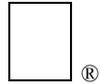


# Apple II Technical Notes



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Developer Technical Support

## ProDOS 8

### #29: Clearing the Backup Needed Bit

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This Technical Note shows how to clear the “backup needed bit” in a directory entry’s `access` byte.

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If you are writing a file backup utility program, you probably want to clear the backup needed bit in each directory entry’s `access` byte as you make the backup of the file associated with that directory entry. The `SET_FILE_INFO` MLI call normally sets the backup needed bit of the `access` byte, but how do you clear it? The answer is at location `BUBIT` (`$BF95`) on the ProDOS 8 system global page.

`BUBIT` normally contains the value `$00`. When `BUBIT` contains `$00`, the `SET_FILE_INFO` MLI call **always** sets the backup needed bit in the directory entry’s `access` byte. However, if the value `$20` is stored in `BUBIT` immediately before calling `SET_FILE_INFO`, the backup needed bit in the directory entry’s `access` byte can be cleared. `BUBIT` is set back to `$00` by the MLI call. The following code example shows how to clear the backup needed bit. Values other than `$20` or `$00` in `BUBIT` are not supported.

```
; The pathname of the file should be in ThePathname buffer when this code is called!
```

```
65816 off  
longa off
```

```
        longi off

ClearBackupBit start

; System global page locations

MLI      equ $BF00      ;MLI call entry point
BUBIT    equ $BF95      ;Backup Bit Disable, SET_FILE_INFO only

; MLI call numbers

SET_FILE_INFO equ $C3
GET_FILE_INFO equ $C4

; set up FileInfoParms for GET_FILE_INFO MLI call
        lda #$0A
        sta param_count

; then...
        jsr MLI          ;get the current file info
        dc  I1'GET_FILE_INFO'
        dc  I2'FileInfoParms'
        bne Error
```

```
        lda #$20                ;set the backup bit disable bit
        sta BUBIT
        eor #$FF
        and access              ;clear the backup needed bit
        sta access

; set up FileInfoParms for SET_FILE_INFO MLI call
        lda #$07
        sta param_count

; then...
        jsr MLI                 ;set the file info with the file info
        dc I1'SET_FILE_INFO'    ;(clearing only the backup needed bit)
        dc I2'FileInfoParms'
        bne Error
        rts                    ;return to caller

Error    anop                  ;routine to handle MLI errors
        rts

; Parameter block used for GET_FILE_INFO and SET_FILE_INFO MLI calls

FileInfoParms  anop
param_count    ds 1
pathname      dc i2'ThePathname'
access        ds 1
file_type     ds 1
aux_type      ds 2
storage_type  ds 1
blocks_used   ds 2
mod_date      ds 2
mod_time      ds 2
create_date   ds 2
create_time   ds 2

ThePathname   entry
              ds 65                ;store the pathname of the file here

        end
```

**Further Reference**

- *ProDOS 8 Technical Reference Manual*