ÛÛÛ
ÛÛÛ
ÛÛÛ
ÛÛÛ
ÛÛÛ
ÛÛÛ

+--+

(trim line)

(trim line)

+----------+

+----------+
(trim line)
(trim line)
+----------+

+-------------------------+-------------------------+

(trim line)
(trim line)

+---+

2

+-------------------------+-------------------------+
(trim line)
(trim line)
+---+

3

+-------------------------+-------------------------+
(trim line)
(trim line)
+---+

4

+-------------------------+-------------------------+
(trim line)
(trim line)
+---+

5

+-------------------------+-------------------------+

(trim line)
(trim line)

+---+

6

+-------------------------+-------------------------+

(trim line)
(trim line)

+---+

6

+-------------------------+-------------------------+

(trim line)
(trim line)

+---+

7

+-------------------------+-------------------------+
(trim line)
(trim line)
+---+

8

+-------------------------+-------------------------+

(trim line)
(trim line)
+---+

9

+-------------------------+-------------------------+
(trim line)
(trim line)
+---+

10

+-------------------------+-------------------------+
(trim line)
(trim line)
+---+

11

+-------------------------+-------------------------+
(trim line)
(trim line)
+---+

12

+-------------------------+-------------------------+
(trim line)
(trim line)
+---+

13

+-------------------------+-------------------------+

(trim line)
(trim line)

+---+

14

+-------------------------+-------------------------+
(trim line)
(trim line)
+---+

15

+-------------------------+-------------------------+

(trim line)
(trim line)

+---+

16

+-------------------------+-------------------------+
(trim line)
(trim line)
+---+

17

+-------------------------+-------------------------+
(trim line)
(trim line)
+---+

18

+-------------------------+-------------------------+

(trim line)

(trim line)

+---+

19

+-------------------------+-------------------------+
(trim line)
(trim line)
+---+

20

+-------------------------+-------------------------+

(trim line)

(trim line)

+---+

21

+-------------------------+-------------------------+
(trim line)
(trim line)
+---+

22

+-------------------------+-------------------------+
(trim line)
(trim line)
+---+

APPENDIX

```
##############################################
## F1   : *HELP      ## F2   : *EDIT      ##
## Shft : Util. Help ## Shft : Print Ctrl ##
## Alt  : *STEP MODE ## Alt  : @Sum(....) ##
## Ctrl : {Esc}      ## Ctrl : {Edit}     ##
##############################################
## F3   : *NAME      ## F4   : *ABSOLUTE  ##
## Shft : @If(....)  ## Shft : @Choose(...##
## Alt  : Range Name ## Alt  : Abs Copy   ##
## Ctrl : {Name}     ## Ctrl : {Abs}      ##
##############################################
## F5   : *GOTO      ## F6   : *WINDOW    ##
## Shft : File Menu  ## Shft : Window Menu##
## Alt  : @Count(....## Alt  : @Avg(....) ##
## Ctrl : {Goto}     ## Ctrl : {Window}   ##
##############################################
## F7   : *QUERY     ## F8   : *TABLE     ##
## Shft : Query Menu ## Shft : Sort Menu  ##
## Alt  : Date       ## Alt  : @TODAY     ##
## Ctrl : {Query}    ## Ctrl : {Table}    ##
```

```
##############################################
## F9   : CALC       ## F10  : GRAPH      ##
## Shft : Recalc Menu## Shft : Graph Menu ##
## Alt  : @NA        ## Alt  : @ERR       ##
## Ctrl : {Calc}     ## Ctrl : {Graph}    ##
##############################################
```

23

```
+-------------------------+-------------------------+
```

(trim line)

ÛÛÛ

U T I L I T Y 1 - 2 - 3

Version 1.1

March 1984

A PROGRAMMING TOOL FOR USERS OF LOTUS 1-2-3

featuring use of

THE EXTENDED ASCII CODE

and

SPECIAL PRINTER CHARACTER SETS

Conceived and Developed by

BOB QUINN and GARY WAGNER

Documentation by James Kocis

Copyright (c) 1984 All Rights Reserved
Bob Quinn, Gary Wagner
James Kocis

This is a freeware product. Though the information contained on this diskette is copyrighted, you are encouraged to copy and distribute this disk and its contents to others.

