

How to use SPORT driver

1. Introduction

The ADSP-21535 DSP has two identical synchronous serial ports, or SPORTs. These iports support a variety of serial data communications protocols and can provide a direct interconnection between processors in a multiprocessor system.

The two SPORTs can be operated by opening /dev/sport0 and/or /dev/sport1.

The driver supply typical character driver interface.

2. The connection of two SPORT

These pins must be connected:

Tx SPORT		Rx SPORT
TFS	<----->	RFS
DT	<----->	DR
TCLK	<----->	RCLK

3. Configuration of the communication

ioctl code	comment
CMD_SPORT_ENABLE	enable sport
CMD_SPORT_DISABLE	disable sport
CMD_SPORT_SET_TX_BAUDRATE	change TFSDIV and TSCLKDIV
CMD_SPORT_SET_RX_BAUDRATE	change RFSDIV and RSCLKDIV
CMD_SPORT_SET_WORD_LENGTH	set serial word length (3~16 bit)

SPxTCLK frequency = (SCLK frequency) / (2 x (SPORTx_TSCLKDIV + 1))

SPxRCLK frequency = (SCLK frequency) / (2 x (SPORTx_RSCLKDIV + 1))

SPxTFCLK frequency = (CLKOUT frequency) / (SPORTx_TFSDIV + 1)

SPxRFCLK frequency = (CLKOUT frequency) / (SPORTx_RFSDIV + 1)

4. Receive data

```
fd = open("/dev/sportx", O_RDONLY, 0);
```

```
...
```

```
read(fd, buffer_rx, number_of_bytes);
```

```
...
```

```
close(fd);
```

5. Send data

```
fd = open("/dev/sportx", O_WRONLY, 0);  
...  
write(fd, buffer_tx, number_of_bytes);  
...  
close(fd);
```