Apple II
Technical Notes

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Developer Technical Support

Apple IIGS
#50:   Extended Serial Interface Error Handling

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This Technical Note discusses error reporting by the Extended Serial Interface.

For Apple IIGS ROM 01, the Extended Serial Interface does not return the error condition in the carry bit. Programs using the Extended Serial Interface should check for a non-zero result value in the **result code** rather than the carry bit to determine if an error has occurred. The following eight-bit APW code demonstrates this error checking using the `SetDTR` command. The `SetDTR` routine zeros the result bytes if no error has occurred.

```
           LONGA   OFF            ;PREPARE ASSEMBLER FOR EMULATION MODE
           LONGI   OFF
           65C02   ON
           KEEP    SETDTR2
           START
SLOT       EQU     $01
           SEC                    ;SET EMULATION MODE
           XCE
           JMP     BEGIN
CMDLST     DC      H'03'          ;PARAMETER COUNT
           DC      H'0B'          ;SETDTR COMMAND CODE
RESLT      DC      I'0'           ;RESULT CODE (OUTPUT)
DTRSTAT    DC      I'0'           ;BIT 7 IS STATE OF DTR (INPUT)
BEGIN      LDA     #SLOT          ;COMPUTE $CN VALUE TO BE USED
           ORA     #$C0
           STA     OFFSET+2       ;MODIFY INSTRUCTIONS LOADING OFFSETS
           STA     XOFFSET+2
           STA     ICALL+2        ;MODIFY INSTRUCTIONS CALLING FIRMWARE
           STA     XCALL+2
IOFFSET    LDA     $C00D          ;THIS INSTRUCTION MODIFIED AT RUNTIME
           STA     ICALL+1        ;MODIFY JSR TO INIT
XOFFSET    LDA     $C012          ;THIS INSTRUCTION MODIFIED AT RUNTIME
```

```
              STA     XCALL+1       ;MODIFY JSR TO EXTENDED SERIAL INTERFACE
ICALL         JSR     $C000         ;THIS INSTRUCTION MODIFIED AT RUNTIME
              LDA     #<CMDLST      ;LOW BYTE OF COMMAND LIST
              LDX     #>CMDLST      ;HIGH BYTE OF COMMAND LIST
              LDY     #0            ;24-BIT ADDRESS NOT USED BY 8-BIT PROGRAM
XCALL         JSR     $C000         ;THIS INSTRUCTION MODIFIED AT RUNTIME
              LDA     RESLT         ;DID AN ERROR OCCUR?
              BNE     ERROR         ;YES- HANDLE THE ERROR
              ...
ERROR
              ...
              END
```