INSTALLATION MANUAL
AND
SYSTEM MANAGER'S GUIDE

FOR
SATURN–WP
SATURN–CALC
SATURN–GRAPH

SATURN

INSTALLATION MANUAL
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SYSTEM MANAGER'S GUIDE

for
SATURN-WP
SATURN-CALC
SATURN-GRAPH

running on
RT-11 / TSX-Plus
operating systems

Table of Contents

INTRODUCTION

SATURN software operates under various DEC operating systems. The information in this System Manager's Guide applies to the RT-11 operating system. This software is also compatible with TSX-Plus.

who should use this manual

This Guide assumes that you are a system's manager or have some experience with the basic operations of your RT-11 (and TSX-Plus) system, and it may help to review the RT-11 System User's Guide and TSX-Plus System Manager's Guide before proceeding. Specifically, you will need to know:

- how to use the ASSIGN, COPY, DELETE, DIRECTORY and SHOW commands;
- the number of logon accounts to be set up on your system,their designations and the numbers and kinds of files likely to be created by each user;
- the number of physical lines that will be on your system, the type of terminal on each line, and each line's assigned number;
- which physical devices or logical disks will be used for logical device assignments (a basic understanding of what differentiates physical devices, logical devices and logical disks is, of course, also needed);
- (optional) how to create command files so that device assignments can be made automatically at logon.

how to use this manual

This manual is divided into five sections (besides this introduction):

Part One: Tables (pages 4 - 9) are various charts, tables and lists you will be referring to during installation (and later if you make changes in your system).

Part Two: Installation Outline (pages 10 - 13) is a bare-bones, step by step procedure for installing SATURN software onto your system. If you are highly familiar with your operating system--and, especially, if you have previously installed SATURN products on your system--then these few pages should be all the directions you will need.

Part Three: Detailed Installation Procedure (pages 14 - 25) offers a more detailed explanation of the procedure. If this is your first experience installing software, or if you encounter any difficulty following the directions in Part One, then using this portion of the manual should make it easier for you to successfully install SATURN.

NOTE: The numbering of the ten steps in the installation procedure is the same in Parts 2 and 3 of this manual, so that

you could, if you wish, use Part Two for most steps, turning to the corresponding steps in Part Three when you'd like some extra help.

Part Four: System Operations (pages 26 - 28) offers maintenance procedures and explanations of specific SATURN features and programs, so that you can get the most out of your SATURN software.

Part Five: System Flowcharts (pages 29 - 31)show, for each product, the flow of data through the system and which files are required by which programs.

PART ONE: TABLES

Table 1 Supplied Files

The following files are supplicd with your system:

	FILE NAME	DESCRIPTION	NORMAL LOCATION	APPROX SIZE(in blocks)
ALL PRODUCTS	SAT .SAV	Master Menu Program	SY:	108
	DEFALT.SAV	Defaults Program	SY:	78
	TTABL1.SAT	Terminal Code File	SY:	22
SATURN-WP	WPS .SAV	Word Processor Program	SY:	97
	ENT .SAV	Data Entry Program	SY:	164
	FRM .SAV	Forms Utility Program	SY:	218
	SDE .SAV	Sort Program	SY:	88
	SPL .SAV	Spelling Utility Program	SY:	7
	SATUTL.SAV	Sort Utility Program	SY:	16
	SETS .SAV	Device Driver Diagnostic Utility	SY:	35
	SDE .HLP	Help Text for Sort Program	SY:	11
	ENT .HLP	Help Text for Data Entry Program	SY:	25
	WPS .HLP	Help Text for Word Processor Program	SY:	87
	*HYPHEN.SAT	Hyphenation Exception File	SY:	8
	MEMDCT.SAT	Spelling Core Dictionary	DC:	47
	*DSKDCT.SAT	Spelling Disk Dictionary	DC:	407
	DEMLIB.FRM	Demo Forms Library	SY:	16
	ADRLST.DEF	Demo Address List	DK:	11
	D1 .WPS	Demo Document	DK:	1
	D2 .WPS	Demo Document	DK:	1
	D3 .WPS	Demo Document	DK:	1
	RULER .WPS	Ruler Used in Instruction Manual	DK:	1
	DI .SYS	Serial Printer Handler	SY:	3
	DI .TSX	Serial Printer Handler	SY:	3

(The following SATURN-WP files are not included in DEMO packages)

NEWDCT.SAV	Spelling Dictionary Update Program	SY:	49
INITF .SAV	Forms Initialization Program	SY:	36
*DSKDCT.SRC	Disk Dictionary Source	DK:	814
*DI .MAC	Serial Printer Source Code	SY:	9

***Existing users of any Saturn software: do not copy**

SATURN-CALC	CAL	.SAV	Spreadsheet Program	SY:	208
	CAL	.HLP	Help Text for Saturn-Calc	SY:	116
	*CALGD	.SAT	Graphics Defaults File	DK:	4
	LEDGER	.CAL	Demo Spreadsheet	DK:	6
	EXPENS	.CAL	Demo Spreadsheet	DK:	16
	LINEAR	.CAL	Demo Spreadsheet	DK:	11
	BUDGET	.CAL	Demo Spreadsheet	DK:	9
	SCORES	.CAL	Demo Spreadsheet	DK:	6
SATURN-GRAPH	GRF	.SAV	Graphics Language Interpreter	SY:	193
	SIG	.SAV	Interactive Graphics Interface	SY:	207
	RAS	.SAV	Vector/Raster Convertor for Printers	SY:	105
	FONT1	.SAT	Roman Typeface Set	SY:	96
	FONT2	.SAT	Gothic Typeface Set	SY:	96
	GTABLE	.SAT	Hardware Device Specification Table	SY:	1
	USA	.SAT	United States Map Command File	SY:	45
	PIE	.GCL	Demo Graph	SY:	1

*Install **ONLY** if you have **BOTH** Calc **AND** Graph packages.

