FL-850/PJ4
FL-850/PJ4-S
Hardware Manual

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Tessera Technology Inc.

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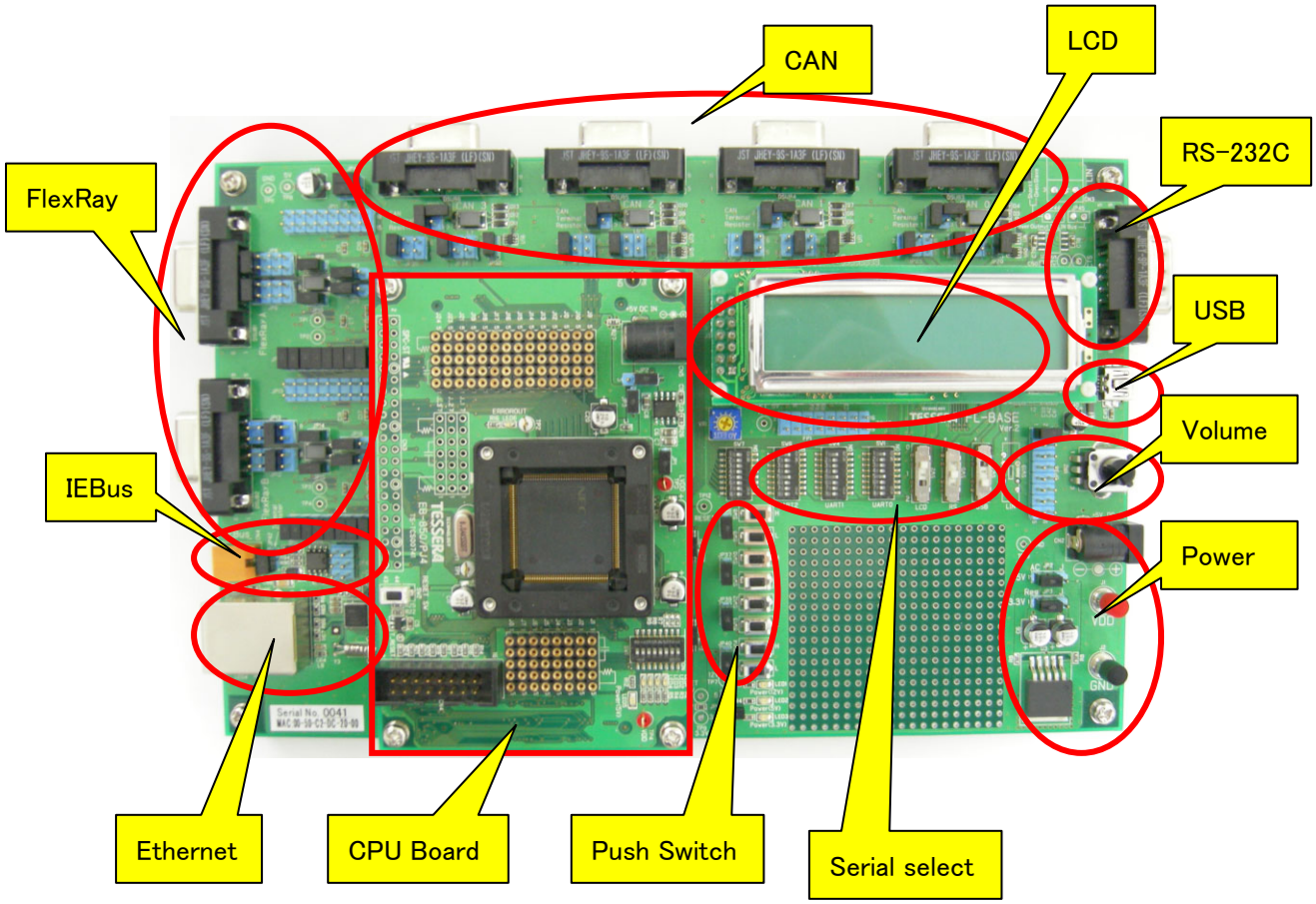
1 Introduction

In this document, features and hardware specifications of FL-850/PJ4, which the 32-bit single-chip microcomputer V850E2/PJ4 from Renesas Electronics Corporation is mounted, are described.

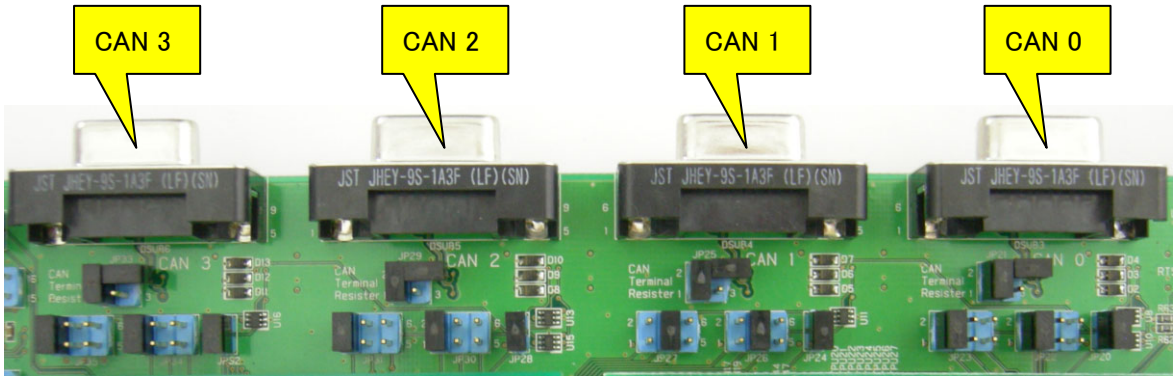
Moreover, this material describes Ver.2 of the "FL-BASE" board. Please refer to material in the first edition when you use Ver.1.

2 Features


CAN
LCD
RS-232C
FlexRay
USB
Volume
IEBus
Power
Ethernet
CPU Board
Push Switch
Serial select

2.1 CAN

The CAN controller of the microcomputer is connected to the CAN transceiver (TJA1040). It supports CAN physical layer. Also, CAN bus signal is connected to DSUB 9pin female connector.



One terminal can be selected by using jumpers from maximum of three multipurpose terminals, and can be connected to CAN transceiver.

Only one line must be shorted in each jumper.

Following table shows the connection of V850E2/PJ4.

