

Super Utility News

Sent to all registered SU+ owners.

April 1984

Attention All Registered SU+ Owners:
Important News!

NEW 3.2 USERS:

If you are a newcomer to SU+, Welcome! We hope you have enjoyed using the program, and that it has already performed at least one miracle for you!

We hope most of you old-timers have upgraded to 3.2 (if you had 3.0/1a or earlier) and are enjoying its use. The purpose of this letter is NOT to announce ANOTHER SU+ update!

But... 3.0/3.1/3.1a Users:

We would like to make clear to the people still using 3.0 that it really is worth the \$10 upgrade for two disks, so SEND THOSE DISKS IN! Those that have upgraded will attest to the fact that we ship FAST! Don't forget \$1 postage (USA). This is a break-even deal.

OH NO!! STILL USING 2.0-2.2z???

To those users hanging on to their 2.2 series, we can only reiterate that we do not support that version anymore. A 1980 Cadillac is no longer in warranty either. Version 2.2z has not been sold by us for over a year now, and has been totally replaced. We will not fix old bugs in it nor make it support double-sided, as Series 3.0 ver. 3.2 IS the corrected version.

We will still accept \$50 upgrades for a limited time, so PLEASE upgrade as soon as possible. You'll be glad you did. You'll get the new 170 page manual, binder, and new registration card (which SHOULD be sent in to keep your file up to date). Send your master disk(s) in now. If you send one disk, you get one back. Send two and you receive two back. If you only have one disk, we will supply a BACKUP for an additional \$10. Please add shipping.

The News Model 4 & 4P Owners have been waiting for!

SU4/4P

True Mod 4 Mode - 64K - Function Keys used - High Speed

We have now added SU4 to our line of products. It boots ONLY on the Model 4 or 4P. The 4P does NOT require the Mod III Rom image to be loaded as SU4 runs in the Model 4 mode! SU4 boots and loads 50% faster than the Mod I/III version too, due to an improved loading technique. The high speed clock, as well as other Mod 4 features are utilized, with the exception of the 24x80 screen.

The new SU4 works with 64K now, rather than 48K, so double sided FILE COPY is now supported for the first time on a TRS-80! Also, since there is a larger buffer area, the result is slightly faster file COPY and BACKUP times, plus a larger print buffer area.

Other NEW Model 4 enhancements are:

* FUNCTION KEY #1 - F1 is the same as the <SHIFT> BREAK action, which takes you back to the MAIN MENU. This function required holding TWO keys on the Mod I/III versions of SU+ (and still does).

* FUNCTION KEY #2 - Toggles short <Beep> sound through internal speaker upon completion of BACKUP, FORMAT, and other operations to signal user back to the machine; the job is finished. This can be toggled Off/On with F2, as we know many of our users are up late at night!

* USER-DEFINABLE FUNCTION KEY #3 - Set F3 to automatically take you to your favorite or most used sub-menu automatically with a single key-stroke! Also may be set to EXIT System. Easy to hit with your little finger, but out of the way to prevent accidents (as all three Function keys seem to be).

* Automatic bootup with TRSDOS 6 defaults and high speed clock turned on. May be configured for all popular Model I, III, and 4 TRS-80 operating systems (not CP/M) for easy transfer of files between old and new disks. Also supports T4D (TRSDOS-Mod 4-DDensity) and L3D (LDOS-Mod 3-DDensity) and settings, even though they are the same.

HISTORY:

SU4 has been in beta testing since December 1983. We feel that it is ready for release and is very sound. After all, we had 3.2 to build upon, PLUS we had 16K more memory to work with!

QUESTIONS:

Why didn't we support 128K, you may ask? First of all, we can't assume everyone has 128K. We KNOW they have 64K, however. We could check for presence of the extra bank, but what to do with it? It isn't really accessible like you might think. There just isn't really a practical application for it right now in SU. We can get everything done in 64K quite efficiently. Double-sided copying is now supported, and that was the main limitation in the Mod I/III version.

Special Offer for Registered owners of SU+ only!

There will not be any upgrades between machines. The Model 4 version was not a simple job, and much time and effort was spent on it. We will not be supporting machine to machine upgrading, but will, however, allow you to purchase SU4 at a special reduced price for a limited time. We simply cannot support going from machine to machine forever. We DO enjoy allowing our steady and registered customers a special value, however and encourage you to always use the latest versions.

SPECIAL

Until August 31, 1984, you may purchase ONE copy of SU4 complete with backup, manual, and binder for \$50.00 plus \$2.50 shipping (USA - sent UPS).

SU4 retails for \$79.95, and will not be available from dealers until late 1984 at the earliest. We will be shipping it direct for the first 6 months of its release. If you want BLUE Label shipping (2 days), or First Class send \$4 postage for faster delivery. For COD add \$2 onto the total. Checks, charge cards, or COD's accepted. NO purchase orders without checks accepted. Also, no upgrades will be sent without proper postage sent.

missing out on 50% of your machine's capabilities plus lots of time savings for you! LDOS 5.1.4 boots right up on the 4P (auto recognition of MODELA/III; no switching of disks necessary) and immediately turns on the high speed clock. LDOS 5.1.4 is incredibly fast on the 4P. MUCH faster than TRSDOS 6.x, but in the III mode, of course. We carry it if you are interested.

This should be especially important to you if you use a hard drive because you can use and boot Model III or Model 4 systems right off the hard drive using a different floppy for booting! Make your system do double duty, including the hard drive. Ask us how.

DO YOU PLAN TO GET A HARD DRIVE?

Planning to get a hard drive? Call us for details, help, or professional counselling about rigid drives, multiplexing, and cartridge backups for the Mod I, III, and 4. We have been using them for several years now, and have bought, seen, and used most on the market. Also, we have hard disk utilities and BACKREST for rigid drives, as well.

ARE YOU ON COMPUSEVERVE?

Many of you know that PowerSOFT's XTRA-80 Sig is available on CompuServe for questions, support, and on-line help. For those that don't, but would like to join, type: GO PCS-56 from just about anywhere on CServe, and it will take you to us. Membership is FREE! Simply sign yourself up! We have LOTS of files for downloading, and plenty of people on-line to help you! Check it out!

SOME CHANGES IN POLICY THAT COULD AFFECT YOU:

We have strived to keep costs down, and have effectively done so for many years. Our upgrades, updates, and shipping charges have always been very reasonably priced. We are not drastically changing anything, but here are some items that do get changed.

- 1) New SU+ or SU4 manual (registered owners only) \$20
(no binder. Manual only)
- 2) New binder (registered only) \$10

These prices are effective immediately, and supersede any prior newsletters.

Next topic is shipping. We will not process any order or upgrade that does not contain the proper postage.

This order form MUST be used to order SU 4/4P at this very special price. Sorry, but no phone orders on this one. You must use this form. USA checks are OK, but foreign orders, please use a charge card or Intl. Money Order drawn on a U.S. bank. No purchase orders will be accepted at this special price. Thank you!
Offer expires August 31, 1984! Don't forget to include proper shipping charges.

Name _____

Address _____

City _____ St. _____

Zip Code _____ Country (if not USA) _____

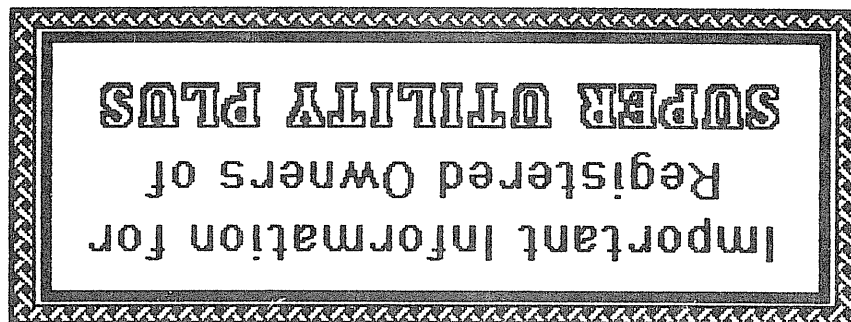
Tel. No. _____ SU+ Serial No. _____

VISA/Master Card No. _____ exp. _____

Signature _____

Send me: ☐ Full Set with doc & binder (\$50) ☐ Pair of disks w/addenda (\$38)

- Announcing the TRUE MODEL 4 Version (64K) SU 4/4P!
- Patch sheet for Version 3.2 Mod I or III
- New program from PowerSOFT available at Radio Shack
- Last call for 2.2 owners...



Inside!

Super Utility News

POWERSOFT
A DIVISION OF BREEZE/QSD, INC.

11500 STEMMONS FWY.
SUITE 125
DALLAS, TEXAS 75229

Bulk Rate
U.S. Postage
PAID
Permit No. 3839
Dallas, Texas

The Super Utility News

SU+ 3.2 Users Only!

The patches below will bring any revision of SU+ 3.2 up to current specs. These are easily installable by you.

Press CLEAR-V to display your version number.