Table 2 Logical Device Size Considerations

LOGICAL DEVICE	PURPOSE	SIZE CONSIDERATIONS
DK:	default area for all WP, Data Entry and spreadsheet files you create.	besides the files themselves, backup files reside here. For each file opened by either ENT.SAV or SDE.SAV an area of contiguous free space equal to the size of the file being used plus 25 blocks must be available.
SCR:	scratch area for Data Entry (ENT.SAV) and Sort (SDE.SAV) programs; work area for SATURN-GRAPH vector to raster conversion (RASTER.SAT).	to accomodate ENT.SAV and SDE.SAV, SCR: should have contiguous free space at least 25 blocks larger than the largest file you are apt to create. Vector to raster conversion requires a work area of roughly 1000 blocks. These requirements are not cumulative, since scratch areas are written over each time you work in a different file.
SCL:	scratch area for SATURN-CALC spreadsheets.	this should be at least twice the size of the largest spreadsheet you are apt to use. If SCL: is not created, or is too small, then first SCR: and then, if that's full, DK:, becomes the SATURN-CALC scratch area by default.
DC:	location of spelling dictionaries (DSKDCT.SAT and MEMDCT.SAT).	these two files require 454 blocks.

Table 3 Supported Terminals

Following are a list of the codes to enter in response to the DEFALT.SAT prompt asking what type of terminal you are running on. All terminal types current5ly supported by SATURN are listed.

TERMINAL NAME	DEFALT.SAT ENTRY
Adds Regent 100	ADD100
Adds Viewpoint	ADDVIW
Lear Seigler ADM3A	ADM3A
Lear Seigler ADM42	ADM42
Lear Seigler ADM5	ADM5
ANSI	ANSI
Concept 100	CON100
Data Graphics 132	DG132
General Terminal Corporation GT101	GT101
Hewlett Packard 2621	HP2621
Hewlett Packard 2648	HP2648
Hazeltine 1420	HZ1420
Hazeltine 1500	HZ1500
Hazeltine 1510	HZ1510
IBM 3101	IBM3101
Infoton 100	INF100
Soroc IQ120	IQ120
Soroc IQ130	IQ130
Microterm MIME-1	MIME1
Microterm MIME-2A	MIME2A
Terak graphics system	TERAK
Televideo 920 terminal	TVI920
Televideo 950 terminal	TVI950
VT52, or "No-extras" VT52 look-alike	VT52
VT100 (any series) with enhanced video	VT100
VT100 (any series) without enhanced video	VT101
Zenith 19	Z19

Table 4 GTABLE Entries

Following are the entries to use when editing your GTABLE.SAT file. Each must be preceded by the line code designation or, if it's on a printer port, by the designations for the line code and for the device whose printer port line it is using.

GTABLE ENTRY	DEVICE	NOTES
1010,1024,780,100,100	TEKTRONIX 40xx series	supports most units PLOT10 compatible
DS180,975,975,75,72	Data South	
HOUSTO,3200,2000,100,100	Houston Instruments DMP29 & compatibles	various pen plotters
HP2648,720,360,100,100	HP model 2658 et al	Compatibility mode
LA-100,1400,1000,250,100	LA-50	
LA-100,1152,792,144,72	LA-50 at less dense setting	
LQP02,1023,1023,120,48	DEC LQP02	
TEKPLOT,4094,2730,100,100	TEKTRONIX 4662	GPIB compatibles
UNDEFINED,1,1,1,1	for systems where predefined lines are not possible because of phone rotaries, etc.; or as a placekeeper entry for a non-graphics terminal when a graphics device is being run off its printer port.	
VISUL55,768,585,100,100	VISUAL corp model 55 & compatibles	
VT240,799,499,100,95	VT240	White, magenta, cyan, and yellow are patterned red, green or blue
VT240M,799,499,100,95	Monochrome VT240	
VT241,799,499,100,100	VT241	not tested, should show 8 colors

NOTE: Because hardware manufacturers often change specifications on their devices without notice, some of the above specifications may vary. Most commonly, the aspect ratio for a particular device changes, making pies oval or clipping titles. You can usually correct such problems by changing the aspect ratio in the GTABLE.

PART TWO: INSTALLATION OUTLINE

step one Check distribution media format & contents.

A. Check against your order:
   Product Name(s) & Version Number(s)
   Your Operating System
   Your Licence Number
   Your Company Name
   (If floppy diskette)
   single or double sided
   single or double density
   (If magnetic tape)
   800 or 1600 BPI

B. Place distribution media in tape or disk drive and use DIRECTORY command to check against list of supplied files in ~~Appendix~~ Table 1.

step two Create backup copy & store original.

A. Use the COPY command to transfer all files to SY:.

B. Remove distribution media, store in a safe place and use the backup to create working system.

step three Assign Logical devices.

A. Use ASSIGN command to assign DK: SCR: SCL: DC: to appropriately sized physical devices or logical disks (see Table 2)

1. If on TSX, device assignments should be part of each user's logon command file.

step four Copy files to proper locations on your system.

A. Assuming all SATURN files now reside in SY:, use the COPY command to make the following transfers:

TO DK:	*DSKDCT.SRC	LEDGER.CAL	D1.WPS
	*DIR.SAT	EXPENS.CAL	D2.WPS
	CUSLST.DEF	LINEAR.CAL	D3.WPS
	CALGD.SAT	BUDGET.CAL	RULER.WPS
		SCORES.CAL	
TO DC:	*DSKDCT.SAT		
	MEMDCT.SAT		

*If already on your system from previous SATURN purchases, DO NOT COPY!

