

PC/SAS Installation Made Easy

Randy Van Beek, South Dakota State University
Stan Nielsen, South Dakota State University

South Dakota State University Computing Services provides PC/SAS to any staff member who requests it. Previously, new installations and upgrades were time consuming. It took about one hour to install 34 high density disks. We decided to use a file compression program which created 15 (3 1/2 720K) disks. The reason we decided to use 720K disks is that not everyone has high density drives (1.2K or 1.44K). If they use their computer for anything more than word processing, they usually have a 720K drive. The 360K is too small to hold some of the files that the install requires. This cut the installation time in half. Now the only problem was installation error, so we wrote a simple program to help in the normal installation of PC/SAS. This program uses the compressed disks, checks for available disk space prior to installation of each SAS module, makes all the needed sub directories, and eliminates the chance of coping files to the wrong directory. Each of these steps apart from one another seem very minor, but it saves time to be able to send out a new student alone to do an install.

The program begins by stating it is a SAS installation program. It asks from which drive you are installing SAS and then asks you for the destination drive. If this is a new install, the subdirectories will be created for you; if this an

upgrade only the upgrade will be added. The main menu gives you five choices: BASE, GRAPH, STAT, FSP, QUIT. For an upgrade or new installation you choose the desired module, and you will be prompted for the disks needed to install that part of the program. After this process is completed you'll be returned to the main menu and may repeat the process.

The program is written in Pascal using the 6.0 compiler. Each major function of the program is preformed in a unit for easy modification. To do the install with 1.2K disks all that needs to be done is make a copy of the 720K unit and change the disk numbers that it asks for. To add other handy options just add the process to the global unit and call it from the main program.

In the future we plan to have the program install to multiple drives. This would enable you to install only the files you want for each module. It would also set up the config.sas for you.

The following is an example of what you will see on the screen when you 1. start the program, 2. after you press enter, 3. after you enter the source drive, 4. after you enter the destination drive, 5. after making sub-directories or not, 6. after making your selection from the main menu. This screen will tell you that it is copying files in-between asking for disks.

(1)

SDSU COMPUTER SERVICES

```

SSSSSSSSSS  AAAAAAAAAA  SSSSSSSSSS
SSSSSSSSSS  AAAAAAAAAA  SSSSSSSSSS
SS          SS  AA          AA  SS          SS
SS          SS  AA          AA  SS          SS
SSS         SSS  AA          AA  SSS         SSS
SSSSSSSSSS  AAAAAAAAAA  SSSSSSSSSS
SSSSSSSSSS  AAAAAAAAAA  SSSSSSSSSS
          SSS  AA          AA  SSS          SSS
          SS   AA          AA  SS          SS
SS          SS  AA          AA  SS          SS
SSSSSSSSSS  AA          AA  SSSSSSSSSS
SSSSSSSSSS  AA          AA  SSSSSSSSSS

```

PRESS ENTER TO START INSTALL

(2)

SDSU COMPUTER SERVICES

```

ENTER THE LETTER OF THE SOURCE DRIVE
SS          AA          AA          SS
SSS         AA          AA          SSS
SSSSSSSSSS AAAAAAAAAA  SSSSSSSSSS
SSSSSSSSSS AAAAAAAAAA  SSSSSSSSSS
          SSS  AA          AA          SSS
          SS   AA          AA          SS
SS          SS  AA          AA          SS
SSSSSSSSSS AA          AA          SSSSSSSSSS
SSSSSSSSSS AA          AA          SSSSSSSSSS

```

PRESS ENTER TO START INSTALL

(3)

SDSU COMPUTER SERVICES

```

SSSSSSSSSS  AAAAAAAAAA  SSSSSSSSSS
SSSSSSSSSS  AAAAAAAAAA  SSSSSSSSSS
SS          SS  AA          AA  SS          SS

```

ENTER THE LETTER OF THE DESTINATION DRIVE

```

SSSSSSSSSS  AAAAAAAAAA  SSSSSSSSSS
          SSS  AA          AA          SSS
          SS   AA          AA          SS
SS          SS  AA          AA          SS
SSSSSSSSSS AA          AA          SSSSSSSSSS
SSSSSSSSSS AA          AA          SSSSSSSSSS

```

PRESS ENTER TO START INSTALL

(4)

SDSU
COMPUTER
SERVICES

```
SSSSSSSSSS      AAAAAAAAAA      SSSSSSSSSS
SSSSSSSSSSSSSS  AAAAAAAAAAAAAA  SSSSSSSSSSSS
SS              SS  AA          AA  SS          SS
SS              SS  AA          AA  SS          SS
SSS            AA    AA          AA  SSS
```

CREATE ALL THE SUBDIRECTORIES (Y/N)

```
SS              SS  AA          AA  SS          SS
SS              SS  AA          AA  SS          SS
SSSSSSSSSSSSSS  AA          AA  SSSSSSSSSSSS
SSSSSSSSSSSS    AA          AA  SSSSSSSSSSS
```