Latest Revs: Mod III - Rev.17 Mod I - Rev.16

If you have any difficulty installing these patches, or would rather have us do it for you, you may send in your disks as an upgrade. All upgrades ALWAYS contain the latest version as of shipping date.

```
00#0104 A2B8 00AF 010D C1D5 BAD6 3A49 4032#..##.#..####:Ia2
HEX 10#6540 CD8B 6301 03E8 C1D4 0103 E8BB D401#e@##c..###.###.
DRV 20#0350 4F3D 0104 C4B4 1810 0106 3FB2 CDEA#.PO=..##....?###
0 30#D200 010C EAD2 DD7E 00CB 67C8 2FCB 7FC9##...###~.#g#/#
TRK 40#0103 CC6D E301 040D 75F4 D201 07F4 D2CD#..#m#...u##.###
00 50#D1A8 04C9 0105 CD6D CDF9 D201 0446 6E00###.#..#m###.Fn.
TRU 60#D301 10F9 D222 01D3 3A67 40C9 2144 48E5##..##".#:#a#!DH#
00 70#C3FF 6E01 03B4 B24E 0103 88BC 4200 0000###n..##N..##B...
SEC 80#0000 0000 0000 0000 0000 0000 0000 0000#.....
04 90#0000 0000 0000 0000 0000 0000 0000 0000#.....
STD A0#0000 0000 0000 0000 0000 0000 0000 0000#.....
OSD B0#0000 0000 0000 0000 0000 0000 0000 0000#.....
C0#0000 0000 0000 0000 0000 0000 0000 0000#.....
D0#0000 0000 0000 0000 0000 0000 0000 0000#.....
E0#0000 0000 0000 0000 0000 0000 0000 0000#.....
+00 F0#0000 0000 0000 0000 0000 0000 0000 0000#.....
```

MODEL I

```
# 00#0104 36B8 00AF 010D 8BD5 84D6 3A50 4032#..6#.#..####:Pa2
HEX 10#6C40 CD64 6301 037C C1D4 0103 7CBB D401#Ia#dc..!##..!##.
DRV 20#035B 4F3D 0104 58B4 1810 0106 D3B1 CD78#.O=..X#....###x
0 30#D200 010C 78D2 DD7E 00CB 67C8 2FCB 7FC9##...x##~.#g#/#
TRK 40#010C 71B0 CDB1 51CD 6B63 3E2A D3EC 0103#..q###Q#kc>*##..
00 50#A46D E301 0490 7482 D201 0782 D2CD 81A8##m#..#t##.#####
TRU 60#04C9 0105 A56D CD87 D201 041B 6E8E D201#.#..#m###...n##.
00 70#1087 D222 8FD2 3A6E 40C9 2144 48E5 C3D4#..##"##:na#!DH###
SEC 80#6E01 0348 B2E2 0103 1CBC D600 0000 0000#n..H##...##.....
07 90#0000 0000 0000 0000 0000 0000 0000 0000#.....
STD A0#0000 0000 0000 0000 0000 0000 0000 0000#.....
OSD B0#0000 0000 0000 0000 0000 0000 0000 0000#.....
C0#0000 0000 0000 0000 0000 0000 0000 0000#.....
D0#0000 0000 0000 0000 0000 0000 0000 0000#.....
E0#0000 0000 0000 0000 0000 0000 0000 0000#.....
+00 F0#0000 0000 0000 0000 0000 0000 0000 0000#.....
```

MODEL III

Install these patches in the appropriate sectors using the DISPLAY DISK SECTORS option of ZAP utilities. The Model I patch sector can be accessed with the specification OTS,0,4, and the Model III patch sector can be accessed with OTS,0,7. Type in BOTH patch sectors. Make sure that the patch sectors on your disk match the above dumps EXACTLY.

After installation, the CLEAR-V command will display Rev. 16 (Model I) and Rev. 17 (Model III) respectively. These patches are current as of February 15, 1984.

Foreign orders - no checks or foreign currency! Please use VISA or MASTER CARD. Please add \$10 for airmail shipping.

You may start sending those cards in NOW! We will begin shipping in late April/early May. All orders will be logged and processed to be shipped in the order they are received.

ALSO

If you do not need the manual, want to save some money, and are well familiar with SU+, we will sell you a pair of registered SU4 diskettes with a set of sheets for your present binder explaining ONLY the differences in the new program. If you can run 3.2, you will be able to run SU4 easily. The price on this is \$38 plus shipping. This also expires August 31st.

You MUST use the enclosed COUPON to obtain these special prices. You do NOT need to send any disks, but we DO need your present serial number on the coupon and you MUST use this coupon. There will not be any exceptions. Every single registered SU+ 3.0/3.2 owner has received one in this mailing. Just fill it in, include the proper funds and send it to us. Sorry, but no telephone orders on this one. Send that card in! Limit - One SU4 set per serial number.

PowerTool™ Now Available At Radio Shack™!

Radio Shack is now selling PowerTool as shown on page 26 in the new RSC-11 catalog now available at your nearest Computer Center.

PowerTool is a very special version of SUPER UTILITY+ assembled specifically for the TANDY line to their specs. It is written to support any version of TRSDOS or LDOS (only) and boots on the Mod I/III/4 ala SU+. On the Model 4, the Mod III mode is utilized, but complete support for TRSDOS 6.x and fast clock are there. PowerTool is a little more straight forward than SU+, so if all you use is TRSDOS I/III/4 (any version) or LDOS 5.1.x I/III (or any combo), then go by the SHACK and ask to take a look. The opening graphics are worth the trip alone! (They were done with PowerDRAW, as all our other graphics are). Please support PowerSoft and ask to see it.

Version 2.2 owners may want to opt for PowerTool versus upgrading their old SU, if TRSDOS or LDOS are the operating system(s) you use. Like we said, go by the SHACK, ask for it and take a look. PowerTool is only available from RADIO SHACK, so please do not order it from us.

GOT A NEW MODEL 4P?

The Mod 4P has got to be the neatest new computer so far! Its been written up in all the magazines, so you probably are familiar with it. We heartily endorse it. It seems to be the best of all worlds (Mod I, III, 4, CPM). Also it seems to be VERY soundly built.

BOOTING "FOREIGN" DISKS ON THE 4P

You probably have figured out how to BOOT SU+ on the 4P, but we have gotten a few calls, so here goes...

After the Model III Rom image is loaded (MODELA/III), press RESET and hold the "P" key. This is documented in the 4P manual as the way to boot a "foreign" Model III system disk. You will be prompted to put in the new disk (SU+ or PowerTool) and hit <enter>. SU+ (or PowerTool) will now start loading. The new SU4 will boot directly on a 4P.

KIM WATT'S NOTES FROM THE UNDERGROUND

Thank you for responding to the article appearing in the April 1983 issue of 80 Microcomputing. In this article we defined our viewpoint on the protection on the Super-Utility Plus Diskette in addition to responding to the various user letters surrounding the 'To Copy or Not to Copy' controversy. For taking advantage of this special offer, you will now receive some very special information. For the first time, I will personally define the Super-Utility Plus distribution diskette, and how the protection is achieved. I will also define how to change the SU+ program so that it may copy it's own diskette, and also some simple instructions on how to make your copy of SU+ available to your operating system as a directly executable /CMD file.

First off, let me begin by thanking you for your purchase of the program. Super-Utility Plus has been tremendously successful over the years, and has just recently been voted the 1982 Mod I/III Utility of the Year. This means a lot to me, and I would like to thank you for your vote.

As mentioned in our article, we feel that trying to support SU+ on /CMD file format would be an impossible task due to the possibility of many users installing their own patches into the program. Due to the overwhelming size and complexity of the program, it would be impossible to acknowledge and support user defined patches. The patching ability of SU+ was intended strictly for us to be able to make corrections to the program. Since SU+ is on a protected diskette, it is not easy to patch SU+ by conventional methods. If SU+ was available as a /CMD file, patches may be made easily by the user, which by nature would lead to their creation. Even though this letter will include details on how to make your copy of SU+ available as a /CMD file, I must heavily stress that I cannot possibly support the resulting product. SU+ will always receive support, but ONLY on the supplied distribution diskette. The file that you may generate with this letter is strictly for your own use, and should not be modified in any way.

Now that details have been attended to, let me start off by describing the structure of the SU+ distribution diskette. This tutorial is not intended for the novice programmer/operator. It will be assumed that the reader is familiar with the general organization of data on a floppy diskette.

First of all, the SU+ diskette may be booted on either a Mod I or III. This may seem simple at first, but is actually a very complicated procedure. The ROM that is contained within each computer is different on the Mod I and III. It is this difference that we can take advantage of in creating our I/III booting diskette. The Mod I's ROM will load the code stored on Track 0, Sector 0 of the diskette in single density at 4200H to 42FFH, and if the read is successful, will make a jump to 4200H to execute the boot program. The Mod III's ROM will load the code stored on Track 0, Sector 1 of the diskette in double density at 4300H to 43FFH, and if the read is successful, will make a jump to 4300H to execute the boot code. It is the responsibility of this short 256 byte program to load in any additional code that is necessary. It was not necessary for the I/III ROM's to load in different sectors at different locations, and any difference

would have been just fine. But since we have no choice on how the ROM's will load, let's create a diskette that each machine will recognize. In order to do this, it should be obvious that the diskette must contain both a SINGLE density track 0, sector 0, and a DOUBLE density track 0, sector 1. Creating mixed densities on a single track is of course possible, but beyond the scope of most programs. I will define further in this text on the approaches of creating mixed density tracks, but for now let it suffice that it IS possible to mix a track.

The first track of the SU+ diskette will then need to have the above two sectors available for the ROM to be able to perform it's simple task. In addition, on track 0, are also 10 other sectors numbered from 2-11. All total, there are 12 sectors numbered sequentially from 0-11, of which the EVEN sectors (0,2,4,6,8,10) are in SINGLE density, and the ODD sectors (1,3,5,7,9,11) are in DOUBLE density. This format is continued throughout the entire diskette with the exception of tracks 1 and 2 which are totally in single density with sectors numbered 0-9. All ID fields on the disk will contain the correct track and sector numbers, with a head number of zero and a sector length of 1 (256 bytes). All sectors on the disk are normal (correct ID and DATA fields) with the exception of tracks 4 and 5. On all sectors on track 4, an ID field CRC error will be generated on a read, and on all sectors on track 5, a DATA field CRC error will be generated. These two tracks are the KEY to the SU+ diskette protection. Normally when a 'special' backup program duplicates these particular sectors, the CRC errors will be corrected on the destination diskette. During the loading process of SU+, the program will read these two tracks and abort if the specified errors are not found.