B. Above files may now be deleted from SY: to save disk space.

step five Edit TSGEN.MAC (for TSX ONLY)

A. Change user-defined activation characters per line:
MXSPAC = 12

B. Change normal flags:
NRMFLG=ECHO!PAGE!DEFER!LC!FORM!SCOPE.
If you use SET TT, set length = 0

C. Set record locking parameters (n=number of users):
MAXSF=n*2 MXLBLK=2
MAXSFC=n*2 NUMDC=0

D. To run NEWDCT.SAV, set MAXFIL at least as large as DSKDCT.SRC (distributed as 814 blocks).

E. Assemble TSGEN.MAC and relink TSX.

step six **Build Forms Library (for SATURN-WP, NON-DEMO versions ONLY)**

The forms library is a file with .FRM extension, containing forms used for Data Entry and List Processing functions.

A. Create new forms library using INITF.sav (Type R INITF. You'll be prompted for library name and maximum number of forms.)

step seven **Run Defaults Program.**
The DEFALT.SAV program provides each account with default format, output and forms library settings, and establishes the type of terminal on each physical line of your system.

A. Type R **DEFALT** and answer the following two prompts (see Table 3) in order to receive the Defaults Menu:

What kind of terminal are you running on?
Enter Account Capacity (10-200)

B. Select **Option 1-Terminal Types** from the Menu. For each physical line on your system, enter the line number and the terminal type and row-by-column configuration of the terminal on that line.

C. If you have NOT purchased SATURN-WP, exit from Defaults Menu and proceed to step EIGHT.

If you DO have SATURN-WP, then select **Option 4-Add Account** from the Defaults Menu. Enter the logon number of each logon account on your system, then return to Menu.

D. Select **Option 3-Modify Account**. For each account you've just added, enter the logon number and then fill in the Formatting, Output and Form Usage parameters for that

individual account. Then type <S> to store the defaults and return to the Menu.

E. Exit from Defaults Program.

step eight **Edit GTABLE.SAT (for SATURN-GRAPH ONLY)**

GTABLE.SAT is the system graphics default file, establishing what graphics devices are on which physical lines, and indicating the device-type, resolution and aspect ratio of each.

A. Use a text editor (such as SATURN-WP) to enter the file SY:GTABLE.SAT (a standard ASCII file). For each physical line on your system which has a graphics output device, enter a single line on the GTABLE, of the form:

LINE CODE, DEVIC 1 ENTRY, PRINTER PORT DEVICE ENTRY

The format and contents of the entries for your system's particular devices is provided in Table 4.

B. Exit GTABLE.SAT.

step nine **Edit CALGD.SAT (for systems with both GRAPH and CALC)**

CALGD.SAT sets appearance characteristic defaults for pie, bar and line charts created from SATURN-CALC. Each logon can have its own CALGD file with individually set defaults.

A. Use a text editor (such as SATURN-WP) to enter the file CALGD.SAT (a standard ASCII file). Set the following parameter specifications, according to the documentation found at the end of the file:

color, shading and density for consecutive pie and bar chart segments;
type, color, symbol, pattern and density for consecutive line chart lines;
vertical bar chart type;
horizontal bar chart type.

step ten **Conduct System Run-through.**

This step is to make certain that you have access to all purchased programs and that sample files are in place in all user accounts. If you receive any screens or prompts that differ from those indicated below, consult the detailed description of step 10 (page 23).

A. **TYPE:** R SAT
RECEIVE: The SATURN Main Menu

B. SELECT: Option 1
RECEIVE: The Word Processing Menu
TYPE: CURSOR-RIGHT
RECEIVE: The SATURN Main Menu

C. SELECT: Option 2
RECEIVE: The Data Entry Menu
TYPE: CURSOR-RIGHT
RECEIVE: The SATURN Main Menu

D. SELECT: Option 3
RECEIVE: The Forms/Utilities Menu
TYPE: CURSOR-RIGHT
RECEIVE: The SATURN Main Menu

E. SELECT: Option 4
RECEIVE: The prompt **Enter Input File Name:**
TYPE: CURSOR-RIGHT
RECEIVE: The SATURN Main Menu

F. SELECT: Option 5
RECEIVE: The SATURN-CALC program and the prompt **Name of Worksheet to read [none]:**.
TYPE: <pf2> or <CTRL><U>
RECEIVE: The SATURN Main Menu

G. SELECT: Option 6
RECEIVE: The SATURN-GRAPH Menu
TYPE: CURSOR-RIGHT
RECEIVE: The SATURN Main Menu

H. SELECT: Option 9
RECEIVE: The Directory/Utilities Options Menu
SELECT: Option 2 from the Directory/Utilities Menu
RECEIVE: the prompt **Checking Document Directory** followed by the Directory/Utilities Menu
TYPE: CURSOR-RIGHT
RECEIVE: The SATURN Main Menu

I. SELECT: Option 7
RECEIVE: The Document Directory. Follow the on-screen directions to view each file-type's directory and check it against the list of supplied files in Table 1.

J. Exit from the directory. This completes the system run-through and installation. Turn to the "System Operations" portion of this manual for further directions and information.

PART THREE: DETAILED INSTALLATION PROCEDURE

step one **Check the format and contents of the distribution media.**

The following information is printed on the outside of your Saturn Software distribution media:

Product Name(s) and Version Number(s)
Your Operating System
Your License Number
Your Company Name

Next, place the distribution media into your disk or tape drive and use the DIRECTORY command to obtain a complete listing of all files included (be sure to read **both sides** of double sided diskettes).

Compare the contents with the list found in Table 1 to be certain that all necessary files are present.

step two **Create a backup copy & store the original distribution media.**

Use the COPY command to transfer all files from the distribution media onto either your own system or onto other tapes or diskettes. If copying onto your own system, simply transfer the files to SY: (where most will end up in any event); other logical devices will be assigned later.

Be sure to copy ALL files. Once all files have been copied, remove the distribution media, store in a safe place and use the backup copy to build your working system.

step three **Assign logical devices.**

Besides SY:, SATURN software uses four logical device names (DK: SCR: SCL: DC:) which you must assign (or, in the case of DK:, may reassign) to appropriately-sized physical devices or logical disks on your system. Device assignments are made using the ASSIGN command. Table 2 provides explanations of how each of these logical devices is used and their resulting size requirements.

