```c
struct    csr {                    /* Template for printer CSRs */
    int    csr_power;              /* Is printer powered on? */
    int    csr_load;               /* Load a sheet of paper */
    int    csr_addr;               /* Specify address of data to print */
    int    csr_getdata;            /* Upload data from memory */
    int    csr_spray;              /* Start inkjet spraying */
    int    csr_advance;            /* Advance paper to next band */
    int    csr_dev_busy;           /* Nonzero => device busy */
    int    csr_levels;             /* CMYK Ink levels in 4 bytes */
}
struct    csr    *p;               /* Pointer to the device address area */

p = (struct csr *)0x110000;  /* Set p to device address */
if (p->csr_power == 0);           /* Test if printer is on */
    error("printer not on");
p->csr_load = 1;                  /* Start loading paper */
while (p->csr_dev_busy)           /* Poll to wait for the load to complete */
    ;
p->csr_addr = &mydata             /* Specify the location of data in memory */
p->csr_getdata = 1;               /* Cause printer to pick up data */
while (p->csr_dev_busy)           /* Poll to wait for printer to complete loading data  */
    ;
p->csr_spray = 1;                 /* Start the inkjet spraying */
while (p->csr_dev_busy)           /* Poll to wait for the inkjet to finish */
    ;
p->csr_ = 1;                      /* Advance the paper to the next band */
while (p->csr_dev_busy)           /* Poll to wait for the paper advance to complete*/
    ;
```

**Figure 16.4**  The code from Figure 16.3 rewritten to use a C struct.