The above defines the structure of the diskette, but just exactly what code is located on these various sectors? The following:

```
* Track 0 *
 0 SD = Boot sector Mod I
 1 DD = Boot sector Mod III
 2 SD = instructions
 3 DD = instructions
 4 SD = instructions
 5 DD = nil
 6 SD = Boot A I (repair boot use)
 7 DD = Boot A III
 8 SD = Boot B I
 9 DD = Boot B III
10SD = nil
11DD = nil

* Track 1 *
 0 SD = instructions
 1 SD = configuration
 2 SD = configuration
 3 SD = configuration
 4 SD = configuration
 5 SD = configuration
 6 SD = patches I
```


7 SD = patches I
8 SD = patches I
9 SD = patches I

* Track 2 *

0 SD = instructions
1 SD = nil
2 SD = nil
3 SD = nil
4 SD = configuration
5 SD = configuration
6 SD = patches III
7 SD = patches III
8 SD = patches III
9 SD = patches III

* Track 3 *

0,2,4,6,8,10 SD = Loader program Mod I
1,3,5,7,9,11 DD = Loader program Mod III

* Track 4 *

0,2,4,6,8,10 SD = protect sectors, ID CRC errors
1,3,5,7,9,11 DD = protect sectors, ID CRC errors

* Track 5 *

0,2,4,6,8,10 SD = protect sectors, DATA CRC errors
1,3,5,7,9,11 DD = protect sectors, DATA CRC errors

* Track 6-34 *

0,2,4,6,8,10 SD = Mod I SU+ program file
(normal load file format)
1,3,5,7,9,11 DD = Mod III SU+ program file
(normal load file format)

This defines the STRUCTURE and CONTENTS of the distribution SU+ diskette. It is a very SIMPLE protection technique, but very EFFECTIVE for a great percentage of the public. It is a fact that many people are able to dump a /CMD file of the SU+ program, but very few people can actually copy the SU+ diskette in it's entirety. It is obviously possible to duplicate such a diskette since we were able to make one for you!

The protection on the SU+ diskette is stricly made up of reading the 'false' sectors and assuring they are indeed not readable without the specific errors. The SU+ 'special backup' feature can, as supplied, copy the distribution diskette, however, it will correct the inherent errors that are on the disk. It is therefore the 'loader' which is the culprit on the backed up copy not executing. Here I will reveal a mere 12 bytes that you may modify on your SU+ diskette to allow it to duplicate itself!

Track 3, Sector 2, Single Den, Byte F2 / C2 BF 42 => 00 00 00
Track 3, Sector 2, Single Den, Byte FD / C2 BF 42 => 00 00 00
Track 3, Sector 3, Double Den, Byte F4 / C2 D6 43 => 00 00 00
Track 3, Sector 5, Double Den, Byte 08 / C2 D6 43 => 00 00 00

These changes will allow SU+ to make copies of itself that will load. However, it will only be able to make a diskette that will boot in EITHER a Mod I OR III, but not BOTH! The difference will come if you ask it to copy a single or a double density diskette. The results are not reliable, as are all 'special copy' programs, but it will result in a usable disk if the copy is successful.

The next portion of this article will be on how to create a /CMD file out of the supplied protected diskette. For starters, it will be important to install all of the released patches to be sure the program is at it's latest level before dumping the program. The only version of SU+ that this routine applies to is the 2.2a and later versions. By applying the enclosed patches, you will automatically self-update your disk to version 2.2z Rev. 21, the latest copy. Screen dumps of all existing 21 patches can be found at the back of this text. (NOTE: The screen dumps at the end contain ALL 22 PATCHES, which includes the following!) Be sure that ALL patches are installed BEFORE you attempt to dump a /CMD file. Next, be sure that the system is configured exactly the way that you want it to be on your /CMD program. Then add this additional patch to your diskette:

* Mod I, Patch 22 *

```
01 04 31 D2 00 FF 01 60 00 FF F3 3E C3 32 43 CF 32 A0 CF 32
22 D2 32 40 D2 21 72 CF 22 44 CF 21 15 D2 22 A1 CF 21 2D D2 22 23
D2 21 15 40 22 41 D2 21 98 46 22 31 D2 21 00 00 22 6F 40 22 71 40
CF 42 6F 6F 74 20 59 6F 75 72 20 44 4F 53 00 21 00 40 11 00 55 01
40 A3 CD D7 50 21 80 FF 11 40 F8 01 0F 00 ED B0 18 FE 01 11 80 FF
F3 21 00 55 11 00 40 01 50 A3 ED B0 C3 38 CF
```

* Mod III, Patch 22 *

```
01 04 37 D2 00 FF 01 60 00 FF F3 3E C3 32 4D CF 32 A9 CF 32
28 D2 32 46 D2 21 7C CF 22 4E CF 21 1B D2 22 AA CF 21 33 D2 22 29
D2 21 15 40 22 47 D2 21 86 46 22 37 D2 21 00 00 22 6F 40 22 71 40
CF 42 6F 6F 74 20 59 6F 75 72 20 44 4F 53 00 21 00 40 11 00 55 01
40 A3 CD 37 51 21 80 FF 11 40 F8 01 0F 00 ED B0 18 FE 01 11 80 FF
F3 21 00 55 11 00 40 01 50 A3 ED B0 C3 38 CF
```

After you have installed the patches, please carefully verify your work by comparing your input with the enclosed screen dumps of a proper installation. The patch is quite lengthy, but it is necessary to re-route much of the initialization code. This will disable the configuration and patch loads, yet still retain the proper variable initialization. You will also be able to access all of the SU+ code, including the dump of the system labels by holding down either the right or left arrow keys when loading the program. Once all of the patches have been applied, re-boot the SU+ diskette. After the program loads the configuration, it will 'freeze up', the screen will go white, and a message to 'mount your dos' will appear. This is normal at this time. You may now immediately boot your DOS diskette in drive zero and enter the following command line. Be sure you have enough disk space to hold the entire program (approximately 42 kilobytes).

* Mod I *

```
DUMP SU1/CMD (START=X'5500',END=X'F850',TRA=X'F840')
```

* Mod 3 *

DUMP SU3/CMD (START=X'5500',END=X'F850',TRA=X'F840')

Please note that your DOS may not alter any memory between the given start and end addresses or a section of the SU+ code may be destroyed. At this point, you will have a configured command file that you may execute at your convenience from DOS READY. Please be aware, however, that Breeze/QSD will NOT support this version of your program. These instructions have been provided merely for your own personal convenience.

We now must remove the just installed patch #22 for the SU+ disk to resume normal operation. Re-boot the diskette holding down the <CLEAR> key until the master menu appears, and make the following two zaps to the disk:

Track 1, Sector 7, Single Den, Byte B4 / 01 => 00

Track 2, Sector 7, Single Den, Byte B6 / 01 => 00

This will effectively remove patch 22 by placing the terminator at the first instruction of the load block. These bytes may be reversed again (change the 00's back to 01's) if another dump of the /CMD file is required with a minimum amount of changes.

It should be noted that the 2.2x versions of SU+ are NOT the latest release of the program. A completely new series has been initiated, with a COMPLETE REWRITE of the program. This constitutes version 3.0 and is a MAJOR upgrade and not just another release of the same version. There are some problems in the 2.2 series that have been corrected in the new release. I should stress the fact that although I am offering you a new look at 2.2x, you SHOULD UPGRADE to the 3.0 series.

For those assembly language programmers that wish to create a Mod I/III booting disk, and will need to place BOTH single AND double density sectors on a single track, here is a hint on how to attack the problem. On the Mod III, the approach is direct and straightforward. Since there is a single floppy disk controller, we may change density mid-stream in a write operation. Let's say that we wish to create a similar track to SU+, with 12 sectors of 6 single and 6 double density. First we prepare a track image in memory, placing the single density sectors in a continuous stream, followed by the double density sectors. We then count the number of bytes that are to be written in single density. When we issue the 'write track' command to the FDC, we instruct it to begin writing in single density. We must carefully count each byte as it is passed to the FDC, and when the count of single density bytes has been passed, we immediately set the double density select bit in the FDC, which will then begin immediately writing data in DOUBLE density! The entire key is counting the bytes to change the density at the precise moment. On the Model I, the procedure is quite different. Since there are actually TWO disk controllers present, one for single density, and the other for double density. Even though the double density controller is capable of writing in single density (like the Mod III), the hardware manufacturers have decided to disable this ability and leave the original FDC to the task of writing the SD data. This

```

# 00#0105 AC7C 0000 0001 0540 C1CD 779E 0105#...#!.....@##w#..
HEX 10#47C1 0000 0001 056A 41CD D3C9 0108 D3C9#G#.....jA###...##
DRV 20#2A1E 40C3 E841 0104 2A5C FACA 010B 0C79#*.*@##A.*\##...y
0 30#22FA CA22 FCCA 22FE CA01 0466 79FA CA01#"##"##"##..fy##.
TRK 40#047B A6FA CA01 0489 A6FA CA01 0490 A6FC#.{###..####..###
01 50#CA01 04E8 A6FA CA01 04F3 A6FB CA01 04FE##..####..####..#
TRU 60#A6FC CA01 0409 A7FD CA01 04E3 A7FA CA01####..####..####..
01 70#0415 D5FA CA01 0679 6E00 0000 0001 061F#..####..yn.....
SEC 80#51C3 D9C9 0001 10D9 C9FE 44CA 2351 3AF3#Q###..###D##Q:#
06 90#50DD 7700 C32A 5101 069E 4D00 0000 0001#P#w.*Q..#M.....
STD A0#04E5 67E7 C901 0EE7 C9CD DC68 3A34 4057#.#g#..####h:4@W
OSD B0#3AE7 4C5F C901 045D B0F3 C901 09F3 C97B#:#L_#..}###..##{
C0#32E7 4CC3 685A 0104 C39F FAC9 0113 FAC9#2#L#hZ..####..##
D0#CDDA 4621 D3C7 D511 00D0 0100 02ED B0D1###F!###..#...###
E0#C901 08C5 9F21 02D0 0102 D101 04DF 9F00##..##!..#...##.
+00 F0#D001 04EF 9F00 D101 045D 7B00 D001 04B3##..##.##..}{.#..#