If you're operating under TSX-Plus, device assignments should be part of each user's logon procedure, allowing time-sharing lines to access different logical disks as default devices. It is therefore most convenient to make these assignments part of each user's logon command file.

step four — **Copy files to their proper locations in your system.**

Assuming that all your SATURN files are now residing in SY:, you need only use the COPY command to transfer the appropriate files to DK: and DC: as follows:

DK:	*DSKDCT.SRC	D1.WPS	LEDGER.CAL
	*DIR.SAT	D2.WPS	EXPENS.CAL
	CUSLST.DEF	D3.WPS	LINEAR.CAL
	CALGD.SAT	RULER.WPS	BUDGET.CAL
			SCORES.CAL

DC:	*DSKDCT.SAT	MEMDCT.SAT

*If you already have these files on your system from previously purchased SATURN software, do not copy them again.

Once these files have been copied to their proper locations, they may be deleted from SY: in order to save disk space.

NOTE: DSKDCT.SRC need be present ONLY when you want to add new words to the spelling dictionary with NEWDCT.SAV; it can at all other times be stored on a floppy to save disk space.

If you are on TSX-Plus and users access different logical disks as default devices, be sure that all demo files have been copied into each user's disk.

If your system device is a floppy, it is usually necessary to have several separate system (SY:) diskettes to run the various SATURN programs.

step five — **Edit TSGEN.MAC.**

(This step applies ONLY if you are on TSX-Plus)

If you're running under TSX-Plus, change the following parameters in TSGEN.MAC (the parameter section of TSGEN.MAC can be located by searching for five "equal signs"; see Chapter 2 of the TSX-Plus System Manager's Guide for further information about TSGEN.MAC parameters):

A. Change the maximum number of user defined activation characters per line to 12.
MXSPAC = 12.

B. Change normal flags (located just before the timesharing line definition section, NRMFLG sets the default flags for the system) to the following settings:
NRMFLG=ECHO!PAGE!DEFER!LC!FORM!SCOPE.

If you use SET TT, set length = 0.

C. Set up record locking parameters as follows (n = number of simultaneous users):

```
MAXSF  = n * 2
MAXSFC = n * 2
MXLBLK = 2
NUMDC  = 0
```

D. To run NEWDCT.SAV, set MAXFIL at least as large as DSKDCT.SRC (distributed as 814 blocks).

E. Assemble TSGEN.MAC and relink TSX-Plus.

step six **Run the Defaults Program and set account defaults.**

The DEFALT utility, first used with SATURN-WP V4.3, SATURN-CALC V2.0, and SATURN-GRAPH V1.1, takes the place of SATURN's old TERMNL.SAT and POINTE.SAT, and provides many additional capabilities.

With DEFALT, the system manager or individual user may specify, for each logon, default format settings (margins, tabs, justification, etc.), output parameters (which printer, whether it is spooled, letter quality formatting type, etc) and the default Forms Library for SATURN-WP. The DEFALT system also handles the setting of terminal types on each port. More Saturn products will be interfaced to the DEFALT system in later versions.

The first time you run the DEFALT.SAV program, you will be creating the DEFALT.SAT file, thereby setting up the defaults system. To run the DEFALT program, type

R DEFALT.

If there are no previous versions of SATURN software on your system, you will receive a message,

SY:DEFALT.SAT nor SY:TERMNL.SAT were found.

When you run DEFALT, the system searches first for DEFALT.SAT (the file you are about to create) and then for TERMNL.SAT (a terminal defaults file contained in earlier versions of SATURN software). You needn't respond to this message, and the system will now let you build a DEFALT.SAT file (the presence of a TERMNL.SAT file does <u>not</u> interfere with your building a DEFALT.SAT file).

You will then receive the prompt,

What kind of terminal are you running on?

You will receive this same prompt every time you run the defaults program; this allows you to move different types of terminals from one line or port to another

without disrupting the system (terminal defaults are set up by physical line number; all other defaults are keyed to user logon numbers).

The appropriate response to this prompt for your particular type of terminal is provided in Table 3. Once you enter the terminal type and press <CR>, you will receive the prompt,

Enter Account Capacity (10-200)

Your response will be the number of blocks DEFALT.SAT requires for the number of logon-accounts you wish to have on your system. DEFALT.SAT uses 9 blocks of disk storage for 10 accounts and a block for each additional two accounts. If, for example, you want 30 accounts, DEFALT.SAT requires 19 blocks. Minimum response to this prompt is 10.

Responding to that prompt will bring you to the Defaults File Utility Menu:

SATURN SYSTEMS DEFAULTS FILE UTILITY V4.3
Copyright 1983, Saturn Systems Inc.
All Accounts Privilege

Account/Line Default File Maintenance Options:

1 - Terminal Types
2 - Display Account
3 - Modify Account
4 - Add Account
5 - Delete Account
6 - List Accounts
7 - Print Accounts

Enter Option Number (CURSOR-RIGHT to Exit):

You will be using options 1, 4 and 3 to establish the default parameters for each line and each account on your system. First, select Option 1-Terminal Types. You will receive the prompt:
Enter TT Number(RETURN = Your Terminal, Cursor-Right to Exit):
Enter the physical line number (NOT the logon number) whose terminal default values you wish to establish. You will receive the following screen:

Line: (the number you have just entered)
Terminal Type: VT100
Rows: 24
Columns: 80

The row and column numbers indicate the screen size that the editor portion of SATURN-WP and SATURN-CALC will use (screen proportions for SATURN-GRAPH's graphic displays are established in the GTABLE.SAT file; see Step 8 below). Configurations for a VT100 screen are the current entries, to

be changed as needed.

<CR> moves you from "Terminal Type" to "Rows" to "Columns"; Cursor-Right completes entries for this physical line, allowing you to enter the next physical line number; a second cursor-right completes the session.

