-4
Set-Up Strings	V-5
"Printer not Ready"	V-5
Problems in a worksheet	V-22
Project Data	IV-1, VI-4
Protection of worksheet	IV-27
Purchases Financed	IV-6
R	
-----	
Range name loss/recovery	VI-4
Range names	V-6, VII-2
ENTERFILE	VI-1, 6
Release 2 restrictions	V-6
RELOAD - caution when to use	V-10
Reloading worksheets manually	V-12
Revolving line of credit	I-1, IV-20
ROUND functions - when to use	IV-14
S	
-----	
Sales forecasting	IV-14
SAVE - Rel. 2 restrictions	V-6
Saving a worksheet to 2 disks	V-7
Saving worksheets	V-6
Seed values in Subsidiary statements	VII-5
Shareware	iii, I-5
Starting forecasts in mid-year	IV-18
Starting values for statements	VII-5
Stopping Power Files	V-2
SUM formulas - suggestion on constructing	VII-1
Summary report formulas	VII-2
Surplus cash in the plan	IV-21
T	
-----	
Tax Calculation Table	IV-9
TEST after recombining files	V-12
TEST Power File	III-6, IV-13
	IV-18, V-13
TEST - use while customizing	VII-4
Timesavers when customizing statements	VII-2, 3
U	
-----	
Un-Arc'ed programs	I-5
User-Defined Assumptions	IV-10

## V

---

Variable 1, 2 in Expense Assumptions	IV-10
--------------------------------------	-------

## W

---

WARNING - Inserting/deleting rows	IV-26, 27
Worksheet	
Balance	IV-17
Balance explained	IV-13
Housekeeping	V-12
Problems	VII-8
Prompts/status messages	III-2
Worksheet Set-up	V-12
Worksheet Set-up Data	III-2, 4
Changing	III-2
Archive Directory	III-4
File Directory	III-3
Ident	III-2
Menu	III-2
Printer strings	III-3
Purpose/Author	III-3
Scenario Abbreviation	III-4

## Y

---

YEAR ranges	V-19
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