```

```

00#7B00 D001 04B5 7C00 D001 0615 C200 0000#{.#..#|.##...#...
HEX 10#0001 04D9 8B0B CA01 03DC 8BCC 010C 0BCA#...##.##...##...#
DRV 20#B7CD E646 32CD D0C3 F08B 0106 4EB6 CD15#####F2#####N##.
0 30#CA00 010A 15CA ED53 4E40 1100 00C9 0103##...##SN@...#..
TRK 40#2F49 5001 03DA 41CF 0103 6AA3 1E01 0A1D#/IP..#A#..j#....
01 50#CACD 59A3 1608 7EB3 C901 051A 94CD 1DCA####Y#..~##...##.#
TRU 60#0111 2449 5665 722E 322E 327A 2052 6576#..$IVer.2.2z Rev
01 70#2E32 3101 1287 48FE AD3E AD20 023E 9E00#.21..#H##># .>#.
SEC 80#0000 0000 0000 0001 0328 425F 0103 A242#.....(B_..#B
07 90#5F01 03AF 425F 0103 3142 8C01 0335 425F#_...#B_..1B#..5B_
STD A0#0103 4642 8C01 0338 4210 0103 D842 3001#..FB#..8B...#B0.
OSD B0#03E6 4208 0104 31D2 00FF 0160 00FF F33E#.#B...1#.#.#.#>
C0#C332 43CF 32A0 CF32 22D2 3240 D221 72CF##2C#2#2#"#2@#!r#
D0#2244 CF21 15D2 22A1 CF21 2DD2 2223 D221#"D#!.#"##!-#"##!
E0#1540 2241 D221 9846 2231 D221 0000 226F#."A#!#F"1#!.."o
+00 F0#4022 7140 CF42 6F6F 7420 596F 7572 2044#@#q@#Boot Your D

```

```

00#4F53 0021 0040 1100 5501 40A3 CDD7 5021#OS.!.@..U.@###P!
HEX 10#80FF 1140 F801 0F00 EDB0 18FE 0111 80FF####.@#...#.#...##
DRV 20#F321 0055 1100 4001 50A3 EDB0 C338 CF00##!.U..@.P#####8#.
0 30#0000 0000 0000 0000 0000 0000 0000 0000#.....
TRK 40#0000 0000 0000 0000 0000 0000 0000 0000#.....
01 50#0000 0000 0000 0000 0000 0000 0000 0000#.....
TRU 60#0000 0000 0000 0000 0000 0000 0000 0000#.....
01 70#0000 0000 0000 0000 0000 0000 0000 0000#.....
SEC 80#0000 0000 0000 0000 0000 0000 0000 0000#.....
08 90#0000 0000 0000 0000 0000 0000 0000 0000#.....
STD A0#0000 0000 0000 0000 0000 0000 0000 0000#.....
OSD B0#0000 0000 0000 0000 0000 0000 0000 0000#.....
C0#0000 0000 0000 0000 0000 0000 0000 0000#.....
D0#0000 0000 0000 0000 0000 0000 0000 0000#.....
E0#0000 0000 0000 0000 0000 0000 0000 0000#.....
+00 F0#0000 0000 0000 0000 0000 0000 0000 0000#.....

```

MOD III

00#0105 8C7C 0000 0001 050C C1CD 499E 0105#...#|.....##I#..
HEX 10#13C1 0000 0001 056A 41CD 74C9 0108 74C9#.#.....jA#t#..t#
DRV 20#2A1E 40C3 E841 0104 0C5C FACA 010B EE78#*.@##A...\\##..#x
0 30#22FA CA22 FCCA 22FE CA01 0448 79FA CA01#"##"##"##..Hy##.
TRK 40#044D A6FA CA01 045B A6FA CA01 0461 A6FC#.M##...{###..a##
02 50#CA01 04B9 A6FA CA01 04C4 A6FB CA01 04CF##..####..####..#
TRU 60#A6FC CA01 04DA A6FD CA01 04B4 A7FA CA01#####.#####.#####.
02 70#041B D5FA CA01 0652 6E00 0000 0001 067F#..####..Rn.....
SEC 80#51C3 7AC9 0001 107A C9FE 44CA 8351 3A53#Q#z#...z#D##Q:S
06 90#51DD 7700 C38A 5101 06FE 4D00 0000 0001#Q#w.##Q..#M.....
STD A0#04BF 6788 C901 0E88 C9CD B668 3A34 4057#.#g#..#####h:4@W
OSD B0#3A47 4D5F C901 0429 B094 C901 0994 C97B#:GM_#..)###..#(
C0#3247 4DC3 B15A 0104 959F 9BC9 0113 9BC9#2GM##Z..#####.##
D0#CD28 4621 74C7 D511 00D0 0100 02ED B0D1##(F!t#..#...###
E0#C901 0897 9F21 02D0 0102 D101 04B1 9F00##..#!.#...###.
+00 F0#D001 04C1 9F00 D101 043D 7B00 D001 0493#..###.#.=<.#...#

00#7B00 D001 0495 7C00 D001 06E1 C100 0000#<.#...#|..#...###...
HEX 10#0001 04B8 8BAC C901 03BB 8BCC 010C ACC9#...#####.###...##
DRV 20#B7CD D446 32CD D0C3 CF8B 0106 1AB6 CDB6#####F2#####.###
0 30#C900 010A B6C9 ED53 4E40 1100 00C9 0103##...####SN@...#..
TRK 40#8D49 5001 03DA 41CF 0103 3CA3 1E01 0ABE##IP..#A#..<#...#
02 50#C9CD 2BA3 1608 7EB3 C901 05F7 93CD BEC9####+##..~##.#####
TRU 60#0113 8249 5665 722E 2032 2E32 7A20 5265#..#Iver. 2.2z Re
02 70#762E 2032 3101 126B 48FE AD3E AD20 023E#v. 21..kH##># .>
SEC 80#9E00 0000 0000 0000 0001 0328 425F 0103##.....(B_..
07 90#A242 5F01 03AF 425F 0103 3142 8C01 0335##B_..#B_..1B#..5
STD A0#425F 0103 4642 8C01 0338 4210 0103 D842#B_..FB#..8B...#B
OSD B0#3001 03E6 4208 0104 37D2 00FF 0160 00FF#0..#B...7#.#.#.#.
C0#F33E C332 4DCF 32A9 CF32 28D2 3246 D221##>#2M#2##2(#2F#!
D0#7CCF 224E CF21 1BD2 22AA CF21 33D2 2229#|#"N#!.#"##!3#")
E0#D221 1540 2247 D221 8646 2237 D221 0000##!..@G#!#F"7#!..
+00 F0#226F 4022 7140 CF42 6F6F 7420 596F 7572#"o@"q@#Boot Your.

00#2044 4F53 0021 0040 1100 5501 40A3 CD37# DOS.!..@..U.@##7
HEX 10#5121 80FF 1140 F801 0F00 EDB0 18FE 0111#Q!##.##...###..
DRV 20#80FF F321 0055 1100 4001 50A3 EDB0 C338#####!..U..@.P####8
0 30#CF00 0000 0000 0000 0000 0000 0000 0000#.....
TRK 40#0000 0000 0000 0000 0000 0000 0000 0000#.....
02 50#0000 0000 0000 0000 0000 0000 0000 0000#.....
TRU 60#0000 0000 0000 0000 0000 0000 0000 0000#.....
02 70#0000 0000 0000 0000 0000 0000 0000 0000#.....
SEC 80#0000 0000 0000 0000 0000 0000 0000 0000#.....
08 90#0000 0000 0000 0000 0000 0000 0000 0000#.....
STD A0#0000 0000 0000 0000 0000 0000 0000 0000#.....
OSD B0#0000 0000 0000 0000 0000 0000 0000 0000#.....
C0#0000 0000 0000 0000 0000 0000 0000 0000#.....
D0#0000 0000 0000 0000 0000 0000 0000 0000#.....
E0#0000 0000 0000 0000 0000 0000 0000 0000#.....
+00 F0#0000 0000 0000 0000 0000 0000 0000 0000#.....

was done primarily to keep the data address marks compatible. If we issue a 'write track' command to the single density controller, then issue a 'write track' command to the double density controller in midstream, it will not CONTINUE to write in DD, but will instead wait until it senses the index hole before beginning to write. This would, of course, overwrite the SD data that was just written. Instead, the following must be done to mix density on the Mod I. Let's assume that we wish the SD sectors to be placed on the disk nearest the index hole. Then first we would write the double density portion, but leave a GAP on each track that will hold the single density portion. Since the compression ratio is approximately 1.8 between DD/SD, we must multiply the number of SD bytes to be written and multiply this times 1.8. Then, before we prepare the DD track image in memory, we must first fill the resulting number of bytes as our PAD. Then proceed to write the DD portion of the track. Now we have a GAP at the beginning of each track that is to hold our SD data. We may now prepare the SD image in memory, and issue the FDC write track command. Carefully counting each byte as it is passed to the FDC, when the correct number have been transferred, we issue an 'immediate interrupt' command to the FDC to immediately terminate any writing to the disk. If the correct size GAP has been prepared, the DD portion will now immediately follow the SD portion just written. This means that although the Mod III can write both densities in a SINGLE revolution of the disk, the Mod I must actually write the track TWICE. Due to the time needed to prepare each track image in memory, it may take THREE revolutions of the disk to format each track. Well, I hope that some food for thought has been placed into your mind. Please be aware, of course, that the above tutorial is meant only for the experienced machine language programmer.

Once again, thank you for your purchase and support of the SU+ program. I look forward to a long friendship as your SU+ mentor and advisor.

A handwritten signature in black ink, appearing to read "Kim Hart". The signature is stylized with a large, sweeping initial "K" and a long, horizontal stroke extending to the right.

UPGRADING TO VERSION 3.0 OF SUPER UTILITY PLUS...

As Kim previously alluded to, Version 3.0 of Super Utility Plus is now shipping, and if you are a SU+ lover, then you really want this new version. Upgrade notices were sent out to registered owners, but in case you missed it, here is a recap on how to obtain SU+/3.0.