NOTE: Currently, the row-by-column capability is needed only for a non-standard sized terminal, such as a 66 line screen. This capability is not used to switch VT100's between 80 and 132 column mode, as in previous versions of SATURN software. SATURN-WP and SATURN-CALC each have their own commands to switch that mode.

You have now described each of the lines on your system. If you have purchased SATURN-CALC and/or SATURN-GRAPH, but have NOT purchased SATURN-WP, then you have now completed Step 7.

If your package DOES include SATURN-WP, then you now also need to establish defaults for each logon on your system. To do that, you next select Option 4-Add Account. You will receive the prompt

ADD: Enter Account Number (RETURN = Your Account):

Enter the logon number of an account you want on the system; the program will signal that it is adding the account, and then return you to the "ADD" prompt. Repeat the process until you have added all the accounts you presently want on your system (more can be added at any time), including your own (which you can add by just pressing <CR>). Pressing Cursor-Right will complete the session.

Now select Option 3-Modify Account. You will receive the prompt

MODIFY: Enter Account Number (RETURN = Your Account):

Enter the logon number of the first account you added. The screen you will receive will show that account number in the upper left hand corner. The rest of the screen provides spaces for you to fill in Formatting, Output and Form Usage default parameters for that individual account.

Entries have already been made for each of these parameters; you can change any of these by placing the cursor on that number and typing in the new number and <CR> (automatically moving you to the next entry). <CR> or Cursor-Down will move you ahead one entry; Cursor-Right will move you from "Formatting" to "Output" to "Form Usage" sections at a single jump; Cursor-Up will move you back one entry.

The "Formatting" parameters essentially provide you with a default ruler (which the user can then automatically load into any new document by typing \V).

The "Output" parameters automatically supply all the data a user would normally enter each time he or she prints a WP document.

The "Form Usage" parameter determines which Forms library this user will automatically access (Option 8 in the Forms/Utility Routines Menu allows the user to switch to any other library he or she is authorized to use).

NOTE: If yours is a Demo package, change each account's Default Forms Library to **DEMLIB.FRM**.

Once you have made all the changes you wish, a Cursor-Right from the Form Usage parameter will call up this prompt:

Save Changes (S), Restart (R), or Quit (Q)?

<S> will store the changes you have made and return you to the Default Menu; <R> returns you to the top of the form; <Q> returns you to the Default Menu without storing any of the changes you made.

Repeat this process for each of the accounts you have placed on the system. The SATURN-WP reference manual has forms your users can fill out to specify the defaults they wish you to enter. Alternately, users can be allowed to enter and change their own default files (non-privileged users can alter only their own accounts).

For installation purposes, you have now completed running the Defaults program. Other options on the Defaults Menu allow you to delete individual accounts (Option 5), to review--but not alter--an account's Defaults Form (Option 2), to see a list of the logon numbers of all accounts having Default files (Option 6) or to print a hard copy of that list (Option 7).

step seven — **Build Forms Library.**

(This step applies ONLY if this package includes SATURN-WP and is NOT a Demo)

The forms library is a file with the extension .FRM, containing forms used for data entry and other list processing operations. More than one forms library may exist on a system, but DEFALT.SAT on device SY: specifies each logon account's default forms library.

If your's is NOT a Demo package, you can create a new forms library with INITF.SAV. To use this program type R **INITF** at your system prompt. The program prompts you for a library name and the maximum number of forms in the library.

step eight Edit GTABLE.SAT

(This step applies ONLY if package includes SATURN-GRAPH.)

The GTABLE.SAT file is the graphics default file for the system. SATURN-GRAPH must know whether a graph is being drawn on a terminal screen, a printer or a pen-plotter, since each of these devices requires different information from the system. It must also know the aspect ratio and resolution of the device being used, so that the graph's elements will be drawn the proper size and shape.

The GTABLE file describes each of the output devices that will be producing graphic displays on your system, thus allowing SATURN-GRAPH to adapt itself instantly to their individual requirements. Each line of the GTABLE describes the requirements of the devices attached to a single physical line on your system. Your next step in installing SATURN, then, is to make the entries in GTABLE that will correspond to your system's configuration.

The GTABLE.SAT file is a standard ASCII file which can be edited using any text editor--including, of course, SATURN-WP. If you are using SATURN-WP to edit the GTABLE file, you can access the word processor in either of two ways. Type R SAT to call up the SATURN Main Menu, then select Option 1-Word Processor. Or, type R WPS, which directly accesses the Word Processing Menu (If you haven't correctly installed or built a DIR.SAT file, you will not receive either menu; see step 10 for directions on building a DIR.SAT file.). Then, type the document name - SY:GTABLE.SAT - and select Option 1 - Edit/Create Document.

Note: The file that appears on your screen will already have several sample entries. These entries are only examples; you must modify them to accurately reflect your system's equipment configurations.

The format for each line in GTABLE is:

LINE CODE,DEVICE 1,X-RESOLUTION,Y-RESOLUTION,X-DOT-SIZE,Y-DOT-SIZE,
DEVICE 2,X-RESOLUTION,Y-RESOLUTION,X-DOT-SIZE,Y-DOT SIZE

where LINE CODE designates the physical line being used and whether the line device is a printer or terminal screen (e.g., "TT2:" indicates a terminal on line 2; "LP:" indicates a printer on a parallel interface line),

where DEVICE 1 is a code for a specific output device (e.g., VISUL55, CIG216, MIME, etc.; codes for all devices currently recognized are listed in Table 4),

where X-RESOLUTION and Y-RESOLUTION define the visible display area for that device in terms of the number of pixels (tiny

rectangular dots which comprise the actual picture) visible on each axis,

where X-DOT-SIZE and Y-DOT-SIZE define the aspect ratio of the display image in terms of the number of pixels per inch in each axis (this defines the shape of each pixel, so that a round pie chart on one device doesn't appear oval when produced on a different device),

where DEVICE 2 is the code for whatever specific output device is on that line's printer port,

and where X-RESOLUTION,Y-RESOLUTION,X-DOT-SIZE,Y-DOT-SIZE define the visible display area and aspect ratio for the device on the printer port.