		Jumper		Connecter
P0_3/TAUA1I4/TAUA1O4/FCN0TX/UARTH0CTS	TxD	JP22	1-2	CAN 0
P4_0/UARTH1RXD/INTP1/TAUA1O15/TSG21PTSI2/ENCA1EC/FCN0TX/UARTH2SC			3-4	
N.C.			5-6	
P0_4/TAUA1I6/TAUA1O6/FCN0RX/UARTH0RTS	RxD	JP23	1-2	
P4_1/UARTH2CTS/UARTH1TXD/TSG20PTSI0/ENCA0E0/FCN0RX/CSIG2SI			3-4	
N.C.			5-6	
P1_9/TAUA1I2/TPB1O/CSIG0SC/UARTH0SC	MODE0	JP20	Short	
P0_0/INTP5/ADCA0TRG2/CSIG0SI/UARTH0RXD/INTP0/FCN1TX	TxD	JP26	1-2	CAN 1
P0_8/FCN1TX/TSG20CLKI/TSG21O4			3-4	
P3_5/TAUA1I11/TAUA1O11/TAUA1I10/TAUA1O10/TSG21PTSI0/ENCA1E0/UARTH2RXD/INTP2/FCN1TX			5-6	
P0_1/INTP4/ADCA0TRG1/CSIG0SO/UARTH0TXD/FCN1RX	RxD	JP27	1-2	
P0_9/FCN1RX/TSG21CLKI/TSG21O5			3-4	
P3_6/TAUA1I13/TAUA1O13/TAUA1I12/TAUA1O12/TSG21PTSI1/ENCA1E1/FCN1RX/UARTH2TXD			5-6	
P3_4/TAUA1I9/TAUA1O9/TAUA1I8/TAUA1O8/CSIG1SC/TPB1O	MODE1	JP24	Short	
N.C.	TxD	JP30	1-2	CAN 2
N.C.			3-4	
N.C.			5-6	
N.C.	RxD	JP31	1-2	
N.C.			3-4	
N.C.			5-6	
N.C.	MODE2	JP28	Short	
N.C.	TxD	JP34	1-2	CAN 3
N.C.			3-4	
N.C.			5-6	
N.C.	RxD	JP35	1-2	
N.C.			3-4	
N.C.			5-6	
N.C.	MODE3	JP32	Short	

Default

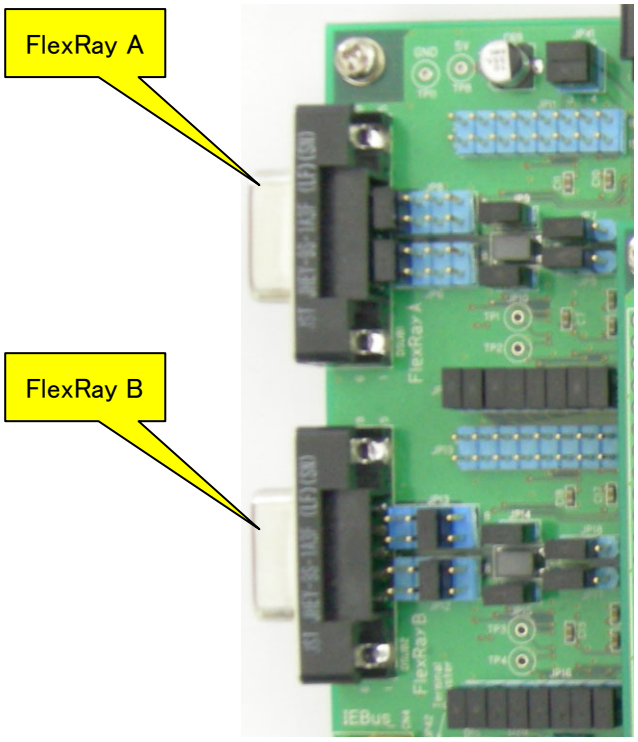
JP21, JP25, JP29, and JP33 are termination resistor connect. Open or short these as needed.

		termination resistor
JP21:CAN 0 JP25:CAN 1 JP29:CAN 2 JP33:CAN 3	1-2 Short 3-4 Short	60Ω
	1-2 Short 3-4 Open	120Ω
	1-2 Open 3-4 Open	Non

CAN 0,1,2,3 DSUB Connector	
Pin Number	Signal Name
1	N.C.
2	**CANL**
3	**GND**
4	N.C.
5	0.1uF
6	N.C.
7	**CANH**
8	N.C.
9	N.C.

2.2 FlexRay

The FlexRay controller of the microcomputer is externally connected to the FlexRay transceiver (TJA1080). It supports FlexRay physical layer. Also, FlexRay bus signal is connected to DSUB 9pin female connector.



Following table shows the connections for V850E2/PJ4.

	信号名	JP4	TJA1080
P6_5/FLX0TXDA/UARTH1TXD/TAUA1O12	FLX0TXDA	1-2	TXD
P6_4/FLX0TXENA/UARTH1SC/TAUA1O11	FLX0TXENA	3-4	TXEN
P7_2/TAUA0I4/TAUA0O4/ESO1/INTP7/TSG21O2/TAUJ1I2/ENCA1I0/CSIH0CS2	STBN1	5-6	STBN
P7_0/TAUA0I0/TAUA0O0/ADCA0TRG0/INTP3/TSG21O0/TAUJ1I0/ENCA0I0/CSIH0CS0	EN1	7-8	----
P6_3/FLX0RXDA/UARTH1RXD/INTP1/TAUA1O10	FLX0RXDA	9-10	RXD
P2_6/TAUA0I13/TAUA0O13/TAUA0I12/TAUA0O12/CSIH0CS1/TSG21O5	ERRN1	11-12	ERRN
P7_6/TAUA0I12/TAUA0O12/ADCA0TRG2/INTP5/TSG21O6/TSG21PTSI2/ENCA1EC/CSIH0CS6/TSG20PTSI2/ENCA0EC/CSIH1CS2	RXEN1	13-14	RXEN
P7_4/TAUA0I8/TAUA0O8/ADCA0TRG0/INTP3/TSG21O4/TSG21PTSI0/ENCA1E0/CSIH0CS4/TSG20PTSI0/ENCA0E0/CSIH1CS0	WAKE1	15-16	WAKE
	信号名	JP16	TJA1080
P6_8/FLX0TXDB/UARTH0TXD/TAUA1O15	FLX0TXDB	1-2	TXD
P6_7/FLX0TXENB/UARTH0SC/TAUA1O14	FLX0TXENB	3-4	TXEN
P7_3/TAUA0I6/TAUA0O6/ESO0/INTP6/TSG21O3/TAUJ1I3/ENCA1I1/CSIH0CS3	STBN2	5-6	STBN
P7_1/TAUA0I2/TAUA0O2/INTP10/TSG21O1/TAUJ1I1/ENCA0I1/CSIH0CS1	EN2	7-8	----
P6_6/FLX0RXDB/UARTH0RXD/INTP0/TAUA1O13	FLX0RXDB	9-10	RXD
P2_7/TAUA0I15/TAUA0O15/TAUA0I14/TAUA0O14/CSIH0CS2/TSG21O6	ERRN2	11-12	ERRN
P7_7/TAUA0I14/TAUA0O14/TSG21O7/NMI/CSIH0CS7/CSIH1CS3	RXEN2	13-14	RXEN
P7_5/TAUA0I10/TAUA0O10/ADCA0TRG1/INTP4/TSG21O5/TSG21PTSI1/ENCA1E1/CSIH0CS5/TSG20PTSI1/ENCA0E1/CSIH1CS1	WAKE2	15-16	WAKE

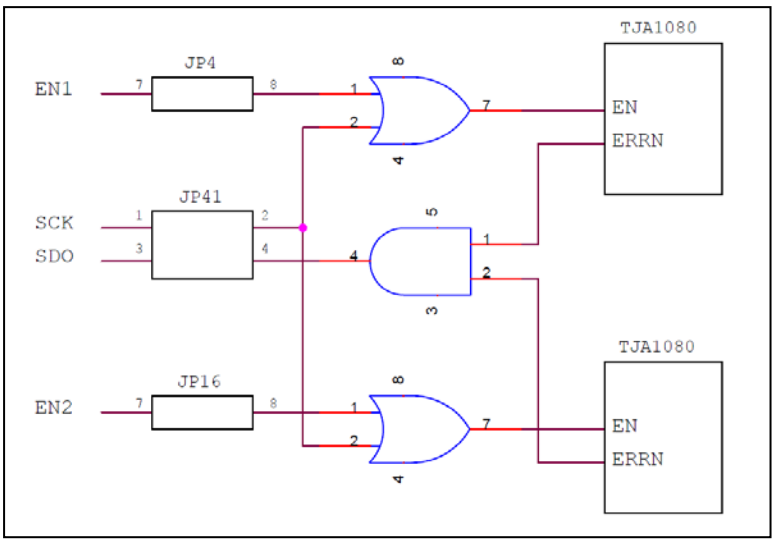
JP11 and JP19 are jumpers for TJA1082 (not mounted). Do not short them.