The SUPER UTILITY or SUPER UTILITY PLUS package that you now have in your possession is worth MONEY in TRADE-IN towards the new SU+/3.0! Version 3.0 is a totally new program, new disks, new doc, new assembly, etc., so it is NOT a program update, but an MAJOR UPGRADE. We are not dropping support for either SU or SU+, however new hardware and software has been released since these programs were first written. You can only patch and zap so far, and then it needs to be rewritten, as we have done with 3.0. Kim has spent four months writing 3.0. It is his finest coding to date. If you are having a problem with 2.2z that has been corrected in 3.0, then the support for the problem is in 3.0. We support 2.2z for what it is and was, but don't expect the 2.2z version to continue to work with whatever is released in the future. All of that support and work will be applied towards the 3.0 version. An example would be the original version of SUPER UTILITY. It was (and still is) a fine program, but is Mod I single density only. The double density support came later in SU+, and Mod III as well. Version 2.2z has come as far as it could. "How much will it cost for the upgrade?"

- 1) If you have SUPER UTILITY PLUS, then you have a package that is worth \$40 in trade towards 3.0.
- 2) If you purchased your SU+ since November 15, 1982, then your SU+ is worth \$50 in trade! (This expires on April 15, 1983). You MUST provide an AUTHORIZED receipt to show this.
- 3) If you own the original SUPER UTILITY, this is worth \$20 in trade towards SU+/3.0.

There will be a \$2.50 shipping/handling charge on upgrades in USA or CANADA. Foreign countries please add \$10.

The retail price of SU+/3.0 is \$79.95.

Rules and Regulations for UPGRADE:

- #1 - You MUST send your MASTER DISK with the MANUAL.
- #2 - If you have two disks (the master and the backup), it is up to you, if you want to send both. If you send one disk you will receive ONE new disk. If you send BOTH disks, you will receive TWO new disks. If you elect to only send one in now, you may PURCHASE one now or later for \$10. Your choice.
- #3 - You must be a registered owner, or be able to prove ownership.

It is NOT NECESSARY for you to update. We are not forcing you to, and we are not dropping support for our older products. We ARE saying that no more development work will be done on these programs, and the future is version 3.0.

SUPPORT FOR SU+ 2.2z or 3.0

Questions regarding the use of our software are welcome through the mail.

We will NOT answer any technical questions on our 800 order line. The people who answer that number are not necessarily equipped to help you.

If you call, be sure to have your SU+ serial number in front of you for verification in our database. It will also help if you have your machine ON in front of you, with the program loaded. MAKE SURE THE SELF-BOOTING DISK IS LOADED, NOT A CMD FILE VERSION! Also check the manual and be sure you have a problem before calling! You MUST be a registered owner for all future help. We are being deluged with calls from PIRATES, and will not help them anymore. No card... NO HELP!

One last point we would like to make is that we DO NOT SUPPORT SU or SU+ in CMD file format, unless it came from US! The ONLY authorized CMD file that we have ever released is the 3.0 CMD file that comes in the SU+ Special Edition Package. The purpose of this newsletter was for YOUR convenience and personal use. If you are having a problem with your 2.2z CMD file, PLEASE make sure you have the SAME problem with our self-booting disk. Also please re-read the appropriate section of the manual. If it works OK on the self-booting disk, DON'T call us. If you are running with a CMD file, we cannot help you. There is too much room for people to apply improper patches and zaps, and modifications. We only support our self-booting disks. That way, we know what code you have on your disk and in your machine. Once again, this does NOT apply to the CMD file that comes with SU+/SE.

New Books for SU+!

SU+ Tech Manual - by Kim Watt

This book will be of great value to the machine language fans who wants to know MORE about SU+, its call points, explanations of them, vectors, etc. This book is NOT for the beginner, but IS a valuable tool for those that want to know more about the inner workings of this fantastic program. 2.2 edition IN STOCK! 3.0 edition available April 30th.

INSIDE SU+ - by Paul Wiener / Afterword Kim Watt

Inside SU+ is a user's guide to the intricacies of SUPER UTILITY PLUS written from the point of view of a user, i.e., Paul Wiener. Paul describes many of the things which may not be immediately clear from reading the SU+ manual, and details a step by step procedure for rescuing disks. The AFTERWORD, by Kim Watt, gives more little tricks for using SU+ as efficiently as possible. All in all, it is a book that NO SU+ user should be without! There is a wealth of information in it, and will answer MOST of the questions that might be raised from just reading the user's manual alone. This is a LARGE format, perfect bound book aimed at beginners and pros alike! It teaches the user the intricacies of SU+, tells its secret undocumented commands, explains WHY you might want to do certain things with SU+, and HOW

to do them. Does not replace the SU+ Manual, but expands on it for a newcomer to computers. Written in a very readable style by a writer for a MAJOR TRS-80 magazine, and a sure winner for sure! Don't miss this one, if you want all the knowledge you can get! Get the FULL use of this powerful program! Paul tells ALL! 2.2z edition in stock, 3.0 edition available in June.

INSIDE SU+ \$19.95

SU+ TECH Manual \$14.95

plus \$2 shipping/handling (US/Canada)

Please specify if these books are for Version 2.2z or 3.0! Ask for these at your favorite dealer or order direct, but don't miss these!

SUPER UTILITY PLUS - Special Edition

SU+/SE is now shipping! If you are interested, we still have some reservations open. Price is \$500 including shipping in US or Canada. Foreign orders please add \$25. Includes COMPLETE commented SOURCE CODE to SU+/3.0, as well as 3.0 in a CMD file format. Only 500 of these will be made.

SU/SE contains SU+/3.0 in CMD file format for Mod I and III. It also contains FULL COMMENTED source code of SU+/3.0 (almost 700 pages!). That is Binder #1. Binder #2 contains SU+ 3.0 manual, 3.0 TECH manual, and Inside SU+ all in 8 1/2" x 11" format!

If you are interested, please write or call for more details...

A big THANK YOU to those of you who wrote us supporting our stand in 80 MICRO. We appreciate it very much.

db

SU+ 3.2 Users Only!

The patches below will bring any revision of SU+ 3.2 up to current specs. These are easily installable by you.

Press CLEAR-V to display your version number.

Latest Revs: Mod III - Rev.17 Mod I - Rev.16

If you have any difficulty installing these patches, or would rather have us do it for you, you may send in your disks as an upgrade. All upgrades ALWAYS contain the latest version as of shipping date.

```
00#0104 A2B8 00AF 010D C1D5 BAD6 3A49 4032#..##.#.####:1a2
HEX 10#6540 CD8B 6301 03E8 C1D4 0103 E8BB D401#e@##c..###.###.
DRV 20#0350 4F3D 0104 C4B4 1810 0106 3FB2 CDEA#.PO=..##....?###
0 30#0200 010C EAD2 DD7E 00CB 67C8 2FCB 7FC9##...###~.#g#/#
TRK 40#0103 CC6D E301 040D 75F4 D201 07F4 D2CD#..#m#...u##.###
00 50#01A8 04C9 0105 CD6D CDF9 D201 0446 6E00###.#..#m###.Fn.
TRU 60#0301 10F9 D222 01D3 3A67 40C9 2144 48E5##.##".#:#a#!DH#
00 70#C3FF 6E01 03B4 B24E 0103 88BC 4200 0000###n..##N..#B...
SEC 80#0000 0000 0000 0000 0000 0000 0000 0000#.....
04 90#0000 0000 0000 0000 0000 0000 0000 0000#.....
STD A0#0000 0000 0000 0000 0000 0000 0000 0000#.....
OSD B0#0000 0000 0000 0000 0000 0000 0000 0000#.....
C0#0000 0000 0000 0000 0000 0000 0000 0000#.....
D0#0000 0000 0000 0000 0000 0000 0000 0000#.....
E0#0000 0000 0000 0000 0000 0000 0000 0000#.....
+00 F0#0000 0000 0000 0000 0000 0000 0000 0000#.....
```

MODEL I

```
# 00#0104 36B8 00AF 010D 8BD5 84D6 3A50 4032#..6#.#.####:Pa2
HEX 10#6C40 CD64 6301 037C C1D4 0103 7CBB D401#la#dc..!##..!##.
DRV 20#035B 4F3D 0104 58B4 1810 0106 D3B1 CD78#.[O=.X#....###x
0 30#0200 010C 78D2 DD7E 00CB 67C8 2FCB 7FC9##...x##~.#g#/#
TRK 40#010C 71B0 CDB1 51CD 6B63 3E2A D3EC 0103#..q###Q#kc>###..
00 50#A46D E301 0490 7482 D201 0782 D2CD 81A8##m#..#t##.####
TRU 60#04C9 0105 A56D CD87 D201 041B 6E8E D201#.#..#m###...n##.
00 70#1087 D222 8FD2 3A6E 40C9 2144 48E5 C3D4#.#"###:na#!DH###
SEC 80#6E01 0348 B2E2 0103 1CBC D600 0000 0000#n..H##...##.....
07 90#0000 0000 0000 0000 0000 0000 0000 0000#.....
STD A0#0000 0000 0000 0000 0000 0000 0000 0000#.....
OSD B0#0000 0000 0000 0000 0000 0000 0000 0000#.....
C0#0000 0000 0000 0000 0000 0000 0000 0000#.....
D0#0000 0000 0000 0000 0000 0000 0000 0000#.....
E0#0000 0000 0000 0000 0000 0000 0000 0000#.....
+00 F0#0000 0000 0000 0000 0000 0000 0000 0000#.....
```

MODEL III

Install these patches in the appropriate sectors using the DISPLAY DISK SECTORS option of ZAP utilities. The Model I patch sector can be accessed with the specification OTS,0,4, and the Model III patch sector can be accessed with OTS,0,7. Type in BOTH patch sectors. Make sure that the patch sectors on your disk match the above dumps EXACTLY.

After installation, the CLEAR-V command will display Rev. 16 (Model I) and Rev. 17 (Model III) respectively. These patches are current as of February 15, 1984.