If you like and use this product, kindly send a $25 contribution to Utility 1-2-3 at:

"Utility 1-2-3"
P.O. Box 73
Midland Park, NJ 07432

The authors make no representations or warranties with respect to the contents hereof and specifically disclaim any implied warranties of merchantibility of fitness for any particular purpose. Further, the authors reserve the right to revise this publication and to make changes from time to time in the content hereof without obligation of the authors to notify any person or organization of such revision or changes.

Reference is made in this manual to the following:

Lotus 1-2-3 is a copyrighted program of the Lotus Development Corporation. IBM is a trademark of the International Business Machines Corporation. ProKey is a copyrighted program of the RoseSoft Corporation. Epson is a trademark of the Epson Corporation.

A NOTE ON DOCUMENTATION

This text is formatted for use with either a dot-matrix printer or a letter quality printer. Where characters may not appear as intended, we have tried to provide enough duplication to make the instructions understandable. In addition, the trim lines are provided as a guide for you to trim your printout to fit your Lotus Manual.

We welcome your comments and suggestions.

1

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

Overview

Welcome to Utility 1-2-3, a programming tool for users of Lotus 1-2-3.

With 1-2-3 and Utility 1-2-3,

- you have access to the complete EXTENDED ASCII CHARACTER SET for use on-screen.

With Utility 1-2-3 and the IBM graphics or Epson matrix printers,

- you have character-by-character control of how your worksheet will be printed, including control of type faces, emphasis, line spacing, pitch, etc.

And with Utility 1-2-3 and the ProKey * program by RoseSoft,

- you can use or modify Utility 1-2-3's specialized Lotus 1-2-3 macros to create your own macros to save you thousands of keystrokes.

********** *****

* UTILITY 1-2-3 is compatible with ProKey versions 2.13 and up (including 3.00) and may be compatible with earlier versions.

T A B L E O F C O N T E N T S

1. Acknowledgement.....1

2. Introduction.....2

3. Getting Started.....3

3.1 Set-Up Methods.....4

4. ASCII Text & Graphics Generator.....9

4.1 Getting ASCII Characters On-Screen.....9

4.2 Combining ASCII Characters Into One Cell.....11

4.3 Special Graphics Screen.....12

5. The Printer Control Generator.....12

5.1 Table of Printer Codes.....14

6. Utility 1-2-3 Prokey Macros.....16

6.1 Table of ProKey Macros.....19

7. Utility 1-2-3 Macros.....20

7.1 Table of Macros.....22

APPENDIX.....23

3. GETTING STARTED

Utility 1-2-3 is a set of macro programs developed expressly for use with Lotus 1-2-3 to help you edit existing, or create new 1-2-3 files.

3.1 SET-UP

You can choose to set up and use this disk in several different ways, according to your needs or system configuration:

1. For IBM-PC or Compaq dual disk-drive owners, we recommend that for ease of use, you take advantage of some of the space on your Lotus System Disk and copy several Utility 1-2-3 files onto it.
This set-up is described on the next

page in section 3.1.1 entitled "RECOMMENDED INSTALLATION PROCEDURE".

2. If you use Lotus 1-2-3 on a PC-XT or another type of hard disk, or if you prefer not to add files to your Lotus System disk, follow the instructions in section 3.1.2 entitled "DIRECT USE OF UTILITY 1-2-3" on page 5.

3. A third choice, also applicable to hard disks, is to modify the Utility 1-2-3 for use on the "B" or "C" drive. This is described in section 3.1.3 entitled "MODIFYING THE UTILITY 1-2-3 DISK FOR USE ON THE B DRIVE" on page 6.