For example, to specify a Printronix printer on the LP: handler, the GTABLE entry would be:

```
LP:,PRINTRO,729,729,85,100
```

signifying that on LP:, we have a PRINTRONIX printer, on which

```
visible X pixels are 1 - 729
visible Y pixels are 1 - 729
there are 85 pixels per inch on  X
there are 100 pixels per inch on Y.
```

To specify a TEKTRONIX 4010 with an LA-100 attached to the ANSI controlled printer port on line TT3: the GTABLE entry would be:

```
TT3:,4010,1024,780,100,100,LA-100,1023,1023,183,100
```

signifying that on TT3 we have a TEKTRONIX 4010 terminal, on which

```
visible X pixels are 1-1024
visible Y pixels are 1-780
there are 100 pixels / inch on X
there are 100 pixels / inch on Y
The printer port is an LA-100
visible X pixels are 1-1023
visible Y pixels are 1-1023
there are 183 pixels / inch on X
there are 100 pixels / inch on Y.
```

The GTABLE entries listed in Table 4 provide the device code, resolution and aspect ratio for all devices currently supported by SATURN-GRAPH. Each of these that is on your system should be entered in your GTABLE file, preceded by the appropriate line code (or, if the device is on a printer port, preceded by the line code and an entry for the device to which it is attached).

Be sure that you have entered a separate line on the GTABLE for each physical line on your system that has a graphics output device.

step nine — Edit CALGD.SAT

(This step applies ONLY if package includes both SATURN-GRAPH and SATURN-CALC.)

CALGD.SAT is a file indicating graphics defaults for SATURN-CALC pie, bar and line charts. Since each user may want different appearance characteristics for his or her charts, each logon may have its own CALGD.SAT file. Each file will determine the appearance characteristics for all charts drawn from spreadsheets on its account.

CALGD.SAT specifies:

- color (if applicable), shading, and density for consecutive pie and bar chart segments;
- type, color, symbol, pattern and density for consecutive line chart lines;
- whether a vertical bar chart will be spaced, stacked, plain or 3-D;
- whether a horizontal bar chart will be spaced, stacked or plain.

A sample CALGD.SAT is included with the distribution; details of its format are contained in documentation at the end of the file.

step ten — Conduct a system run-through.

Your final installation step involves conducting a quick check to see that you have access to all purchased programs and that copies of sample files are in place for all accounts.

TYPE: R SAT
RECEIVE: The SATURN Main Menu:

```
SATURN SYSTEMS WORD PROCESSING - LIST PROCESSING V4.3
        Copyright 1983, Saturn Systems, Inc.

Selected File:

                    Options Available

    1 - Word Processing          6 - Graphics
    2 - Data-Entry               7 - Directory
    3 - Forms/Utilities          8 - Print Directory
    4 - Sort-Select              9 - Direc/Utilities
    5 - Spread Sheet

Enter Option Number (CURSOR-RIGHT to Exit):
```

If you do not receive the Menu, then the SAT.SAV file has not been properly installed; be sure the file has been copied to the proper device.

If the menu appears "scrambled" on the screen, the problem is either that TTABL1.SAT has not been properly installed on SY:,

or that the terminal-type setting in DEFALT.SAT has not been set correctly for the physical line you're on.

If you haven't installed or created a document directory, you will receive, instead of the Main Menu, the following prompt:

Document directory (DK: DIR.SAT) not found.
Enter directory capacity (200-1000 total files) to initialize.
Capacity (CURSOR-RIGHT to exit):

Entering the appropriate number will initialize the document directory and automatically bring you to the SATURN Menu.

You will next be selecting, and then immediately exiting from, each of the Menu's options in turn to be sure that all purchased options have been properly installed.

SELECT: Option 1
RECEIVE: The Word Processing Menu

If your package doesn't include Word Processing, or if the WPS.SAV file has not been properly installed, you will instead receive the message

Sorry,Option Not Available on Your System.

In any of these cases, pressing CURSOR-RIGHT will return you to the SATURN Main Menu.

SELECT: Option 2
RECEIVE: The Data Entry Menu

If the Default Forms Library listed for this account in DEFALT.SAT has not been properly installed in SY:, you will instead receive the message

File Not Found: Forms Library *DEMLIB.FRM

*this will be whatever filename is listed in DEFALT.SAT

If you have not listed any Default Forms Library in DEFALT.SAT, you will receive the message

No Forms Library Specified on Defaults File

If ENT.SAV, the Data Entry program, has not been properly installed, you will receive the message

Sorry, Option Not Available on Your System

In any of these cases, CURSOR-RIGHT to return to the SATURN Main Menu.

SELECT: Option 3
RECEIVE: The Forms/Utilities Menu

If the Default Forms Library listed for this account in DEFALT.SAT has not been properly installed on SY:, you will instead receive the message

Forms File Not Found: *SY:DEMLIB.FRM

*this will be whatever filename is listed in DEFALT.SAT

If you have not listed any Default Forms Library in DEFALT.SAT, you will receive the message

No Forms Library Specified on Defaults File

In either of these cases, the system will then bring you into the Forms/Utilities program and give you the chance to enter a file name. For now, though, press CURSOR-RIGHT to return to Main Menu.

If FRM.SAV, the Forms/Utilities program, has not been properly installed, you will receive the message
Sorry, Option Not Available on Your System

In this case, CURSOR-RIGHT to return to the SATURN Main Menu.