KIM WATT'S NOTES FROM THE UNDERGROUND

Thank you for responding to the article appearing in the April 1983 issue of 80 Microcomputing. In this article we defined our viewpoint on the protection on the Super-Utility Plus Diskette in addition to responding to the various user letters surrounding the 'To Copy or Not to Copy' controversy. For taking advantage of this special offer, you will now receive some very special information. For the first time, I will personally define the Super-Utility Plus distribution diskette, and how the protection is achieved. I will also define how to change the SU+ program so that it may copy it's own diskette, and also some simple instructions on how to make your copy of SU+ available to your operating system as a directly executable /CMD file.

First off, let me begin by thanking you for your purchase of the program. Super-Utility Plus has been tremendously successful over the years, and has just recently been voted the 1982 Mod I/III Utility of the Year. This means a lot to me, and I would like to thank you for your vote.

As mentioned in our article, we feel that trying to support SU+ on /CMD file format would be an impossible task due to the possibility of many users installing their own patches into the program. Due to the overwhelming size and complexity of the program, it would be impossible to acknowledge and support user defined patches. The patching ability of SU+ was intended strictly for us to be able to make corrections to the program. Since SU+ is on a protected diskette, it is not easy to patch SU+ by conventional methods. If SU+ was available as a /CMD file, patches may be made easily by the user, which by nature would lead to their creation. Even though this letter will include details on how to make your copy of SU+ available as a /CMD file, I must heavily stress that I cannot possibly support the resulting product. SU+ will always receive support, but ONLY on the supplied distribution diskette. The file that you may generate with this letter is strictly for your own use, and should not be modified in any way.

Now that details have been attended to, let me start off by describing the structure of the SU+ distribution diskette. This tutorial is not intended for the novice programmer/operator. It will be assumed that the reader is familiar with the general organization of data on a floppy diskette.

First of all, the SU+ diskette may be booted on either a Mod I or III. This may seem simple at first, but is actually a very complicated procedure. The ROM that is contained within each computer is different on the Mod I and III. It is this difference that we can take advantage of in creating our I/III booting diskette. The Mod I's ROM will load the code stored on Track 0, Sector 0 of the diskette in single density at 4200H to 42FFH, and if the read is successful, will make a jump to 4200H to execute the boot program. The Mod III's ROM will load the code stored on Track 0, Sector 1 of the diskette in double density at 4300H to 43FFH, and if the read is successful, will make a jump to 4300H to execute the boot code. It is the responsibility of this short 256 byte program to load in any additional code that is necessary. It was not necessary for the I/III ROM's to load in different sectors at different locations, and any difference

would have been just fine. But since we have no choice on how the ROM's will load, let's create a diskette that each machine will recognize. In order to do this, it should be obvious that the diskette must contain both a SINGLE density track 0, sector 0, and a DOUBLE density track 0, sector 1. Creating mixed densities on a single track is of course possible, but beyond the scope of most programs. I will define further in this text on the approaches of creating mixed density tracks, but for now let it suffice that it IS possible to mix a track.

The first track of the SU+ diskette will then need to have the above two sectors available for the ROM to be able to perform it's simple task. In addition, on track 0, are also 10 other sectors numbered from 2-11. All total, there are 12 sectors numbered sequentially from 0-11, of which the EVEN sectors (0,2,4,6,8,10) are in SINGLE density, and the ODD sectors (1,3,5,7,9,11) are in DOUBLE density. This format is continued throughout the entire diskette with the exception of tracks 1 and 2 which are totally in single density with sectors numbered 0-9. All ID fields on the disk will contain the correct track and sector numbers, with a head number of zero and a sector length of 1 (256 bytes). All sectors on the disk are normal (correct ID and DATA fields) with the exception of tracks 4 and 5. On all sectors on track 4, an ID field CRC error will be generated on a read, and on all sectors on track 5, a DATA field CRC error will be generated. These two tracks are the KEY to the SU+ diskette protection. Normally when a 'special' backup program duplicates these particular sectors, the CRC errors will be corrected on the destination diskette. During the loading process of SU+, the program will read these two tracks and abort if the specified errors are not found.

The above defines the structure of the diskette, but just exactly what code is located on these various sectors? The following:

```
* Track 0 *
 0 SD = Boot sector Mod I
 1 DD = Boot sector Mod III
 2 SD = instructions
 3 DD = instructions
 4 SD = instructions
 5 DD = nil
 6 SD = Boot A I (repair boot use)
 7 DD = Boot A III
 8 SD = Boot B I
 9 DD = Boot B III
10SD = nil
11DD = nil

* Track 1 *
 0 SD = instructions
 1 SD = configuration
 2 SD = configuration
 3 SD = configuration
 4 SD = configuration
 5 SD = configuration
 6 SD = patches I
```

7 SD = patches I
8 SD = patches I
9 SD = patches I

* Track 2 *

0 SD = instructions
1 SD = nil
2 SD = nil
3 SD = nil
4 SD = configuration
5 SD = configuration
6 SD = patches III
7 SD = patches III
8 SD = patches III
9 SD = patches III

* Track 3 *

0,2,4,6,8,10 SD = Loader program Mod I
1,3,5,7,9,11 DD = Loader program Mod III

* Track 4 *

0,2,4,6,8,10 SD = protect sectors, ID CRC errors
1,3,5,7,9,11 DD = protect sectors, ID CRC errors

* Track 5 *

0,2,4,6,8,10 SD = protect sectors, DATA CRC errors
1,3,5,7,9,11 DD = protect sectors, DATA CRC errors

* Track 6-34 *

0,2,4,6,8,10 SD = Mod I SU+ program file
(normal load file format)
1,3,5,7,9,11 DD = Mod III SU+ program file
(normal load file format)

This defines the STRUCTURE and CONTENTS of the distribution SU+ diskette. It is a very SIMPLE protection technique, but very EFFECTIVE for a great percentage of the public. It is a fact that many people are able to dump a /CMD file of the SU+ program, but very few people can actually copy the SU+ diskette in it's entirety. It is obviously possible to duplicate such a diskette since we were able to make one for you!

The protection on the SU+ diskette is stricly made up of reading the 'false' sectors and assuring they are indeed not readable without the specific errors. The SU+ 'special backup' feature can, as supplied, copy the distribution diskette, however, it will correct the inherent errors that are on the disk. It is therefore the 'loader' which is the culprit on the backed up copy not executing. Here I will reveal a mere 12 bytes that you may modify on your SU+ diskette to allow it to duplicate itself!

Track 3, Sector 2, Single Den, Byte F2 / C2 BF 42 => 00 00 00
Track 3, Sector 2, Single Den, Byte FD / C2 BF 42 => 00 00 00
Track 3, Sector 3, Double Den, Byte F4 / C2 D6 43 => 00 00 00
Track 3, Sector 5, Double Den, Byte 08 / C2 D6 43 => 00 00 00

These changes will allow SU+ to make copies of itself that will load. However, it will only be able to make a diskette that will boot in EITHER a Mod I OR III, but not BOTH! The difference will come if you ask it to copy a single or a double density diskette. The results are not reliable, as are all 'special copy' programs, but it will result in a usable disk if the copy is successful.

The next portion of this article will be on how to create a /CMD file out of the supplied protected diskette. For starters, it will be important to install all of the released patches to be sure the program is at it's latest level before dumping the program. The only version of SU+ that this routine applies to is the 2.2a and later versions. By applying the enclosed patches, you will automatically self-update your disk to version 2.2z Rev. 21, the latest copy. Screen dumps of all existing 21 patches can be found at the back of this text. (NOTE: The screen dumps at the end contain ALL 22 PATCHES, which includes the following!) Be sure that ALL patches are installed BEFORE you attempt to dump a /CMD file. Next, be sure that the system is configured exactly the way that you want it to be on your /CMD program. Then add this additional patch to your diskette:

* Mod I, Patch 22 *

```
01 04 31 D2 00 FF 01 60 00 FF F3 3E C3 32 43 CF 32 A0 CF 32
22 D2 32 40 D2 21 72 CF 22 44 CF 21 15 D2 22 A1 CF 21 2D D2 22 23
D2 21 15 40 22 41 D2 21 98 46 22 31 D2 21 00 00 22 6F 40 22 71 40
CF 42 6F 6F 74 20 59 6F 75 72 20 44 4F 53 00 21 00 40 11 00 55 01
40 A3 CD D7 50 21 80 FF 11 40 F8 01 0F 00 ED B0 18 FE 01 11 80 FF
F3 21 00 55 11 00 40 01 50 A3 ED B0 C3 38 CF
```

* Mod III, Patch 22 *

```
01 04 37 D2 00 FF 01 60 00 FF F3 3E C3 32 4D CF 32 A9 CF 32
28 D2 32 46 D2 21 7C CF 22 4E CF 21 1B D2 22 AA CF 21 33 D2 22 29
D2 21 15 40 22 47 D2 21 86 46 22 37 D2 21 00 00 22 6F 40 22 71 40
CF 42 6F 6F 74 20 59 6F 75 72 20 44 4F 53 00 21 00 40 11 00 55 01
40 A3 CD 37 51 21 80 FF 11 40 F8 01 0F 00 ED B0 18 FE 01 11 80 FF
F3 21 00 55 11 00 40 01 50 A3 ED B0 C3 38 CF
```

After you have installed the patches, please carefully verify your work by comparing your input with the enclosed screen dumps of a proper installation. The patch is quite lengthy, but it is necessary to re-route much of the initialization code. This will disable the configuration and patch loads, yet still retain the proper variable initialization. You will also be able to access all of the SU+ code, including the dump of the system labels by holding down either the right or left arrow keys when loading the program. Once all of the patches have been applied, re-boot the SU+ diskette. After the program loads the configuration, it will 'freeze up', the screen will go white, and a message to 'mount your dos' will appear. This is normal at this time. You may now immediately boot your DOS diskette in drive zero and enter the following command line. Be sure you have enough disk space to hold the entire program (approximately 42 kilobytes).

* Mod I *

```
DUMP SU1/CMD (START=X'5500',END=X'F850',TRA=X'F840')
```

* Mod 3 *

DUMP SU3/CMD (START=X'5500',END=X'F850',TRA=X'F840')

Please note that your DOS may not alter any memory between the given start and end addresses or a section of the SU+ code may be destroyed. At this point, you will have a configured command file that you may execute at your convenience from DOS READY. Please be aware, however, that Breeze/QSD will NOT support this version of your program. These instructions have been provided merely for your own personal convenience.

