Rocky Enterprise Linux 9.2 Manual Pages on command 'dsp56k.4'

C:\>man dsp56k.4

DSP56K(4) Linux Programmer's Manual DSP56K(4)

NAME

dsp56k - DSP56001 interface device

SYNOPSIS

#include <asm/dsp56k.h>

ssize_t read(int fd, void *data, size_t length);

ssize_t write(int fd, void *data, size_t length);

int ioctl(int fd, DSP56K_UPLOAD, struct dsp56k_upload *program);

int ioctl(int fd, DSP56K_SET_TX_WSIZE, int wsize);

int ioctl(int fd, DSP56K_SET_RX_WSIZE, int wsize);

int ioctl(int fd, DSP56K_HOST_FLAGS, struct dsp56k_host_flags *flags);

int ioctl(int fd, DSP56K_HOST_CMD, int cmd);

CONFIGURATION

The dsp56k device is a character device with major number 55 and minor number 0.

DESCRIPTION

The Motorola DSP56001 is a fully programmable 24-bit digital signal processor found in Atari Falcon030-compatible computers. The dsp56k special file is used to con? trol the DSP56001, and to send and receive data using the bidirectional handshaked host port.

To send a data stream to the signal processor, use write(2) to the device, and read(2) to receive processed data. The data can be sent or received in 8, 16, 24, or 32-bit quantities on the host side, but will always be seen as 24-bit quantities

in the DSP56001.

The following ioctl(2) calls are used to control the dsp56k device:

DSP56K_UPLOAD

resets the DSP56001 and uploads a program. The third ioctl(2) argument must be a pointer to a struct dsp56k_binary with members bin pointing to a DSP56001 binary program, and len set to the length of the program, counted in 24-bit words.

DSP56K_SET_TX_WSIZE

sets the transmit word size. Allowed values are in the range 1 to 4, and is the number of bytes that will be sent at a time to the DSP56001. These data quantities will either be padded with zero bytes, or truncated to fit the native 24-bit data format of the DSP56001.

DSP56K_SET_RX_WSIZE

sets the receive word size. Allowed values are in the range 1 to 4, and is the number of bytes that will be received at a time from the DSP56001. These data quantities will either truncated, or padded with a null byte ('\0') to fit the native 24-bit data format of the DSP56001.

DSP56K_HOST_FLAGS

read and write the host flags. The host flags are four general-purpose bits that can be read by both the hosting computer and the DSP56001. Bits 0 and 1 can be written by the host, and bits 2 and 3 can be written by the DSP56001.

To access the host flags, the third ioctl(2) argument must be a pointer to a struct dsp56k_host_flags. If bit 0 or 1 is set in the dir member, the cor? responding bit in out will be written to the host flags. The state of all host flags will be returned in the lower four bits of the status member.

DSP56K_HOST_CMD

sends a host command. Allowed values are in the range 0 to 31, and is a user-defined command handled by the program running in the DSP56001.

FILES

/dev/dsp56k

SEE ALSO

linux/include/asm-m68k/dsp56k.h, linux/drivers/char/dsp56k.c,

?http://dsp56k.nocrew.org/?, DSP56000/DSP56001 Digital Signal Processor User's Man?
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COLOPHON

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