



Fujitsu status and other options

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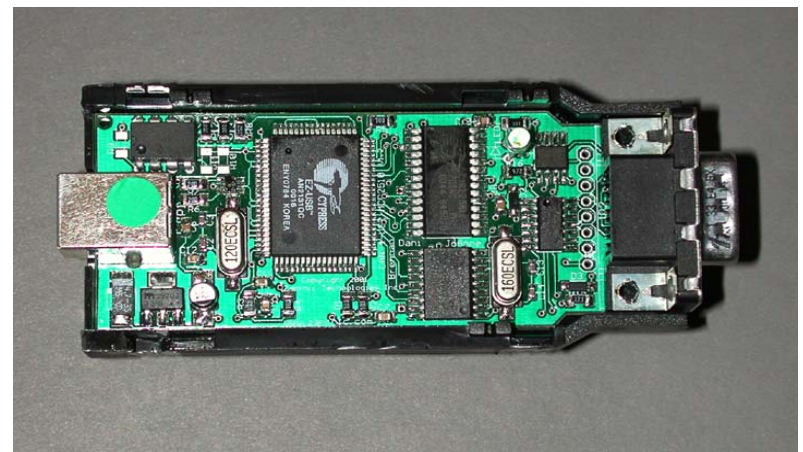
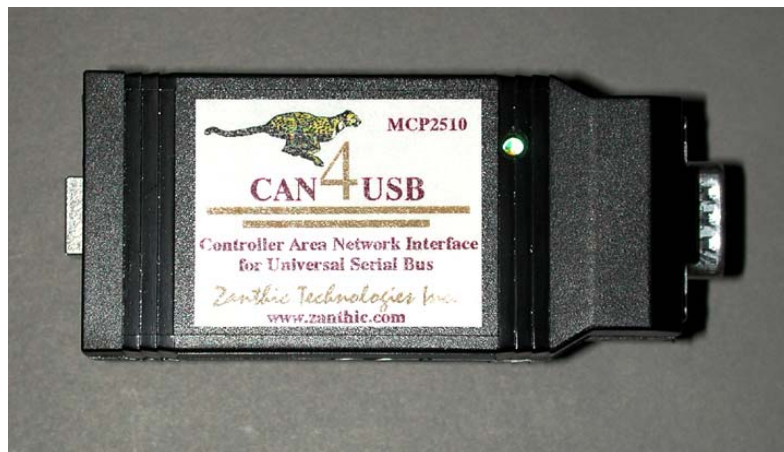


Fujitsu Status

- The code that I have written does not seem to communicate with the CAN. I am unsure of the cause of this.
- I have been promised some working code from a contact at a Swedish company, this has still to arrive.
- We now have a CAN to PC interface, this should aid debugging of code.

The Zanthic CAN4USB

- The CAN4USB device provides a “known good” interface against which to test my code.
- The interface is capable of acting as either a full CAN node or spying on the bus causing no disturbance.



Disclaimer: No CAN4USB interfaces were harmed in the making of this presentation



The Zanthic CAN4USB cont

- The interface is supplied with libraries to allow custom applications to be built.
- A simple test program is also supplied (with source). This allows sending and receiving of simple CAN messages.

The Software

CAN-4-USB/MCP2510 Test Utility V0.1

Board: 0

Click to clear
 Manufacturer=Zanithic :V1.2
 Feature Flags=0
 CAN Device=MCP2510
 RX0 Setup Success
 RX1 Setup Success
 no new message
 no new message

Open Driver
 Close Driver
 Get Stats
 Reset MCP2510

CAN Baud Rate:
 100 kbps

Send CAN Message
 ID: 0 0 0 0 11 Bit ID
 # of Bytes: 0 0 0 0 0 0 0 0 0
 Send 1-----Data Bytes-----8
 RTR Transmit Message Object (0-2): 0

Set Up Receive Message Object 0
 11 Bit 0 0 0 0 Enable roll over to RXB1
 11) Turn mask/filters off; receive any message
 Program

Set Up Receive Message Object 1
 11 Bit 0 0 0 0
 11) Turn mask/filters off; receive any message
 Program

Update grid See P55 of MCP2510 manual for grid defs.

	0000xxxx	0001xxxx	0010xxxx	0011xxxx	0100xxxx	0101xxxx	0110xxxx	0111xxxx
0000	FF	00	FF	18	00	00	00	00
0001	EB	00	E3	00	46	E2	A8	FA
0010	FF	00	FF	00	00	00	F9	F3
0011	FF	00	FF	43	32	C0	F7	3B
0100	FF	00	FF	E3	FF	99	DB	4F
0101	EB	00	E3	00	40	05	7B	61
0110	00	00	FF	00	C4	1A	FB	F0
0111	00	00	FF	F1	4A	96	A9	BB
1000	00	00	03	2E	D8	F2	FC	F3
1001	00	00	FA	9D	1F	6A	FB	7A
1010	00	00	04	60	99	22	FA	F6
1011	00	00	00	47	6A	DC	FB	73
1100	0F	80	A0	E3	06	3B	DE	79
1101	07	00	10	4A	3A	4F	7F	EA
1110	00	00	00	00	00	00	00	00
1111	07	07	07	07	07	07	07	07

Check for new messages
 # of Messages in Queue
 Clear Receive Queue
 Get Messages

Receive Filters
 RXF0: 11 Bit 0 0 0 0
 RXF1: 11 Bit 0 0 0 0
 RXF2: 11 Bit 0 0 0 0
 RXF3: 11 Bit 0 0 0 0
 RXF4: 11 Bit 0 0 0 0
 RXF5: 11 Bit 0 0 0 0
 Program

Note: All values are entered and shown in HEX



Other Options

I have been investigating several other options for the CAN:

1. Analog Devices ADuC812 with SPI interface to Microchip MCP2510.
2. Microchip PIC16F877 with SPI to MCP2510.
3. Microchip PIC18F458 with internal CAN controller.
4. Microchip MCP25055 standalone CAN Node.
5. CANDIP AVR Module.
6. Hitachi SH7055 dual CAN micro



Comparison of options

	Fujitsu	ADuC812	PIC16F877	PIC18F458	SH7055	MCP25050	CANDIP	AVR
No. CAN	2	0	0	1	2	1	1	1
No. ADC	8	8	8	8	32	4	0	0
ADC Bits	8 or 10	12	10	10	10	10	N/A	N/A
No. IO Pins	~80	32	33	34	>100	8	13	13
Serial IO	UART	SPI / UART	SPI/ UART/ I2C	SPI/ UART/ I2C	SPI/ UART/ I2C	N/A	UART	UART
Flash ROM	128K	8k to 64k	14k	32k	512k	N/A	8k	8k
ISP?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Architecture	F2MC-16LX	8051	PIC16	PIC18	32Bit SuperH	N/A	AVR	AVR



Status of Other Options

- At QM I have designed a test board that will accept either a ADuC812 or a PIC16F877 with SPI to the MCP2510 IC.
- I hope to get some code running on this board next week.
- I also have some samples of the PIC18F458 and the SH7055 on order. I may find the time to do some work with these.
- The CANDIP packages are far more expensive than the other options (~£45 each, slightly cheaper in quantity)



Conclusion

- Work is progressing very slowly with the Fujitsu, this may improve shortly.
- There are several other options available for the CAN micro, all of these except the SH7055 are limited compared to the Fujitsu.