We now must remove the just installed patch #22 for the SU+ disk to resume normal operation. Re-boot the diskette holding down the <CLEAR> key until the master menu appears, and make the following two zaps to the disk:

Track 1, Sector 7, Single Den, Byte B4 / 01 => 00

Track 2, Sector 7, Single Den, Byte B6 / 01 => 00

This will effectively remove patch 22 by placing the terminator at the first instruction of the load block. These bytes may be reversed again (change the 00's back to 01's) if another dump of the /CMD file is required with a minimum amount of changes.

It should be noted that the 2.2x versions of SU+ are NOT the latest release of the program. A completely new series has been initiated, with a COMPLETE REWRITE of the program. This constitutes version 3.0 and is a MAJOR upgrade and not just another release of the same version. There are some problems in the 2.2 series that have been corrected in the new release. I should stress the fact that although I am offering you a new look at 2.2x, you SHOULD UPGRADE to the 3.0 series.

For those assembly language programmers that wish to create a Mod I/III booting disk, and will need to place BOTH single AND double density sectors on a single track, here is a hint on how to attack the problem. On the Mod III, the approach is direct and straightforward. Since there is a single floppy disk controller, we may change density mid-stream in a write operation. Let's say that we wish to create a similar track to SU+, with 12 sectors of 6 single and 6 double density. First we prepare a track image in memory, placing the single density sectors in a continuous stream, followed by the double density sectors. We then count the number of bytes that are to be written in single density. When we issue the 'write track' command to the FDC, we instruct it to begin writing in single density. We must carefully count each byte as it is passed to the FDC, and when the count of single density bytes has been passed, we immediately set the double density select bit in the FDC, which will then begin immediately writing data in DOUBLE density! The entire key is counting the bytes to change the density at the precise moment. On the Model I, the procedure is quite different. Since there are actually TWO disk controllers present, one for single density, and the other for double density. Even though the double density controller is capable of writing in single density (like the Mod III), the hardware manufacturers have decided to disable this ability and leave the original FDC to the task of writing the SD data. This

was done primarily to keep the data address marks compatible. If we issue a 'write track' command to the single density controller, then issue a 'write track' command to the double density controller in midstream, it will not CONTINUE to write in DD, but will instead wait until it senses the index hole before beginning to write. This would, of course, overwrite the SD data that was just written. Instead, the following must be done to mix density on the Mod I. Let's assume that we wish the SD sectors to be placed on the disk nearest the index hole. Then first we would write the double density portion, but leave a GAP on each track that will hold the single density portion. Since the compression ratio is approximately 1.8 between DD/SD, we must multiply the number of SD bytes to be written and multiply this times 1.8. Then, before we prepare the DD track image in memory, we must first fill the resulting number of bytes as our PAD. Then proceed to write the DD portion of the track. Now we have a GAP at the beginning of each track that is to hold our SD data. We may now prepare the SD image in memory, and issue the FDC write track command. Carefully counting each byte as it is passed to the FDC, when the correct number have been transferred, we issue an 'immediate interrupt' command to the FDC to immediately terminate any writing to the disk. If the correct size GAP has been prepared, the DD portion will now immediately follow the SD portion just written. This means that although the Mod III can write both densities in a SINGLE revolution of the disk, the Mod I must actually write the track TWICE. Due to the time needed to prepare each track image in memory, it may take THREE revolutions of the disk to format each track. Well, I hope that some food for thought has been placed into your mind. Please be aware, of course, that the above tutorial is meant only for the experienced machine language programmer.

Once again, thank you for your purchase and support of the SU+ program. I look forward to a long friendship as your SU+ mentor and advisor.

A handwritten signature in black ink, appearing to read "Kim Hatt". The signature is stylized with a large, sweeping initial "K" and a long, horizontal stroke extending to the right.


```
# 00#0105 AC7C 0000 0001 0540 C1CD 779E 0105#..#|.....@##w#..
HEX 10#47C1 0000 0001 056A 41CD D3C9 0108 D3C9#G#.....jA###...##
DRV 20#2A1E 40C3 E841 0104 2A5C FACA 010B 0C79#*.@##A.:*\##...y
0 30#22FA CA22 FCCA 22FE CA01 0466 79FA CA01#"##"##"##..fy##.
TRK 40#047B A6FA CA01 0489 A6FA CA01 0490 A6FC#.{###..####...###
01 50#CA01 04E8 A6FA CA01 04F3 A6FB CA01 04FE##..####...####...#
TRU 60#A6FC CA01 0409 A7FD CA01 04E3 A7FA CA01####...####...####.
01 70#0415 D5FA CA01 0679 6E00 0000 0001 061F#..####..yn.....
SEC 80#51C3 D9C9 0001 10D9 C9FE 44CA 2351 3AF3#Q###...####D##Q:#
06 90#50DD 7700 C32A 5101 069E 4D00 0000 0001#P#w.*Q...#M.....
STD A0#04E5 67E7 C901 0EE7 C9CD DC68 3A34 4057#.#g##..####h:4@W
OSD B0#3AE7 4C5F C901 045D B0F3 C901 09F3 C97B#:#L_#..}###...##{
C0#32E7 4CC3 685A 0104 C39F FAC9 0113 FAC9#2#L_hZ..####...##
D0#CDDA 4621 D3C7 D511 00D0 0100 02ED B0D1####F!###...####
E0#C901 08C5 9F21 02D0 0102 D101 04DF 9F00##..##!..#...###.
+00 F0#D001 04EF 9F00 D101 045D 7B00 D001 04B3###..##.##.}<.#...#
```

```
00#7B00 D001 04B5 7C00 D001 0615 C200 0000#<.#...#|..#...#...
HEX 10#0001 04D9 8B0B CA01 03DC 8BCC 010C 0BCA#...##..###...#
DRV 20#B7CD E646 32CD D0C3 F08B 0106 4EB6 CD15####F2####N##.
0 30#CA00 010A 15CA ED53 4E40 1100 00C9 0103##....#SN@...#..
TRK 40#2F49 5001 03DA 41CF 0103 6AA3 1E01 0A1D#/IP..#A#..j#....
01 50#CACD 59A3 1608 7EB3 C901 051A 94CD 1DCA####Y#..~##...###.#
TRU 60#0111 2449 5665 722E 322E 327A 2052 6576#..$IVer.2.2z Rev
01 70#2E32 3101 1287 48FE AD3E AD20 023E 9E00#.21..#H##># .>#.
SEC 80#0000 0000 0000 0001 0328 425F 0103 A242#.....(B_...#B
07 90#5F01 03AF 425F 0103 3142 8C01 0335 425F#_...#B_...1B#...5B_
STD A0#0103 4642 8C01 0338 4210 0103 D842 3001#..FB#..8B...#B0.
OSD B0#03E6 4208 0104 31D2 00FF 0160 00FF F33E#..#B...1#.#..`..##>
C0#C332 43CF 32A0 CF32 22D2 3240 D221 72CF##2C#2##2"2@#!r#
D0#2244 CF21 15D2 22A1 CF21 2DD2 2223 D221#"D#!..#"##!-#"##!
E0#1540 2241 D221 9846 2231 D221 0000 226F#.@#A#!#F"1#!..#o
+00 F0#4022 7140 CF42 6F6F 7420 596F 7572 2044#@#q@#Boot Your D
```

```
00#4F53 0021 0040 1100 5501 40A3 CDD7 5021#OS.!..@...U.@###P!
HEX 10#80FF 1140 F801 0F00 EDB0 18FE 0111 80FF###.##...##..##
DRV 20#F321 0055 1100 4001 50A3 EDB0 C338 CF00##!.U..@.P####8#.
0 30#0000 0000 0000 0000 0000 0000 0000 0000#.....
TRK 40#0000 0000 0000 0000 0000 0000 0000 0000#.....
01 50#0000 0000 0000 0000 0000 0000 0000 0000#.....
TRU 60#0000 0000 0000 0000 0000 0000 0000 0000#.....
01 70#0000 0000 0000 0000 0000 0000 0000 0000#.....
SEC 80#0000 0000 0000 0000 0000 0000 0000 0000#.....
08 90#0000 0000 0000 0000 0000 0000 0000 0000#.....
STD A0#0000 0000 0000 0000 0000 0000 0000 0000#.....
OSD B0#0000 0000 0000 0000 0000 0000 0000 0000#.....
C0#0000 0000 0000 0000 0000 0000 0000 0000#.....
D0#0000 0000 0000 0000 0000 0000 0000 0000#.....
E0#0000 0000 0000 0000 0000 0000 0000 0000#.....
+00 F0#0000 0000 0000 0000 0000 0000 0000 0000#.....
```

MOD III

00#0105 8C7C 0000 0001 050C C1CD 499E 0105#..#|.....##I#..
HEX 10#13C1 0000 0001 056A 41CD 74C9 0108 74C9#.#.....jA#t#..t#
DRV 20#2A1E 40C3 E841 0104 0C5C FACA 010B EE78#*.@##A...\\##...#x
0 30#22FA CA22 FCCA 22FE CA01 0448 79FA CA01#"#"#"#"#"..Hy##.
TRK 40#044D A6FA CA01 045B A6FA CA01 0461 A6FC#.M###[###..a##
02 50#CA01 04B9 A6FA CA01 04C4 A6FB CA01 04CF##..#####..#
TRU 60#A6FC CA01 04DA A6FD CA01 04B4 A7FA CA01#####..#####.
02 70#041B D5FA CA01 0652 6E00 0000 0001 067F#..###..Rn.....
SEC 80#51C3 7AC9 0001 107A C9FE 44CA 8351 3A53#Q#z#...z##D#Q:S
06 90#51DD 7700 C38A 5101 06FE 4D00 0000 0001#Q#w.##Q..#M.....
STD A0#04BF 6788 C901 0E88 C9CD B668 3A34 4057#.#g##..#####h:4@W
OSD B0#3A47 4D5F C901 0429 B094 C901 0994 C97B#:GM_#..)#####(
C0#3247 4DC3 B15A 0104 959F 9BC9 0113 9BC9#2GM#Z..#####.
D0#CD28 4621 74C7 D511 00D0 0100 02ED B0D1##(F!t#..#...###
E0#C901 0897 9F21 02D0 0102 D101 04B1 9F00##..##!..#...###.
+00 F0#D001 04C1 9F00 D101 043D 7B00 D001 0493##..##.#...=<.#...#