3.1.1 RECOMMENDED INSTALLATION PROCEDURE (Set-Up Method #1)

By following this procedure, you copy 3 files onto your Lotus System Disk. The first, ASCII.WKS, is a reference file for the generation of ASCII characters on-screen. Similarly, the second file, PRINTER.WKS, is a reference file for the generation of printer control characters. The third file, LOTUS.PRO, is the ProKey file which contains the Utility 1-2-3 ProKey macros. These 3 files take up about 27,000 bytes of disk space.

Before performing this operation, check
to make sure that there is adequate space
on your Lotus 1-2-3 System Disk.

With the computer on and operating
in DOS (versions 1.1, 2.0 or 2.1) with
DRIVE A the default drive:

1. put the: LOTUS SYSTEM DISK
   in: DRIVE A
   Write-Protect: OFF

2. put the: UTILITY 1-2-3 DISK
   in: DRIVE B
   Write-Protect: OFF

3. type in: B:SETUP

4. and press: (enter)

   This copies the three files onto your
   Lotus 1-2-3 System Disk. The screen will
   display confirmation that three files
   were copied.

5. Remove the LOTUS SYSTEM DISK and put
   the Write-Protect tab back on.

That's all there is to it. Your Lotus System Disk is now ready for use with Utility 1-2-3.

For information on the use of:	Go to Page:
The ASCII Text and Graphics generator	9
The Printer Control Generator	12
The Lotus ProKey Macros	16
Utility 1-2-3 Macros	20

3.1.2 DIRECT USE OF UTILITY 1-2-3 (Set-Up Method #2)

The following describes the 2 easy steps to use Utility 1-2-3 directly without any modification to your Lotus System Disk. The main disadvantage to this method is that it limits direct access to the use of Lotus' on-line help facility.

1. Boot up Lotus 1-2-3 as normal.

2. Remove the Lotus 1-2-3 System Disk from Drive A and put the Utility 1-2-3 Disk in Drive A.

Whenever you desire access to the Lotus on-line help facility, simply swap disks again.

3.1.3 MODIFYING UTILITY 1-2-3 FOR USE ON THE B DRIVE. (Set-Up Method #3)

By following this procedure, you modify several of Utility 1-2-3's ProKey macros to gain access to files on the B: (or C:) drive.

put: DOS in DRIVE A
and: Boot up the system.

put: UTILITY 1-2-3 in Drive B

Type in: EDLIN B:LOTUS.PRO

At the: *
Type: 23

This line
should read: 23*a:

at the: *
type: b:
and press: (enter)

at the: *
type: 28
and press: (enter)

This line
should read: 28*a:

at the: *
type: b:
and press: (enter)

at the: *
type: 110
and press: (enter)

This line
should read: 110*a:

at the: *
type: b:
and press: (enter)

at the: *
type: E
and press: (enter)

This completes the changes to the Lotus.pro ProKey file. For C: drive, replace references to "b:" above with "c:".

If you do not have ProKey, make the following changes to the Utility 1-2-3 (Non-ProKey) Macros for use on the B Drive. They reside in a Lotus Worksheet file called MACROS and are the first and second macros on the list.

put: LOTUS 1-2-3
in: Drive A

and
put UTILITY 1-2-3
in: Drive B

Boot up: Lotus 1-2-3

use: /FILE RETRIEVE
to get
file named: MACROS

At the Menu,

press: Ctrl and Break

Goto cell: B24
and type: /FCCN{?}~B:ASCII~
and press: (enter)

Goto cell: B26
and type: /FCCN{?}~B:PRINTER~
and press: (enter)

Now, to save the changed file,

type: /F(ile) S(ave)
press: (enter)
type: R(eplace)

This completes the modification of your Utility 1-2-3 program for use on the B drive.

4. THE ASCII TEXT AND GRAPHICS GENERATOR

The extended ASCII code consists of 256 characters. While Lotus 1-2-3 allows you access to the basic alphanumeric characters, Utility 1-2-3 allows you access to them all.

In the next few paragraphs and on the tutorial on the Utility 1-2-3 disk, we will show you HOW to use this tool. You must decide WHEN to use this tool. Many of the graphics you create can be printed while some should only be used on-screen. Experimentation is useful.