SELECT: Option 4
RECEIVE: the prompt, Enter Input File Name:

A CURSOR-RIGHT will then return you to the SATURN Main Menu. If the Default Forms Library listed for this account in DEFALT.SAT has not been properly installed on SY:, you will instead receive the message
File Not Found: Data Entry File *SY:DEMLIB.FRM
*this will be whatever filename is listed in DEFALT.SAT

If you have not listed any Default Forms Library in DEFALT.SAT, you will receive the message
No Forms Library Specified on Defaults File

If SDE.SAV, the Sort/Select program, has not been properly installed, you will receive the message
Sorry, Option Not Available on Your System

In any of these cases, CURSOR-RIGHT to return to the SATURN Main Menu.

SELECT: Option 5
RECEIVE: the SATURN-CALC program and the prompt
Name of Worksheet to read [none]:
PRESS: <PF2> or <CTRL><U>
RECEIVE: the SATURN Main Menu
If you have not purchased SATURN-CALC, or if CAL.SAV has not been properly installed, you will instead receive the prompt
Sorry, Option not Available on Your System
Press CURSOR-RIGHT to return to Main Menu.

SELECT: Option 6
RECEIVE: The SATURN-GRAPH Menu
If you have not purchased SATURN-GRAPH, or have not properly installed its files on your system, you will instead receive the prompt
Sorry, Option not Available on Your System
In either case, CURSOR-RIGHT to return to the Main Menu.

SELECT: Option 9
RECEIVE: The Directory/Utilities Options Menu

In order to check that all sample files have been installed, you must first use Option 2 from the Directory/Utilities menu, **Check Directory Against Account**. When you type "2," you will receive a prompt,

Checking Document Directory

After a moment, you will be returned to the Directory/Utilities Menu. CURSOR-RIGHT will then return you to the Main Menu.

SELECT: Option 7
RECEIVE: The Document Directory

This screen lists directions for using the directory at the top, followed by a list of the different file-types in your directory. Select each in turn, and check the list of files included against the list provided in Step 1 of this manual to be sure that all files have been copied into this account. Remember that each logon account will have its own directory, which may or may not contain the same files.

This completes the system run-through and the installation procedures. Refer to SATURN User's Manuals for instructions on running your SATURN programs. We strongly recommend that each new user complete the tutorial sections of these manuals.

PART FOUR: SYSTEM OPERATIONS

Following are notes on using and maintaining a variety of SATURN features and options.

RT monitor support

SATURN software is designed to run on the SJ (Single Job) monitor; it does NOT support the XM (Extended Memory) monitor. If you are using the FB (Foreground - Background) monitor, set TT NOCRLF and set TT WIDTH=80.

TSX-Plus memory settings

SATURN uses the TSX-Plus program SETSIZ to modify the default memory requirements as you enter each SATURN program, pre-setting them for optimum operation. This keeps your memory requirements lower than using fixed partitions. You may want to enlarge the WPS.SAV setting (using the SETSIZ program) to increase buffer size for large documents. Resetting other default memory requirements will serve no practical purpose and may cause problems.

printer handlers

The DI handler supplied by Saturn lets you set BREAK, PAUSE, TIMEO, and ETXACK--options which are not available in the LS handler supplied by DEC.

A. BREAK allows a line to be continued on the next line instead of being truncated at WIDTH.

B. ETXACK and NOETXACK let you specify ETXACK or X-ON/X-OFF protocol.

C. PAUSE lets you pause between pages at the printer. When the system reaches the end of a page, the printer pauses until you press the break key on the printer (Be sure not to pause between pages in WPS if you are using PAUSE in DI).

D. TIMEO allows you to specify how long the printer will stay online in a hang condition. This is useful under TSX-Plus to free the spooler if you send a document to a printer that is turned off. The number in TIMEO is sixtieths of a second. Thus, 2000 gives you a timeout of about 33 seconds.

The default set options of the DI handler are equivalent to:

```
SET DI NOFORMO
SET DI NOBREAK
SET DI FORM
SET DI ETXACK
SET DI NOPAUSE
SET DI TAB
SET DI WIDTH=255
SET DI CSR=176520
```

```
SET DI VEC=320
SET DI TIMEO=2000
```

Note: For LQP02 printers, use SET DI NOETXACK, and select Q format type in the word processing print menu. For Diablo and Qume type printers, use the D format type.

hyphenation

Hyphenation under SATURN-WP is an automatic function, handled by a formula. Words between 7 and 29 characters long are hyphenated as necessary to fit within defined margins. The system will not hyphenate words on two consecutive lines.

Because the English language has hyphenation exceptions and because typists may want some words to hyphenate in certain ways or some words to never hyphenate, a hyphenation exception dictionary is provided.

HYPHEN.SAT is a file containing a list of words hyphenated according to a user's preference. Use all lower-case letters and place hyphens where acceptable. Alphabetical order is recommended, but not required.

spelling dictionary maintenance

To add words to the spelling dictionary, use SATURN or another editor to create a standard ASCII file with each word you want to add on a separate line. You may add up to 200 words at a time.

Next, run NEWDCT.SAV from your monitor. It will ask for the file containing the new words. NEWDCT.SAV adds the new words to DSKDCT.SRC and rebuilds DSKDCT.SAT. Duplicate words are not added.

Be sure to keep a list of all words you add. Saturn will supply a larger DSKDCT.SRC at a later time, but you will probably still want to add your own list to that.

NOTE: DSKDCT.SRC need be present ONLY when you want to add new words to the spelling dictionary with NEWDCT.SAV; it can at all other times be stored off-line to save disk space.

printer port

If you use a VT100 or VT100 emulator with a printer port, you may print to the printer port by using PP: as the device name. The only limitation is that you may not spool the file. All other word processing print options are available.

To print a form or dump a data entry file from the printer port, first print to a file, then use the word processor to send the file to the printer. You could also use the Print Screen function, available on printer port, by pressing <SHIFT> <RETURN>.

To use the printer port capability under TSX place "set TT FORM" in a startup command file.

file names

File names use the RT/TSX-Plus format. For example,

DY1:NAME.WPS

gives the device, file name, and extension of a SATURN word processing file. Default extensions for the various types of SATURN files are as follows:

Data Entry	.DEF
Word Processing	.WPS
Spreadsheet	.CAL
Graphics	.GCL

Other extensions may be used. Such files appear in Saturn's directory only if they are one of the file types you specify. Use the Directory Utilities option to designate the file extensions.