00#7B00 D001 0495 7C00 D001 06E1 C100 0000#<.#...#|..#...#...
HEX 10#0001 04B8 8BAC C901 03BB 8BCC 010C ACC9#...#####..##
DRV 20#B7CD D446 32CD D0C3 CF8B 0106 1AB6 CDB6####F2#####..##
0 30#C900 010A B6C9 ED53 4E40 1100 00C9 0103##..#####SN@...#..
TRK 40#8D49 5001 03DA 41CF 0103 3CA3 1E01 0ABE##IP..#A#..<#...#
02 50#C9CD 2BA3 1608 7EB3 C901 05F7 93CD BEC9###+##..~#...#####
TRU 60#0113 8249 5665 722E 2032 2E32 7A20 5265#..#Iver. 2.2z Re
02 70#762E 2032 3101 126B 48FE AD3E AD20 023E#v. 21..kH##># .>
SEC 80#9E00 0000 0000 0000 0001 0328 425F 0103##.....(B_..
07 90#A242 5F01 03AF 425F 0103 3142 8C01 0335##B_..#B_..1B#..5
STD A0#425F 0103 4642 8C01 0338 4210 0103 D842#B_..FB#..8B...#B
OSD B0#3001 03E6 4208 0104 37D2 00FF 0160 00FF#0..#B...7#.#.#.#.
C0#F33E C332 4DCF 32A9 CF32 28D2 3246 D221##>#2M#2##2(#2F#!
D0#7CCF 224E CF21 1BD2 22AA CF21 33D2 2229#|#"N#!.#"##!3#")
E0#D221 1540 2247 D221 8646 2237 D221 0000##!."G#!#F"7#!..
+00 F0#226F 4022 7140 CF42 6F6F 7420 596F 7572#"o@"q@#Boot Your.

00#2044 4F53 0021 0040 1100 5501 40A3 CD37# DOS.!..@..U.@##7
HEX 10#5121 80FF 1140 F801 0F00 EDB0 18FE 0111#Q!##.##...#.#..
DRV 20#80FF F321 0055 1100 4001 50A3 EDB0 C338#####!.U..@.P#####8
0 30#CF00 0000 0000 0000 0000 0000 0000 0000 0000#.....
TRK 40#0000 0000 0000 0000 0000 0000 0000 0000 0000#.....
02 50#0000 0000 0000 0000 0000 0000 0000 0000 0000#.....
TRU 60#0000 0000 0000 0000 0000 0000 0000 0000 0000#.....
02 70#0000 0000 0000 0000 0000 0000 0000 0000 0000#.....
SEC 80#0000 0000 0000 0000 0000 0000 0000 0000 0000#.....
08 90#0000 0000 0000 0000 0000 0000 0000 0000 0000#.....
STD A0#0000 0000 0000 0000 0000 0000 0000 0000 0000#.....
OSD B0#0000 0000 0000 0000 0000 0000 0000 0000 0000#.....
C0#0000 0000 0000 0000 0000 0000 0000 0000 0000#.....
D0#0000 0000 0000 0000 0000 0000 0000 0000 0000#.....
E0#0000 0000 0000 0000 0000 0000 0000 0000 0000#.....
+00 F0#0000 0000 0000 0000 0000 0000 0000 0000 0000#.....

UPGRADING TO VERSION 3.0 OF SUPER UTILITY PLUS...

As Kim previously alluded to, Version 3.0 of Super Utility Plus is now shipping, and if you are a SU+ lover, then you really want this new version. Upgrade notices were sent out to registered owners, but in case you missed it, here is a recap on how to obtain SU+/3.0.

The SUPER UTILITY or SUPER UTILITY PLUS package that you now have in your possession is worth MONEY in TRADE-IN towards the new SU+/3.0! Version 3.0 is a totally new program, new disks, new doc, new assembly, etc., so it is NOT a program update, but an MAJOR UPGRADE. We are not dropping support for either SU or SU+, however new hardware and software has been released since these programs were first written. You can only patch and zap so far, and then it needs to be rewritten, as we have done with 3.0. Kim has spent four months writing 3.0. It is his finest coding to date. If you are having a problem with 2.2z that has been corrected in 3.0, then the support for the problem is in 3.0. We support 2.2z for what it is and was, but don't expect the 2.2z version to continue to work with whatever is released in the future. All of that support and work will be applied towards the 3.0 version. An example would be the original version of SUPER UTILITY. It was (and still is) a fine program, but is Mod I single density only. The double density support came later in SU+, and Mod III as well. Version 2.2z has come as far as it could. "How much will it cost for the upgrade?"

- 1) If you have SUPER UTILITY PLUS, then you have a package that is worth \$40 in trade towards 3.0.
- 2) If you purchased your SU+ since November 15, 1982, then your SU+ is worth \$50 in trade! (This expires on April 15, 1983). You MUST provide an AUTHORIZED receipt to show this.
- 3) If you own the original SUPER UTILITY, this is worth \$20 in trade towards SU+/3.0.

There will be a \$2.50 shipping/handling charge on upgrades in USA or CANADA. Foreign countries please add \$10.

The retail price of SU+/3.0 is \$79.95.

Rules and Regulations for UPGRADE:

- #1 - You MUST send your MASTER DISK with the MANUAL.
- #2 - If you have two disks (the master and the backup), it is up to you, if you want to send both. If you send one disk you will receive ONE new disk. If you send BOTH disks, you will receive TWO new disks. If you elect to only send one in now, you may PURCHASE one now or later for \$10. Your choice.
- #3 - You must be a registered owner, or be able to prove ownership.

It is NOT NECESSARY for you to update. We are not forcing you to, and we are not dropping support for our older products. We ARE saying that no more development work will be done on these programs, and the future is version 3.0.

SUPPORT FOR SU+ 2.2z or 3.0

Questions regarding the use of our software are welcome through the mail.

We will NOT answer any technical questions on our 800 order line. The people who answer that number are not necessarily equipped to help you.

If you call, be sure to have your SU+ serial number in front of you for verification in our database. It will also help if you have your machine ON in front of you, with the program loaded. MAKE SURE THE SELF-BOOTING DISK IS LOADED, NOT A CMD FILE VERSION! Also check the manual and be sure you have a problem before calling! You MUST be a registered owner for all future help. We are being deluged with calls from PIRATES, and will not help them anymore. No card... NO HELP!

One last point we would like to make is that we DO NOT SUPPORT SU or SU+ in CMD file format, unless it came from US! The ONLY authorized CMD file that we have ever released is the 3.0 CMD file that comes in the SU+ Special Edition Package. The purpose of this newsletter was for YOUR convenience and personal use. If you are having a problem with your 2.2z CMD file, PLEASE make sure you have the SAME problem with our self-booting disk. Also please re-read the appropriate section of the manual. If it works OK on the self-booting disk, DON'T call us. If you are running with a CMD file, we cannot help you. There is too much room for people to apply improper patches and zaps, and modifications. We only support our self-booting disks. That way, we know what code you have on your disk and in your machine. Once again, this does NOT apply to the CMD file that comes with SU+/SE.

New Books for SU+!

SU+ Tech Manual - by Kim Watt

This book will be of great value to the machine language fans who wants to know MORE about SU+, its call points, explanations of them, vectors, etc. This book is NOT for the beginner, but IS a valuable tool for those that want to know more about the inner workings of this fantastic program. 2.2 edition IN STOCK! 3.0 edition available April 30th.

INSIDE SU+ - by Paul Wiener / Afterword Kim Watt

Inside SU+ is a user's guide to the intricacies of SUPER UTILITY PLUS written from the point of view of a user, i.e., Paul Wiener. Paul describes many of the things which may not be immediately clear from reading the SU+ manual, and details a step by step procedure for rescuing disks. The AFTERWORD, by Kim Watt, gives more little tricks for using SU+ as efficiently as possible. All in all, it is a book that NO SU+ user should be without! There is a wealth of information in it, and will answer MOST of the questions that might be raised from just reading the user's manual alone. This is a LARGE format, perfect bound book aimed at beginners and pros alike! It teaches the user the intricacies of SU+, tells its secret undocumented commands, explains WHY you might want to do certain things with SU+, and HOW

to do them. Does not replace the SU+ Manual, but expands on it for a newcomer to computers. Written in a very readable style by a writer for a MAJOR TRS-80 magazine, and a sure winner for sure! Don't miss this one, if you want all the knowledge you can get! Get the FULL use of this powerful program! Paul tells ALL! 2.2z edition in stock, 3.0 edition available in June.

INSIDE SU+ **\$19.95**

SU+ TECH Manual **\$14.95**

plus \$2 shipping/handling (US/Canada)

Please specify if these books are for Version 2.2z or 3.0! Ask for these at your favorite dealer or order direct, but don't miss these!

SUPER UTILITY PLUS - Special Edition

SU+/SE is now shipping! If you are interested, we still have some reservations open. Price is \$500 including shipping in US or Canada. Foreign orders please add \$25. Includes COMPLETE commented SOURCE CODE to SU+/3.0, as well as 3.0 in a CMD file format. Only 500 of these will be made.

SU/SE contains SU+/3.0 in CMD file format for Mod I and III. It also contains FULL COMMENTED source code of SU+/3.0 (almost 700 pages!). That is Binder #1. Binder #2 contains SU+ 3.0 manual, 3.0 TECH manual, and Inside SU+ all in 8 1/2" x 11" format!

If you are interested, please write or call for more details...

A big THANK YOU to those of you who wrote us supporting our stand in 80 MICRO. We appreciate it very much.

db