The Extended ASCII code is numbered from 001 to 255, with each number corresponding to a character. A chart of these characters and numbers can be found in the appendix of many software manuals (e.g. in appendix G of the IBM Microsoft BASIC manual). This type of chart is very useful in using this program.

4.1 GETTING ASCII CHARACTERS ON-SCREEN

The special ASCII characters can be brought onto your worksheet to create special graphic effects. This is a two-step process. First, you call individual characters on-screen, and second, you manipulate them with the /RANGE, /MOVE and /COPY commands.

The ASCII characters are brought on-screen with a macro invoked by you pressing:

Ctrl + A With the Utility 1-2-3 Prokey file loaded in (see section 6.1.1 UTILITY 1-2-3 AND PROKEY)

or

Alt + A With the following macro on your worksheet as the named range \A (="Backslash","A")

/FCCN{?}~A:ASCII.WKS~

(Note: For the benefit of those without dot matrix printers, ~ is the symbol used for "enter" in Lotus macros and { and } are the left and right brackets used in Lotus macros.)

1. Simply position your cursor in the cell you want the character to appear and press the "Ctrl" and "A" (or "Alt" and "A") keys simultaneously.

2. The macro will partially execute and then ask you to specify a range. Type in the number corresponding to the ASCII character that you want to appear on the screen and press the "Enter" key.

The macro will continue and the character will appear at the left-aligned position of the cursor cell. You now can copy or move this character just like any other alphanumeric character. However, this procedure only puts one character in a cell. How can you get more than 1 in a cell? Read on.

4.1 COMBINING ASCII CHARACTERS INTO ONE CELL

This technique takes advantage of the /RANGE JUSTIFY command in Lotus to enable you to combine any number of ASCII characters into one cell, providing you with great flexibility in screen appearance.

Position the characters that you want in a single cell in a single column, like this:

EXAMPLE

	Column A	Column B	...
1	A		
2	S		
3	C		
4	I		
5	I		
6			
.			
.			

With the cursor at cell A1, select the /RANGE JUSTIFY command, and define the range to justify as cells A1 to A5 and press enter.

The result will look like this:

	Column A	Column B	...
1	A S C I I		

2
3
4
5
6
.
.

All of the characters will now be in one cell with spaces between the characters.

Lastly, use the F2 (edit) command to delete the spaces to make the characters continuous. Simple!

4.1 SPECIAL GRAPHICS SCREENS

An alternate way to use the special capabilities of the ASCII graphic characters is to set the column widths of an area of your worksheet to one character. In this way, each "character" is a "cell", and so stringing together characters is easy.

For added emphasis, you can use the "Unprotect" command (/Range Unprotect) to highlight the contents of cells.

5. THE PRINTER CONTROLLER GENERATOR

Control of the way your Epson or IBM graphics printer prints the results of your work in Lotus 1-2-3 is quite limited. It can be a tedious operation to change the printer characteristics

every time you want to use a different type-face, or print in bold-face or underline a word. Utility 1-2-3 provides you with a convenient way to print worksheets the way you want them printed. For an easier way, keep reading.

5.1 CHANGING THE PRINTER CONTROLS

Utility 1-2-3 allows you to change the characteristics of your IBM graphics or Epson printer character-by-character if you so desire. You change its controls with the use of the following:

With Utility 1-2-3 and Prokey:

Shift + F2 followed by a two character code.

Or with Utility 1-2-3 without ProKey:

Alt + P to invoke the macro:

/FCCN{?}~A:PRINTER~

which you copy into a cell on your worksheet and Name its Range \P ("Backslash","P").

(where { and } are the brackets used in Lotus macros and ~ is the "enter" symbol in Lotus macros.)

Each time you want to add or change a printer characteristic, you simply press "Shift" + F2 (or Alt + P) to invoke the macro. This will bring "alien" characters into your text on- screen. Although they have no intended mnemonic characteristics, their appearance can serve to remind you of what printer characteristics you have set.