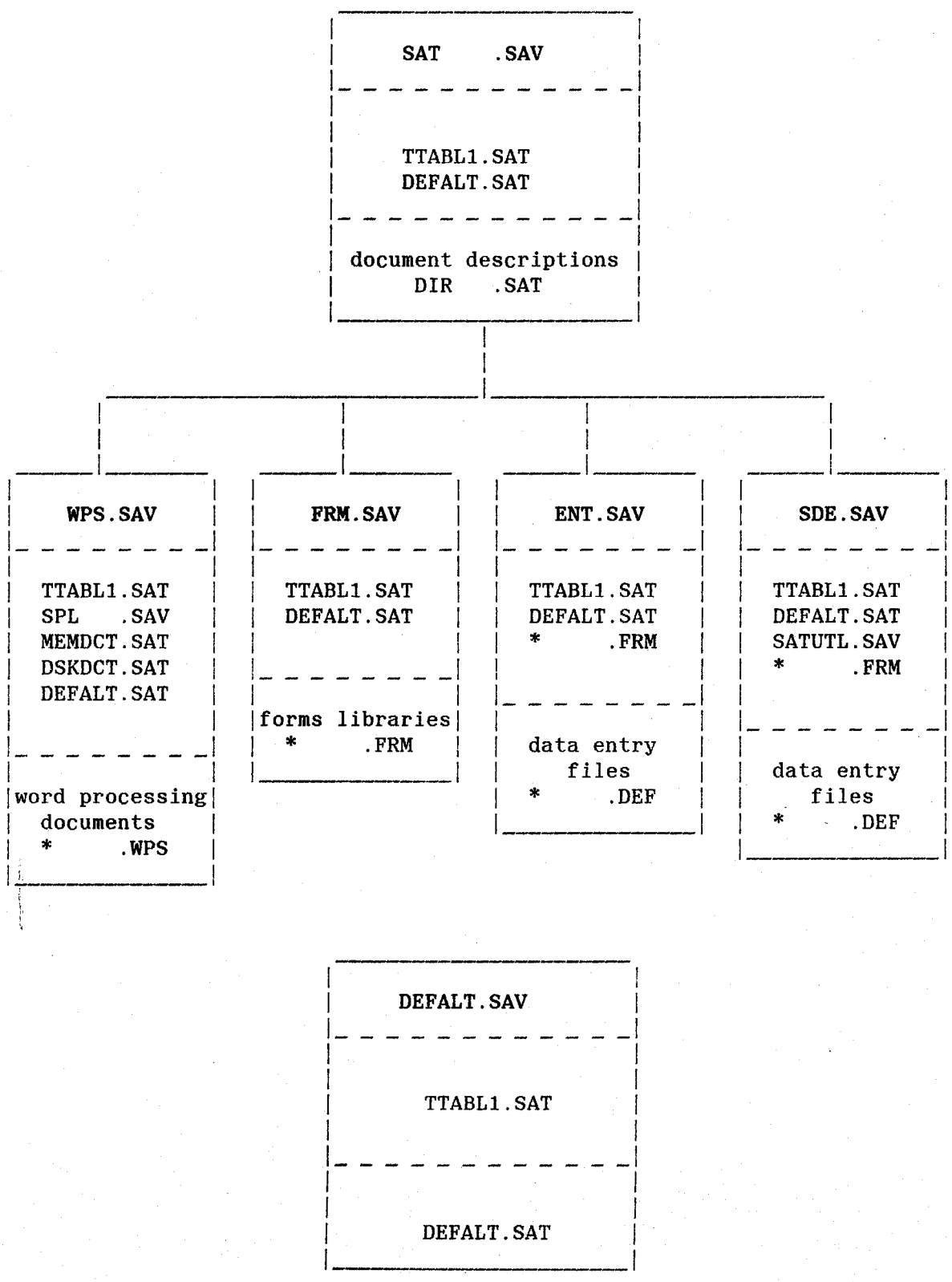
control-c

You may use <CTRL><C> to abort SATURN programs, but some data may be lost. For example, the results of a <CTRL><C> while editing a WP file would be the same as using the QUIT command; that is, all changes made since the last EXIT would be lost.

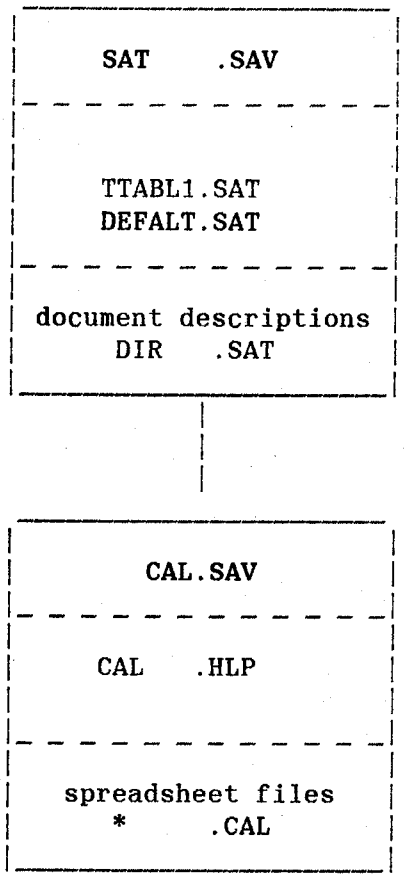
Do NOT use <CTRL><C>

- when an in-place Sort is in progress; no scratch area is used, so that the file may be lost or corrupted;
- from Data Entry; this may corrupt data files.

SATURN-WP SYSTEM FLOWCHART



SATURN-CALC SYSTEM FLOWCHART



SATURN-GRAPH SYSTEM FLOWCHART