ADDENDUM TO CBM DUAL DRIVE FLOPPY MANUAL

This Addendum covers the additional
features of the Model 8250 Dual floppy

C= commodore

A. GENERAL

The Model 8250 dual floppy uses a 100 TPI two headed drive with a maximum capacity of 1,066,496 bytes per drive (formatted). Each 8250 diskette has 154 tracks, 77 on each side, and is read/write compatible with the model 8050 system as described in the following sections.

B. ERROR/STATUS MESSAGES

All error/status messages requested from the 8250 include a drive number as a fifth variable. Referring to page 81 of the manual, the lines 20 and 30 of the error retrieval command should be extended to include a fifth variable so as to retrieve the drive number.

e.g. 30 PRINT#1,A,B$,C,D,E

The 'Print DS$' command of Basic 4.0 will automatically print the drive number.

C. INITIALIZATION AN 8050 DISKETTE ON AN 8250 SYSTEM

The first attempt to access an 8050 disk that has been inserted into the 8250 will result in the following error message:

66, Illegal Track or Sector,00,255,d

Where d is the drive number. This error message occurs due to the different BAM contents of the two systems and may be ignored. The error message will occur only once and all further disk commands will operate correctly unless the diskette is moved or an initialization command is sent to the 8250.

D. COPYING 8050 DISKETTES TO 8250 FORMAT

You may convert 8050 format files to 8250 format with the following procedure:

1. Place a blank diskette in either 8250 drive.
2. Format that diskette with the NEW disk command.
3. Place an 8050 format diskette in the empty drive.
4. Initialize the drive containing the 8050 diskette.
   (Note: the ERROR 66 message will appear and may be ignored).
5. Using the COPY disk command, copy the 8050 diskette to the formatted 8250 diskette.

NOTE: The BACKUP disk command will not work in this procedure.
You MUST use the COPY disk command.

E. USING AN 8250 DISKETTE ON AN 8050 DISK DRIVE

All 8250 diskettes are READ/WRITE compatible with 8050 Disk Drive with the following exception:

1. 8050 Disk Drives cannot access files on the top ("back") side of 8250 diskettes.

2. Relative files created on an 8250 Disk drive are not compatible with the 8050 Disk Drive **until the Expanded Relative Files** capability is disabled. Before creating an 8050 relative file on an 8250 system, follow the procedure (listed below in F.) to DISABLE Expanded Relative Files.

F. MANAGING RELATIVE FILES ON THE 8250

On the 8050 Disk Drive, relative files are limited to a maximum size of 180K. With DOS 2.7 on the 8250 additional side sectors are available allowing unlimited file size (subject to the disk capacity). Two procedures are available for compatible operation of 8050 relative files on the 8250 System.

Procedure 1: DISABLING/ENABLING the expanded Relative Files feature

The 8250 will power up with the expanded Relative File capability. In order to read or write existing 8050 relative files, the Expanded Relative file capability must be disabled. The following program does this:

```
00 REM DISABLE EXPANDED RELATIVE FILES
10 OPEN15,8,15
20 PRINT#15,"M-W"CHR$(164)CHR$(67)CHR$(1)CHR$(255)
```

This disables the Expanded Relative Files capability until the Disk Drive is reset or the following program is run to enable the Expanded Relative Files:

```
00 REM ENABLE EXPANDED RELATIVE FILES
10 OPEN15,8,15
20 PRINT#15,"M-W"CHR$(164)CHR$(67)CHR$(1)CHR$(0)
```

Procedure 2: Converting 8050 Relative Files to 8250 Relative Files

The TEST/DEMO diskette supplied with the 8250 Disk Drive contains a program called "EXPAND REL". LOAD and RUN this program. A series of instructions are displayed on the screen.

This program converts 8050 format relative files to 8250 format relative files.

NOTE: The resulting files cannot be read by an 8050 Disk drive after the conversion.

G. 8250 DISK ZONES

The 8250 disk format uses a variable number of sectors per track according to four density zones. The BAM is made up of four blocks (see BAM structure information). The first block represents tracks 1 thru 50, the second tracks 51 thru 100, the third tracks 101 thru 150, and the fourth represents tracks 151 thru 154.