PRESS ENTER TO START INSTALL

SDSU
COMPUTER
SERVICES

(5)

SDSU
COMPUTER
SERVICES

```
SSSSSSSSSS      AAAAAAAAAA      SSSSSSSSSS
SSSSSSSSSSSSSS  AAAAAAAAAAAAAA  SSSSSSSSSSSS
SS              SS  AA          AA  SS          SS
SS              SS  AA          AA  SS          SS
SSS            AA    AA          AA  SSS
SSSSSSSSSS      AAAAAAAAAAAAAA  SSSSSSSSSS
SSSSSSSSSS      AAAAAAAAAAAAAA  SSSSSSSSSS
SSS            AA    AA          SSS
```

ENTER YOUR SELECTION 1 - 5

1 BASE
2 STAT
3 GRAPH
4 FSP
5 QUIT

PRESS ENTER TO START INSTALL

SDSU
COMPUTER
SERVICES

(6)

SDSU
COMPUTER
SERVICES

```
SSSSSSSSSS      AAAAAAAAAA      SSSSSSSSSS
SSSSSSSSSSSSSS  AAAAAAAAAAAAAA  SSSSSSSSSSSS
SS              SS  AA          AA  SS          SS
SS              SS  AA          AA  SS          SS
SSS            AA    AA          AA  SSS
```

PUT IN DISK # 1
PRESS ENTER TO CONTINUE

```
SS              SS  AA          AA  SS          SS
SSSSSSSSSSSSSS  AA          AA  SSSSSSSSSSSS
SSSSSSSSSSSS    AA          AA  SSSSSSSSSSS
```

PRESS ENTER TO START INSTALL

SDSU
COMPUTER
SERVICES

This is what we did to create each disk. First of all the files in each sub directory are compressed, using PKZIP, into one file with the sub directories name on it. EXAMPLE: The files in C:\SAS\SASEXE\BASE would be compressed into a file called BASE.ZIP. We chose to use PKZIP because we have a license for it, but you can use any compression program that will make EXE files of different sizes. Using ZSIZE.EXE splits BASE.ZIP into two blocks, BASEA.ZIP and BASEB.ZIP, making each block less than 700k so that after using ZIP2EXE.EXE to make each file executable it will still fit on a 720k disk. Also on each disk there is a small hidden file DISK#.DAT that the program looks at to determine which disk is in the drive. The commands that are needed for the disks are:

1. PKZIP BASE.ZIP C:\SAS\SASEXE
 \BASE*.*

(this can be done at the C:\ or change into the BASE directory and just type PKZIP BASE.ZIP *.*)

2. ZSIZE BASE.ZIP 700000 KEEP

(this breaks the file into 700k or less and KEEP tells it NOT to delete the BASE.ZIP when it's done. It makes the BASEA.ZIP, BASEB.ZIP for you.)

3. ZIP2EXE BASEA.ZIP

(this makes BASEA.ZIP into a self-extracting file named BASEA.EXE. This step needs to be repeated for each file that ZSIZE created.)

4. COPY BASEA.EXE to the floppy disk. Refer to the list for what needs to be on each disk.

5. Create the DISK#.DAT file. You can use any editor or at the command line type:
 COPY CON DISK#.DAT (then press enter)
 type: 1 (then press enter. this would be the number of the disk corresponding with file(s) on it)
 press CTRL-Z or F6 (then press enter. This closes the file and it should say 1 FILE(S) COPIED)

6. ATTRIB BASEA.EXE +R (this makes the file read-only)

7. ATTRIB DISK#.DAT +R (this makes the file read-only)

8. ATTRIB DISK#.DAT +H (this makes the file hidden--not necessary, but it just looks better)

9. 1 though 8 will need to be repeated for each sub directory.

These are the files that you will have on each disk after completing steps 1 through 9. The number in DISK#.DAT will also be the disk number. On disk one the INSTALL.EXE is our program.

DISK#.DAT FILES ON
THE DISK

1	BASEA.EXE INSTALL.EXE
2	BASEB.EXE SASMSG.EXE SAS.EXE FSP.EXE ZAPS.EXE
3	COREA.EXE
4	COREB.EXE
5	COREC.EXE
6	SASHELPA.EXE
7	SASHELPA.EXE
8	SASHELPC.EXE
9	STAT.A.EXE
10	STATB.EXE
11	STATC.EXE
12	STATD.EXE
13	GRAPH.A.EXE
14	GRAPHB.EXE
15	MAPS.EXE SASINST.EXE SASLINK.EXE SASMACRO.EXE SASUSER.EXE

PKZIP (R) FAST! Create/Update Utility Version 1.1. 03-15-90
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Randy Van Beek
South Dakota State University
Computing Service, Box 2201
Brookings, SD 57007-1598
PHONE: 605-688-4679
FAX: 605-688-5822
BITNET: CC28@SDSUMUS
INTERNET: VANBEEKR@CC.SDSTATE.EDU
INTERNET: CC28@SDSUMUS.SDSTATE.EDU