The Printer Control Generator codes for the control of the Epson and IBM graphics printers are as follows:

5.1 PRINTER CODES

CODE	DESCRIPTION
RS	Reset Default Characteristics
EL	Elite type
PI	Pica type
I+	Italics on
I-	Italics off
L+	Enlarged Mode on
L-	Enlarged Mode off
C+	Compressed on
C-	Compressed off

U+ Underlined on
U- Underlined off
M+ Emphasized on
M- Emphasized off
D+ Double-Strike on
D- Double-Strike off
S^ Superscript On
S+ Subscript On
S- Superscript/Subscript off

01-63 Two digit code from 01 to 63 invokes corresponding print mode (e.g. Shift + F2 followed by "48" invokes type mode #48.

PS Proportional Spacing
NS Normal Spacing

LF Line Feed
FF Top of Form

PRINTER CONTROL CODES

US USA Character set
FR France
GE Germany
EN England
DE Denmark
SW Sweden
IT Italy

SP Spain
JA Japan

8" 8 lines per inch
6" 6 lines per inch
7" 7 lines per inch
2# n n/216 line spacing
7# n n/72 line spacing
W# n Width of text in characters
L# n Left margin
P+ Skip over perforation
P- Do not skip over perforation
F# Form Length
BL sounds printer bell or buzzer

6. UTILITY 1-2-3 PROKEY MACROS

Utility 1-2-3's specialized Prokey file,

Lotus.pro, couples the power of ProKey with logical use of the IBM keyboard to free you of some of the tedium of typing out often-used Lotus commands. Utility 1-2-3's set of macros purposefully avoids the use of the Alternate Key in combination with letters and the 0 key, to free these for your direct use with Lotus keyboard macros.

6.1 SET-UP

If you have followed the recommended Set-Up procedure, a copy of Lotus.pro exists on your Lotus System Disk. In this case;

put: LOTUS SYSTEM DISK
in: DRIVE A

put: DISK WITH PROKEY PROGRAM
in: DRIVE B

and type: B:PROKEY/R A:LOTUS.PRO

and then boot up Lotus.

If you have not copied the LOTUS.PRO file onto your Lotus System Disk, then load ProKey using the UTILITY 1-2-3 disk as the

source of the LOTUS.PRO file.

For example,

put: DISK WITH PROKEY PROGRAM
in: DRIVE A

and

put: UTILITY 1-2-3
in: DRIVE B

and type: PROKEY/R B:LOTUS.PRO

6.2 UTILITY 1-2-3 PROKEY KEY ASSIGNMENTS

So far, we have described the use of the two special Utility 1-2-3 ProKey key assignments; the ASCII Code generator (Ctrl+A) and the Printer Control Generator (Shift+F2). There is another special Utility 1-2-3 ProKey key assignment -- Shift+F1. This is an on-line help facility. Try it.

The remaining ProKey key assignments are ones we have found speed our work. Ever tire of typing the @SUM command sequence? Try our way (Alt+F2). OF SPECIAL NOTE: Any Macro may be invoked at any time by another macro. The most recent macro will automatically execute. We encourage you to experiment with these key assignments and modify them to meet your needs.

After loading in the file, LOTUS.PRO and PROKEY, the following combination of keys will have the functions listed on the following pages. Some macros will require you to enter to complete the operation.

6.2.1 FUNCTION KEY ASSIGNMENTS

(Note: { and } are the left and right bracket
symbols for use in Lotus macros.)