SIDE	TRACK RANGE	NUMBER OF SECTORS/TRACK	TOTAL SECTORS	ZONE	BAM
0	1-39	29	1131	1	1
0	40-50	27	297	2	1
0	51-53	27	81	2	2
0	54-64	25	275	3	2
0	65-77	23	299	4	2
1	78-100	29	677	5	2
1	101-116	29	464	5	3
1	117-130	27	378	6	3
1	131-141	25	275	7	3
1	142-150	23	207	7	3
1	151-154	23	92	8	4

4166 TOTAL BLOCKS

- 29 DIRECTORY BLOCKS
- 4 BAM BLOCKS

4133 BLOCKS AVAILABLE

H. BLOCK DISTRIBUTION BY TRACK

8250 Track Number	Block or Sector Range	Total
1 to 39	0 to 28	29
40 to 53	0 to 26	27
54 to 64	0 to 24	25
65 to 77	0 to 22	23
78 to 116	0 to 28	29
117 to 130	0 to 26	27
131 to 141	0 to 24	25
142 to 154	0 to 22	23

I. 8250 DIRECTORY HEADER BLOCK

Track 39, Sector 0.

BYTE	CONTENTS	DEFINITION
0,1	38,0	Track and sector of first BAM block
2	67	ASCII character C indicating 8250 format.
3	0	Null flag for future DOS use.
4,5	0	Unused.
6-21		Disk name padded with shifted spaces.
22,23	160	Shifted spaced.
24,25		Disk ID.
26	160	Shifted space.
27,28	50,67	ASCII representation for 2C which is DOS version and format type.
29,32	160	Shifted spaces.
33-255	0	Nulls, not used.

J. 8250 BAM FORMAT

First BAM block: Track 38, Sector 0.

BYTE	CONTENTS	DEFINITION
0,1	38,3	Track and sector of second BAM block.
2	67	ASCII character C indicating 8250 format.
3	0	Null flag for future DOS use.
4	1	Lowest track number represented in this BAM block.
5	51	Highest track number +1 in this BAM block.
6		Number of blocks unused on track 1
7-10		Bit map representation of available blocks on track 1.
11-255		*BAM for tracks 2-50, 5 bytes/track.

Second BAM block: Track 38, Sector 3.

BYTE	CONTENTS	DEFINITION
0,1	38,6	Track and sector of third BAM block.
2	67	ASCII character C indicating 8250 format.
3	0	Null flag for future DOS use.
4	51	Lowest track number represented in this BAM block.
5	101	Highest track number +1 in this BAM block.
6		Number of blocks unused on track 51
7-10		Bit map representation of available blocks on track 51.
11-255		*BAM for tracks 52-100, 5 bytes/track.

* See page 7 for BAM entry format.

J.   8250 BAM FORMAT, continued

Third BAM block: Track 38, Sector 6.

BYTE	CONTENTS	DEFINITION
0,1	38,9	Track and sector of fourth BAM block.
2	67	ASCII character C indicating 8250 format.
3	0	Null flag for future DOS use.
4	101	Lowest track number represented in this BAM block.
5	151	Highest track number +1 in this BAM block.
6		Number of blocks unused on track 101
7-10		Bit map representation of available blocks on track 1.
11-255		*BAM for tracks 102-150, 5 bytes/track.

Fourth BAM block: Track 38, Sector 9.

BYTE	CONTENTS	DEFINITION
0,1	39,1	Track and sector of first directory block.
2	67	ASCII character C indicating 8250 format.
3	0	Null flag for future DOS use.
4	151	Lowest track number represented in this BAM block.
5	155	Highest track number +1 in this BAM block.
6		Number of blocks unused on track 151.
7-10		Bit mat representation of available blocks on track 151.
11-25		*BAM for tracks 152-154, 5 bytes/track.
26-255		Unused

* See page 7 for BAM entry format.

K. STRUCTURE OF BAM ENTRY FOR A TRACK

BYTE	DEFINITION
0	number of available sectors for track
1	bit map sectors 0-7
2	bit map sectors 8-15
3	bit map sectors 16-23
4	bit map sectors 24-31

L. FORMAT SPEED ERROR

During the format routine, the 8250 verifies that the drive speed is 200 ± 2 milliseconds/revolution. If the speed is outside of these limits, the format will stop with the error light on. When the error message is retrieved, it will indicate:

75,Format Speed Error,00,000,d

If the speed error occurs, contact the Commodore Service Center.