		JP41
P5_9/CSIH0RYI/CSIH1SI/ADCA0TRG1/INTP4	SDO	3-4
P5_11/CSIH1SC	SCLK	1-2

EN and ERRN terminals of TJA1080 are connected as shown below logic circuit diagram.

Set EN1 terminal to Low when you need to access upper one (FlexRay A) with CSI. Set to High when you do not need to access it.

In the same way, set EN2 terminal to Low when you need to access upper one (FlexRay B) with CSI. Set to High when you do not need to access it.



JP5, JP7, JP17, and JP18 are the selection of FlexRay transceiver IC (TJA1080 or TJA1082). Normally, use these with the default settings since it does not mount TJA1082.

FlexRay A	JP5 : 1–2 JP7 : 1–2	TJA1080
	JP5 : 2–3 JP7 : 2–3	TJA1082
FlexRay B	JP17 : 1–2 JP18 : 1–2	TJA1080
	JP17 : 2–3 JP18 : 2–3	TJA1082

JP9, JP10, JP14, and JP15 are the connection for termination resistor (50Ω). Open or short these as needed.

FlexRay A	JP9	BP
	JP10	BM
FlexRay B	JP14	BP
	JP15	BM

Default: Short

JP6, JP8, JP12, and JP13 are the jumpers to change wire connection of DSUB 9pin female connector, which outputs FlexRay bus signal.

Type-1

JP6	1-2
JP8	1-2
JP12	5-6
JP13	5-6

FlexRay A DSUB connector	
Pin No.	Signal
1	N.C.
2	**BM A**
3	N.C.
4	N.C.
5	N.C.
6	N.C.
7	**BP A**
8	N.C.
9	N.C.

FlexRay B DSUB connector	
Pin No.	Signal
1	N.C.
2	**BM B**
3	N.C.
4	N.C.
5	N.C.
6	N.C.
7	**BP B**
8	N.C.
9	N.C.

Type-2

JP6	1-2
JP8	1-2
JP12	3-4
JP13	3-4

FlexRay A DSUB connector	
Pin No.	Signal
1	N.C.
2	**BM A**
3	**BM B**
4	N.C.
5	N.C.
6	N.C.
7	**BP A**
8	**BP B**
9	N.C.

FlexRay B DSUB connector	
Pin No.	Signal
1	N.C.
2	N.C.
3	N.C.
4	N.C.
5	N.C.
6	N.C.
7	N.C.
8	N.C.
9	N.C.

Type-3

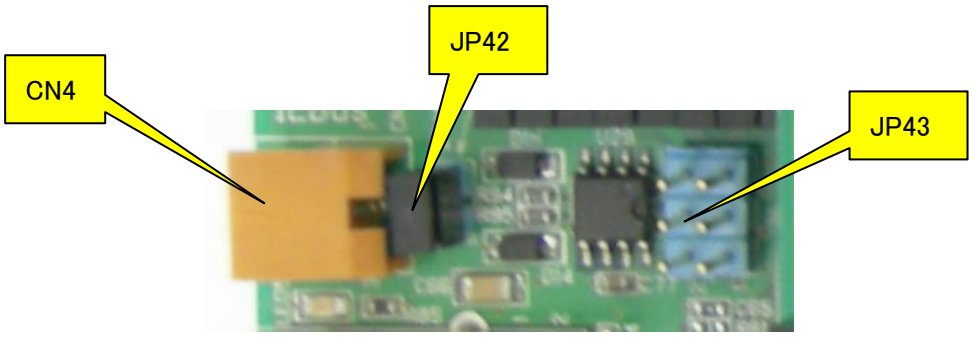
JP6	1-2 5-6
JP8	1-2 5-6
JP12	All Open
JP13	All Open

FlexRay A DSUB connector	
Pin No.	Signal
1	N.C.
2	**BM A**
3	N.C.
4	N.C.
5	N.C.
6	N.C.
7	**BP A**
8	N.C.
9	N.C.

FlexRay B DSUB connector	
Pin No.	Signal
1	N.C.
2	**BM A**
3	N.C.
4	N.C.
5	N.C.
6	N.C.
7	**BP A**
8	N.C.
9	N.C.

2.3 IEBus

V850E2/PJ4 does not have IEBus controller, therefore it cannot use IEBus.



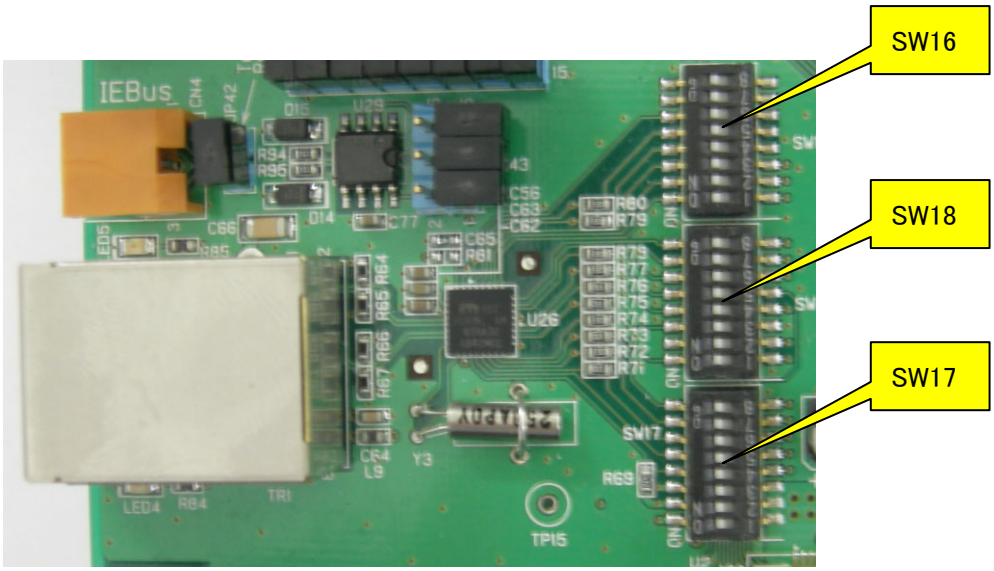
Default Settings JP43: Open

JP42: Short

CN4 Pin Number	Function Name
1	(+) Bus Output, (+) Receiver Input
2	GND
3	(−) Bus Output, (−) Receiver Input

2.4 Ethernet

V850E2/PJ4 does not have MAC controller, therefore it cannot use Ethernet.



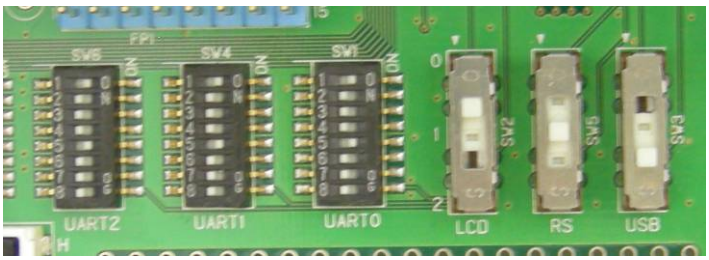
The function of Ethernet is not used, and make the following dip switches all turning off.

There is a possibility of breaking when turning it on.

- SW16 (Default OFF)
- SW17 (Default OFF)
- SW18 (Default OFF)

2.5 Serial select

It can be connected by selecting the microcomputer's UART terminal to "LCD", "RS-232C", and "USB Serial Conversion".



The terminals for using UART can be selected by DIP switch (SW1, SW4, and SW6).

※ Do not set multiple ON within a group.

		SW1		
P0_1/INTP4/ADCA0TRG1/CSIG0SO/UARTH0TXD/FCN1RX	TXD	1	ON	UART0
P1_8/TAUA1I1/TPB0O/CSIG0SO/UARTH0TXD		2	OFF	
P5_1/CSIH1CS0/UARTH1RXD/INTP1/CSIH0CS0/CSIH0RY1/UARTH0TXD/ADCA0TRG0/INTP3		3	OFF	
	N.C.	4	OFF	
P0_0/INTP5/ADCA0TRG2/CSIG0SI/UARTH0RXD/INTP0/FCN1TX	RXD	5	ON	
P1_7/TAUA1I0/CSIG2RYO/CSIG0SI/TAUJ0I3/TAUJ0O3/UARTH0RXD/INTP0/TSG20O7		6	OFF	
N.C.		7	OFF	
	N.C.	8	OFF	

		SW4		
P3_1/TAUA1I3/TAUA1O3/TAUA1I2/TAUA1O2/UARTH1TXD/TAUA1O12	TXD	1	ON	UART1
P4_1/UARTH2CTS/UARTH1TXD/TSG20PTSI0/ENCA0E0/FCN0RX/CSIG2SI		2	OFF	
P5_7/CSIH0SO/UARTH1TXD		3	OFF	
	N.C.	4	OFF	
P3_0/TAUA1I1/TAUA1O1/TAUA1I0/TAUA1O0/UARTH1RXD/INTP1/CSIH0CS3/TAUA1O10	RXD	5	ON	
P4_0/UARTH1RXD/INTP1/TAUA1O15/TSG21PTSI2/ENCA1EC/FCN0TX/UARTH2SC		6	OFF	
P5_6/CSIH0SI/UARTH1RXD/INTP1		7	OFF	
	N.C.	8	OFF	

		SW6		
P0_6/TAUJ0I1/TAUJ0O1/UARTH2TXD/CSIG0SO/TSG21O2	TXD	1	ON	UART2
P3_6/TAUA1I13/TAUA1O13/TAUA1I12/TAUA1O12/TSG21PTSI1/ENCA1E1/FCN1RX/UARTH2TXD		2	OFF	
N.C.		3	OFF	
	N.C.	4	OFF	
P0_5/TAUJ0I2/TAUJ0O2/UARTH2RXD/INTP2/CSIG0SI/TSG21O1	RXD	5	ON	
P3_5/TAUA1I11/TAUA1O11/TAUA1I10/TAUA1O10/TSG21PTSI0/ENCA1E0/UARTH2RXD/INTP2/FCN		6	OFF	
P5_2/CSIH1CS1/UARTH2RXD/INTP2/CSIH0CS1/UARTH0SC/ADCA0TRG1/INTP4/CSIH0RYO		7	OFF	
	N.C.	8	OFF	

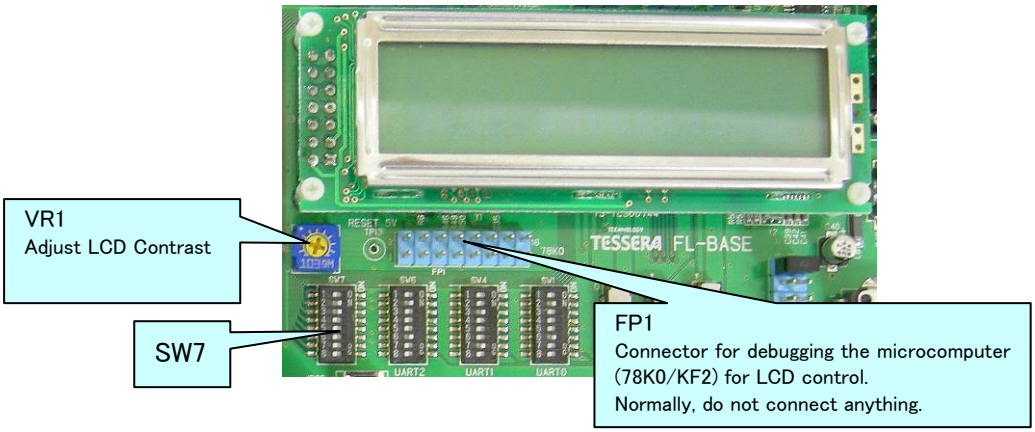
The destination for UART can be selected by the slide switch (SW2, SW3, and SW5).

	Slide Switch	
SW2 LCD	0	UART0
	1	UART1
	2	UART2
SW5 RS-232C	0	UART0
	1	UART1
	2	UART2
SW3 USB Serial Conversion	0	UART0
	1	UART1
	2	UART2

2.5.1 LCD

Words can be displayed on LCD panel by sending data to UART that is connected to LCD. "Binary mode" to display hexadecimal and "ASCII mode" to display ASCII characters can be selected by the DIP switch (SW7).

Initial screen displays when you press the reset switch on CPU board.



UART Communication Specifications

- Baud Rate 115.2Kbps (Fixed)
- Data Length 8bit (LSB First)
- Parity None
- Stop Bit 1bit
- Flow Control None (continuous transmission enabled)

Binary Mode 1 (SW7-1:ON, SW7-2:ON, SW7-3:Any)

It displays the hexadecimal data as sent with entering space between 1Byte data.

It can display 10Byte in 1 screen. It scrolls 1 line when it received 11Byte of data.

(example) URTH?TX = 0x01; TXWait();

URTH?TX = 0x02; TXWait();

.....

URTH?TX = 0x0A; TXWait();

0	1		0	2		0	3		0	4		0	5		
0	6		0	7		0	8		0	9		0	A		

URTH?TX = 0x10; TXWait();

0	6		0	7		0	8		0	9		0	A		
1	0													

(use case) By developing a program to send 10Byte once in 1 second, it will display the first 1Byte at the top-left of the screen.

Binary Mode 2 (SW7-1:ON, SW7-2:OFF, SW7-3:ON)

It displays the hexadecimal data as sent without entering space between 1Byte data.

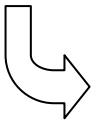
It can display 16Byte in 1 screen. It scrolls 1 line when it received 17Byte of data.

(example)　URTH?TX = 0x01;　TXWait();

URTH?TX = 0x02;　TXWait();

・・・・・・・・・

URTH?TX = 0x10;　TXWait();



0	1	0	2	0	3	0	4	0	5	0	6	0	7	0	8
0	9	0	A	0	B	0	C	0	D	0	E	0	F	1	0

URTH?TX = 0x11;　TXWait();

0	9	0	A	0	B	0	C	0	D	0	E	0	F	1	0
1	1														

(use case)　By developing a program to send 16Byte once in 1 second, it will display the first 1Byte at the top-left of the screen.

ASCII Mode Ver.2 (SW7-1:OFF, SW7-2:Any, SW7-3:Any)

It displays the characters as sent.

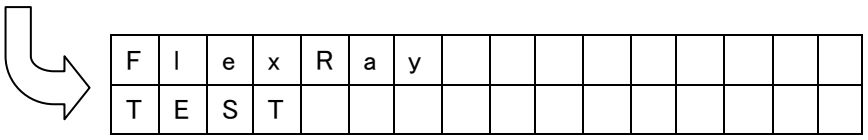
It can display 16 characters in 1 line. It scrolls 1 line when it received 17th character or linefeed code (0x0D: ¥r).

(example) URTH?TX = 'F'; TXWait();

URTH?TX = 'l'; TXWait();

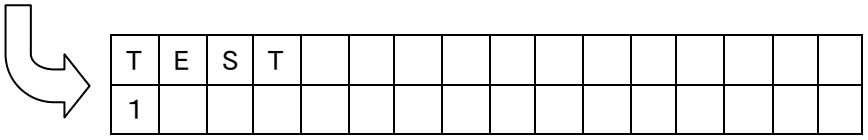
.....

URTH?TX = 'T'; TXWait();



URTH?TX = '¥r'; TXWait();

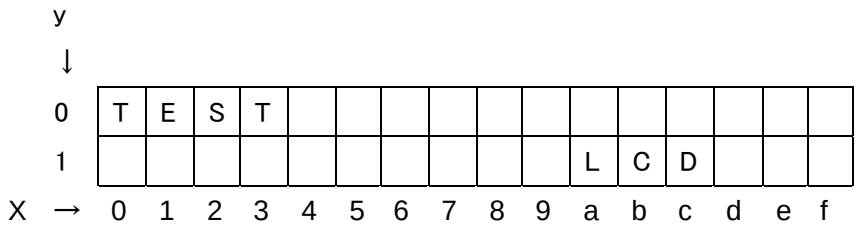
URTH?TX = '1'; TXWait();



The position of the cursor can be specified by sending xy-coordinate right after ESC code (0x1B).

ESC(0x1B) + xy x: 0(0x30)～9(0x39),a(0x61), b, c, d, e, f(0x66)
y: 0(0x30),1(0x31)

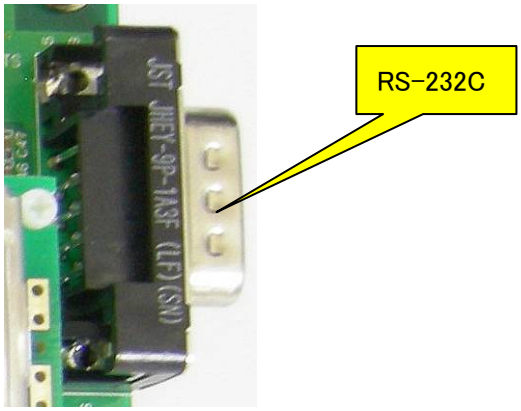
(example) printf(buf, "¥x1b00TEST¥x1ba1LCD");



2.5.2 RS-232C

UART that is connected to "RS-232C" can send and receive signals with the RS-232C level of D-SUB9 pin connector.

Use a cross cable when you connect to PC.

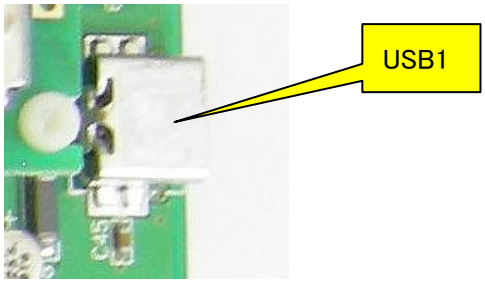


RS-232C D-SUB Connector	
Pin Number	Signal
1	N.C.
2	**RxD**
3	**TxD**
4	N.C.
5	GND
6	N.C.
7	RTS(N.C.)
8	CTS(N.C.)
9	N.C.

2.5.3 USB Serial Conversion

UART that is connected to "USB serial conversion" can communicate with the COM port of PC through USB microcomputer (uPD78F0730).

USB driver is stored in the same media as this manual. When you encountered a warning "Windows Logo Test" while installing the USB driver, please select "Continue".



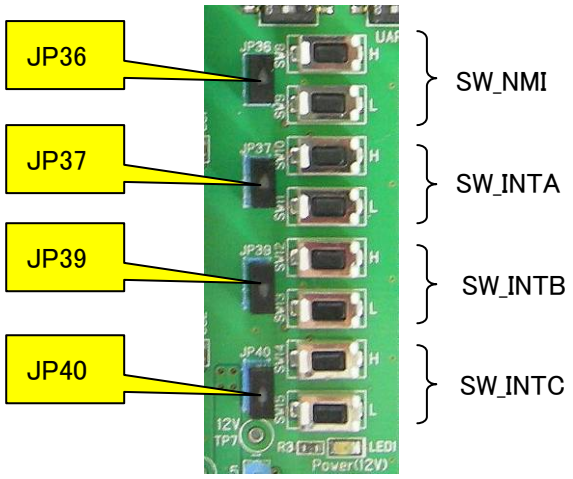
Recommended UART communication specification

- Baud rate 115.2Kbps
- Data length 8bit (LSB First)
- Parity None
- Stop Bit 1bit
- Flow Control None

2.6 Push Switch

4 interrupt signals can be connected to microcomputer's interrupt terminals. The signal can be set to High by pressing H button, and to Low by pressing L button. It becomes High by reset signal of the CPU.

Also, it has chattering prevention circuit.

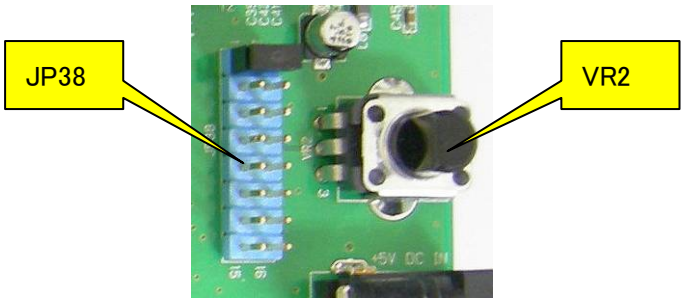


The interrupt signals are disconnected by taking each jumper pin out.

	Jumper	Switch	Signal
P1_0/NMI/CLKOUT/OSTM1O/TSG21O6	JP36	SW8/9	SW_NMI
P0_2/INTP3/ADCA0TRG0/TAUA1I2/TAUA1O2/CSIG0SC/UARTH0SC	JP37	SW10/11	SW_INTA
P4_6/TAUA1I8/TAUJ1I2/TAUJ1O2/TAUJ0I2/ADCA0CNV1/ESO2/INTP8	JP39	SW12/13	SW_INTB
P4_7/NMI/TAUJ1I3/TAUJ1O3/TAUJ0I3/ADCA0CNV0/ESO3/INTP9	JP40	SW14/15	SW_INTC

2.7 Volume

It can output variable voltage (0V-IO voltage) to A/D terminal of CPU by variable resistor of 10KΩ.

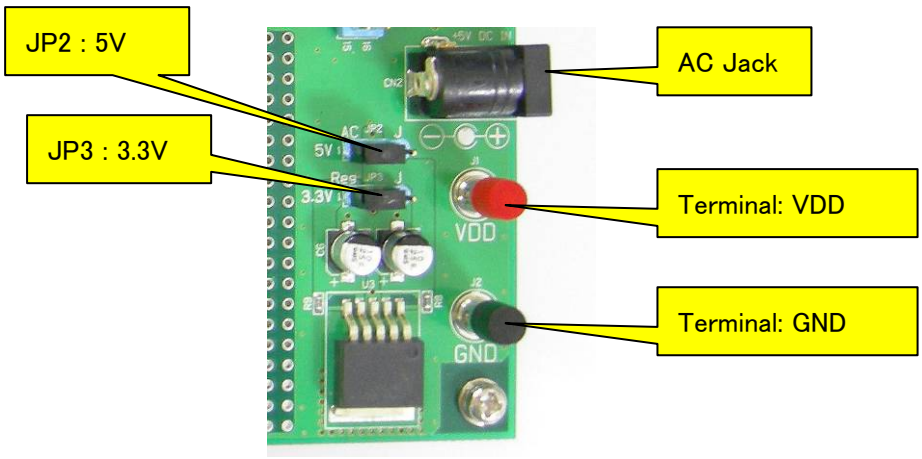


	JP38
ADCA0I1	1-2
ADCA0I2	3-4
ADCA0I3	5-6
ADCA0I4	7-8
ADCA0I5	9-10
ADCA0I6	11-12
ADCA0I7	13-14
ADCA0I8	15-16

2.8 Power

Connect bundled AC adapter (+5V) to AC Jack. You do not need to connect to the AC Jack on the CPU board.

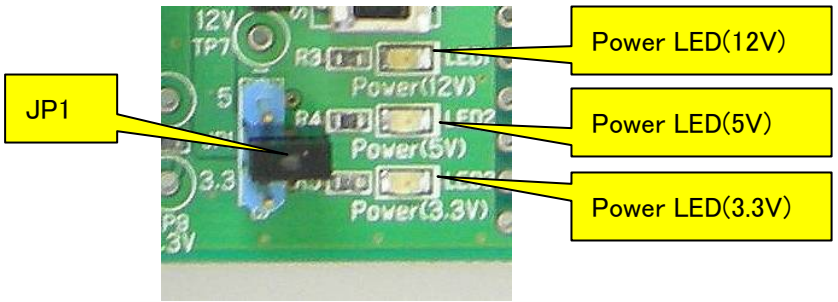
It generates the power of +12V for FlexRay driver and +3.3V for Ethernet PHY chip power from this power supply with using regulator.



Power supply source can be changed by JP2 and JP3.

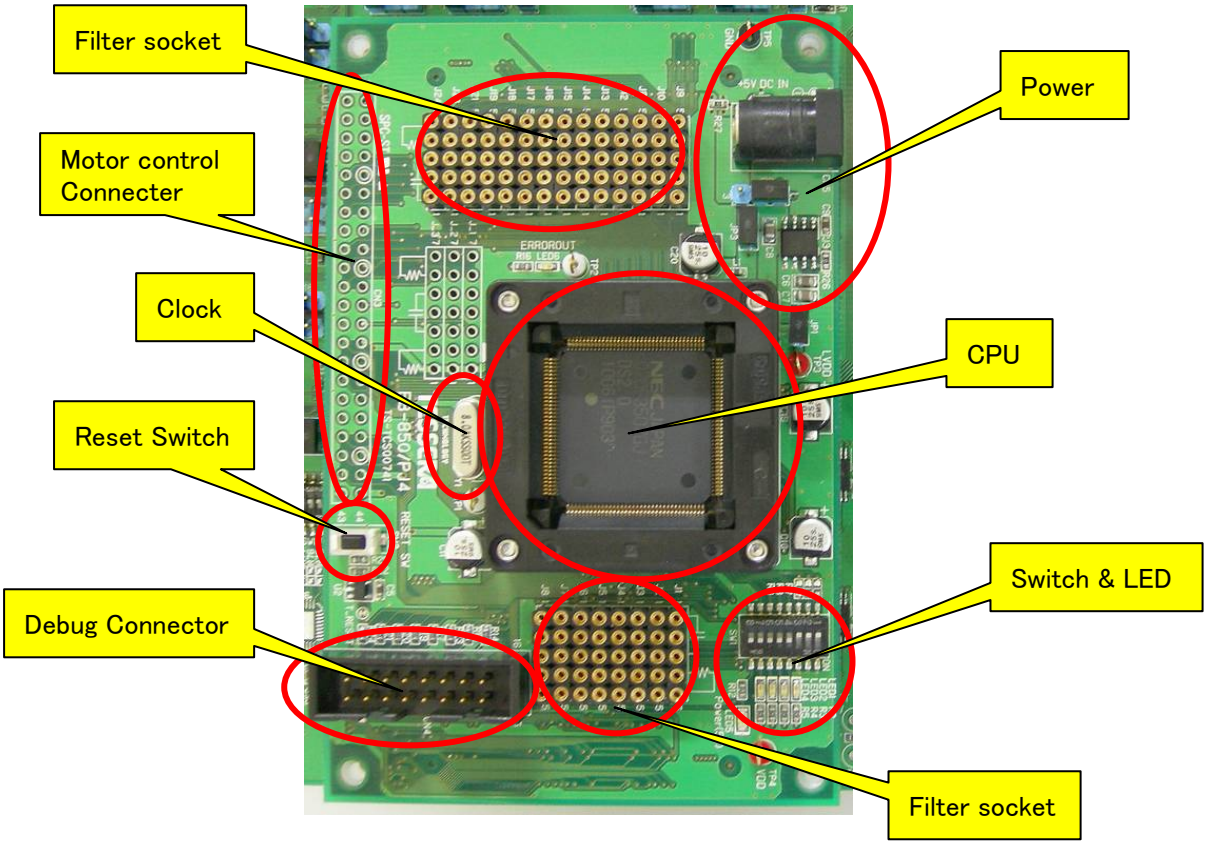
JP2	1-2	AC adapter
5V	2-3	Terminal
JP3	1-2	Regulator
3.3V	2-3	Terminal

JP1 is the jumper to fix the IO voltage when it does not connect CPU board. Normally, do not short this.



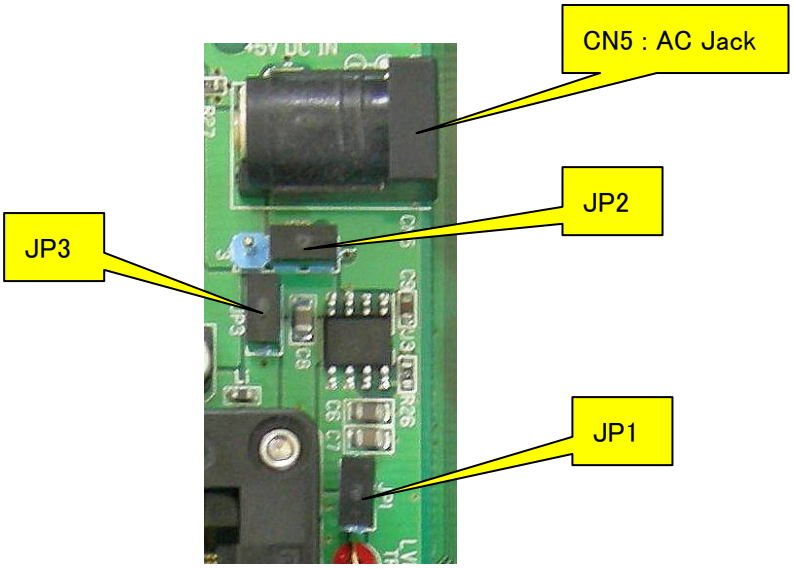
2.9 CPU Board

One of "EB-850/PJ4" or "EB-850/PJ4-S" is mounted on the CPU board



2.9.1 Power

There is a jumper pin for measuring the current when you use only CPU board itself.



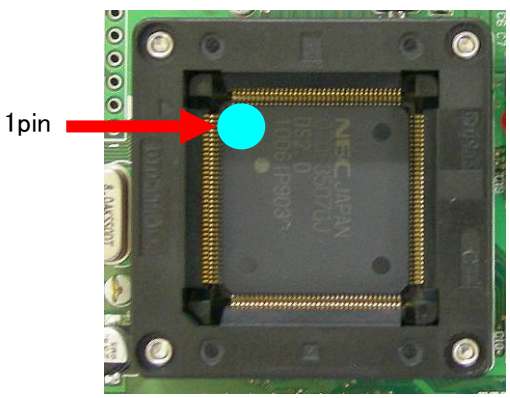
	Power supply origin	
	FL-BASE	CN5 : AC Jack
JP2	1-2	2-3

JP1	1.2V power Connect ammeter to check the current
JP3	5V power Connect ammeter to check the current

2.9.2 CPU

CPU is direct-mounted for "EB-850/PJ4".

For "EB-850/PJ4-S", only socket is mounted. Make sure the position of 1pin when you mount CPU.



2.9.3 Clock

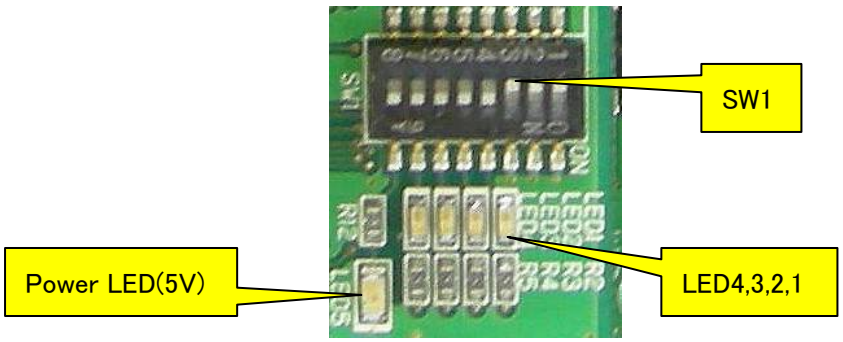
For the X1 and X2 of the CPU, **8MHz** crystal oscillator (Y1) is mounted on the socket.

2.9.4 Reset Switch

CPU can be reset by pressing the Reset switch (SW2).

2.9.5 Switch & LED

They are connected to port terminals of the CPU.

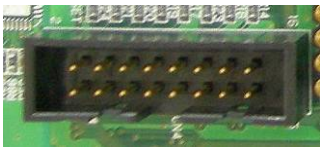


- P3_2, P3_3, and P3_7 can be used for the switch inputs.
  It connects the pull-up resistor with built-in CPU. Set the switch to OFF to read High and to ON to read Low.
- P4_2, P4_3, P4_4, and P4_5 can be connected to LED. Set the switch ON and output Low from the port to light the LED.
- SW1-8 is power indicator. Power LED is off when power is OFF.

	SW1	Connect to
P3_2/TAUA1I5/TAUA1O5/TAUA1I4/TAUA1O4/CSIG1SI	1	GND
P3_3/TAUA1I7/TAUA1O7/TAUA1I6/TAUA1O6/CSIG1SO/TPB0O	2	GND
P3_7/TAUA1I15/TAUA1O15/TAUA1I14/TAUA1O14/CSIG2RYI	3	GND
P4_2/CSIG1SI/UARTH2RTS/TSG20PTSI1/ENCA0E1/OSTM1O/CSIG2SO	4	LED1
P4_3/CSIG1SO/TSG20PTSI2/ENCA0EC/OSTM0O/UARTH1CTS/CSIG2SC	5	LED2
P4_4/CSIG1SC/TAUJ1I0/TAUJ1O0/TAUJ0I0/UARTH1RTS/ESO0/INTP6/CSIG0RYO	6	LED3
P4_5/TAUJ1I1/TAUJ1O1/TAUJ0I1/ADCA0CNV2/ESO1/INTP7/CSIG1RYO	7	LED4
5V Power Supply	8	Power LED

2.9.6 Debug Connector

Debugger or Flash writer can be connected to CN4.



It supports "QB-V850MINIL" and "E1" emulator.

Please use the 16pin conversion adaptor of the "QB-V850MINIL" attachment when you connect "QB-V850MINIL".

Please use the 14pin conversion adaptor "E1-16C" of this product attachment when you connect "E1".

For the Flash writer, it supports "PG-FP5" writer.

CN4

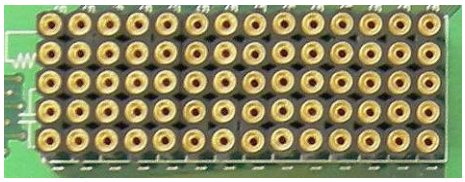
Pin Number	Signal		
	Debugger	Writer	
1	GND	←	←
2	RESET	←	←
3	DCUTDO	SO	
4	VDD	←	←
5	DCUTDI	SI	RxD/TxD
6	N.C.		
7	DCUTCK	SCK	
8	DCUTRDY		
9	DCUTRST		
10	N.C.		
11	N.C.		
12	DCUTMS		
13	N.C.		
14	FLMD0	←	←
15	T_RESET		
16	N.C.		

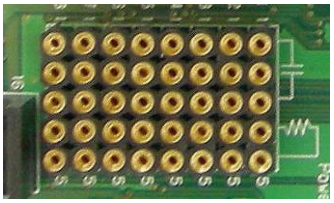
E1-16C

Pin Number	Signal
1	DCUTCK
2	GND
3	DCUTRST
4	FLMD0
5	DCUTDO
6	T_RESET
7	DCUTDI
8	VDD
9	DCUTMS
10	RESET
11	DCUTRDY
12	GND
13	RESET
14	GND

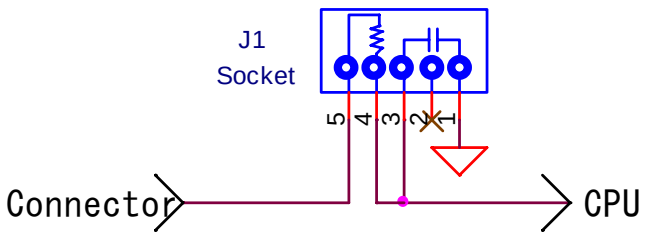
2.9.7 Filter socket

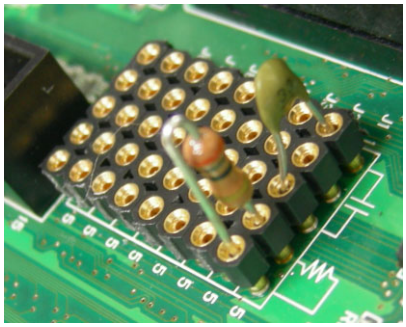
Filters can be implemented to all A/D input terminals.





Connects (CN1, CN2, CN3) are connected through the sockets as illustrated below. Therefore, please make sure you connect resistor between the socket 4pin and 5pin when you use A/D terminal.



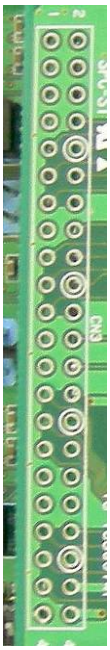


	Socket
ADCA0I1	J1
ADCA0I2	J2
ADCA0I3	J3
ADCA0I4	J4
ADCA0I5	J5
ADCA0I6	J6
ADCA0I7	J7
ADCA0I8	J8
ADCA0I9	J9
ADCA0I10	J10
ADCA0I11	J11

	Socket
ADCA0I12	J12
ADCA0I13	J13
ADCA0I14	J14
ADCA0I15	J15
ADCA0I16	J16
ADCA0I17	J17
ADCA0I18	J18
ADCA0I19	J19
ADCA0I20	**J21**
ADCA0I21	**J23**
ADCA0I22	**J24**

2.9.8 Motor control Connecter

Signal for motor control is connected to CN3.



Terminal Connection List

CN3	
1	P0_0/INTP5/ADCA0TRG2/CSIG0SI/UARTH0RXD/INTP0/FCN1TX
2	P0_1/INTP4/ADCA0TRG1/CSIG0SO/UARTH0TXD/FCN1RX
3	P0_2/INTP3/ADCA0TRG0/TAUA1I2/TAUA1O2/CSIG0SC/UARTH0SC
4	P0_3/TAUA1I4/TAUA1O4/FCN0TX/UARTH0CTS
5	P0_4/TAUA1I6/TAUA1O6/FCN0RX/UARTH0RTS
6	P0_5/TAUJ0I2/TAUJ0O2/UARTH2RXD/INTP2/CSIG0SI/TSG21O1
7	P0_6/TAUJ0I1/TAUJ0O1/UARTH2TXD/CSIG0SO/TSG21O2
8	P1_1/CSIG2SI/TSG20O1
9	P1_2/CSIG2SO/TSG20O2
10	P1_3/CSIG2SC/TSG20O3
11	P1_4/CSIH0SI/TAUJ0I0/TAUJ0O0/TSG20O4
12	P1_5/CSIH0SO/TAUJ0I1/TAUJ0O1/TSG20O5
13	P1_6/CSIH0SC/TAUJ0I2/TAUJ0O2/TSG20O6
14	P1_7/TAUA1I0/CSIG2RYO/CSIG0SI/TAUJ0I3/TAUJ0O3/UARTH0RXD/INTP0/TSG20O7
15	P1_8/TAUA1I1/TPB0O/CSIG0SO/UARTH0TXD
16	P2_0/TAUA0I1/TAUA0O1/TAUA0I0/TAUA0O0/UARTH1SC/CSIG0RYI/TSG21O0
17	P2_1/TAUA0I3/TAUA0O3/TAUA0I2/TAUA0O2/TAUA1O14/CSIG1RYI/TSG21O7
18	P2_2/TAUA0I5/TAUA0O5/TAUA0I4/TAUA0O4/TAUA0O10/TSG21O1
19	P2_3/TAUA0I7/TAUA0O7/TAUA0I6/TAUA0O6/TAUA0O12/TSG21O2
20	P2_4/TAUA0I9/TAUA0O9/TAUA0I8/TAUA0O8/TAUA0O14/TSG21O3
21	P2_5/TAUA0I11/TAUA0O11/TAUA0I10/TAUA0O10/CSIH0CS0/TSG21O4
22	P2_6/TAUA0I13/TAUA0O13/TAUA0I12/TAUA0O12/CSIH0CS1/TSG21O5
23	P2_7/TAUA0I15/TAUA0O15/TAUA0I14/TAUA0O14/CSIH0CS2/TSG21O6
24	P4_4/CSIG1SC/TAUJ1I0/TAUJ1O0/TAUJ0I0/UARTH1RTS/ESO0/INTP6/CSIG0RYO
25	P4_6/TAUA1I8/TAUJ1I2/TAUJ1O2/TAUJ0I2/ADCA0CNV1/ESO2/INTP8
26	P6_0/CSIG2SI/TSG21O6/TAUA0O12/TSG20O0
27	P6_3/FLX0RXDA/UARTH1RXD/INTP1/TAUA1O10
28	P6_4/FLX0TXENA/UARTH1SC/TAUA1O11
29	P6_5/FLX0TXDA/UARTH1TXD/TAUA1O12
30	P6_6/FLX0RXDB/UARTH0RXD/INTP0/TAUA1O13
31	P6_7/FLX0TXENB/UARTH0SC/TAUA1O14
32	P6_8/FLX0TXDB/UARTH0TXD/TAUA1O15
33	P7_4/TAUA0I8/TAUA0O8/ADCA0TRG0/INTP3/TSG21O4/TSG21PTSI0/ENCA1E0/CSIH0CS4/TSG20F
34	P7_5/TAUA0I10/TAUA0O10/ADCA0TRG1/INTP4/TSG21O5/TSG21PTSI1/ENCA1E1/CSIH0CS5/TSG2
35	P7_6/TAUA0I12/TAUA0O12/ADCA0TRG2/INTP5/TSG21O6/TSG21PTSI2/ENCA1EC/CSIH0CS6/TSG
36	ADCA0I1
37	ADCA0I2
38	ADCA0I3
39	ADCA0I4
40	ADCA0I5
41	ADCA0I6
42	VDD
43	GND
44	AVDD

3 CPU Terminal Connection List

Please refer to the Excel file which separately distributed.