KEY	LOTUS	Utility 1-2-3		
		CTRL	ALT	SHIFT
F1	Help	{Esc}	Step*	ProKey HELP
F2	Edit	{Edit}	@Sum	Printer Control
F3	Name	{Name}	@If	Range Name Menu
F4	Abs	{Abs}	@Choose	Absolute Copy
F5	Goto	{Goto}	@Count	Retrieve File
F6	Window	{Window}	@Avg	Window Menu
F7	Query	{Query}	@Date	Query Menu
F8	Table	{Table}	@Today	Sort Menu
F9	Calc	{Calc}	@NA	Calc Menu
F10	Graph	{Graph}	@Err	Graph Menu

*Lotus assigned command

6.2.2 REMAINING KEY ASSIGNMENTS

KEY(S)	DESCRIPTION
Ctrl + Bksp	{Bksp}
Ctrl + PgDn	{PgDn}
Ctrl + PgUp	{PgUp}
Ctrl + End	{End}
Ctrl + Home	{Home}
Ctrl + D	{Down}
Ctrl + U	{Up}
Ctrl + R	{Right}
Ctrl + L	{Left}

Ins	Insert Column
Ctrl + S	Save (and replace)
Ctrl + * (PrtSc)	Print According to Last Print specifications
Alt + 4	Format Currency (2)
Alt + 5	Format Percentage (2)
Alt + 6	Center Label
Alt + \ (Backslash)	Fill cell with character(s)

SELECTION NEEDED TO COMPLETE MACRO

KEYS	DESCRIPTION	SELECTION
Ctrl + V	@VLOOKUP	
Ctrl + F	Format	
Ctrl + O	Unprotect	Range
Ctrl + T	Title	Create/Clear
Ctrl + W	Window	Create/Clear/ Sync.
Ctrl + X	Xtract	
Ctrl + G	Global	
Ctrl + C	Column-Width	Size or Point

Ctrl + P Protect Range
Ctrl + (Enter) Erase Range

7. UTILITY 1-2-3 MACROS

The macros in this section serve two distinct purposes:

(1) The first two macros allow you to use Utility 1-2-3's ASCII Text and Graphics Generator and Printer Control Generator (without the use of ProKey).

(2) The macros that follow are intended to serve as suggestions for macros that that make using Lotus 1-2-3 simpler in general applications.

First, a small apology...

Because of the way Lotus 1-2-3 is structured, there is no direct way to load these macros onto your worksheet along with their named ranges (unless you copy the entire worksheet). So, in order to be able to use them, you must first copy them onto your worksheet and then name them as separate ranges.

For example, in order to be able to use the macro which generates ASCII characters, a copy of the ASCII macro must first reside on your worksheet.

continued...

To copy this macro:

First, boot up Lotus 1-2-3 from Drive A

remove: Lotus System Disk
from: Drive A
put: Utility 1-2-3
in: Drive A

Now, use the /File Combine Copy command to retrieve the Named-Range "\A" ("Backslash", "A") from the file "Macros".

type: /FCCN\A
press: (enter)
type: MACROS
press: (enter)

Next, name this macro "\A" on this worksheet.

type: /RNC\A
press: (enter)

Now, by pressing "Ctrl" and "A" simultaneously, you invoke this macro. The macro will partially execute, and then pause. At this time you select the ASCII character you wish to combine according to the number corresponding to the ASCII

character you want.

A similar procedure can be used to copy the Printer Control Generator or any other macro onto your worksheet (or alternately, you can type them in directly).

UTILITY 1-2-3 MACROS

DESCRIPTION	MACRO
ASCII Text & Graphics Generator (Alt + A)	/FCCN{?}~A:ASCII~
Printer Control Generator (Alt + P)	/FCCN{?}~A: PRINTER~

Alt + ( )	
a(B)solute copy	/RNC_~~{EDIT} {HOME}'~/RNC__~ {ESC}{?}~/C_~__~ {GOTO}__~{EDIT} {HOME}{DEL}~/RND __~{GOTO}_~{EDIT} {HOME}{DEL}~/RND_~
(C)enter	/RLC
(E)rase	/RE
ran(G)e name Create	/RNC
column widt(H)	/WCS
(I)nsert Column	/WIC
protec(K)t	/RP

i(N)sert Row	/WIR
(R)etrieve	/FR
(S)ave	/FS~R
(T)itles	/WT
(U)nprotect	/RU
(W)indow	/WW
(X)ract	/FX
(Y) recalculation	/WGR
(Z) range fill	{EDIT}{HOME}{DEL}\~

ÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛ ÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛÛