

DN-8468MB Data sheet

Version 3.1

For Mitsubishi J2 series Amplifier

1 DN-8468MB Daughter Board(For PCB V3.0)

The DN-8468MB is the daughter board for Mitsubishi J2 Series Amplifier. It has 4-axis I/O signals.

1.1 Board Layout for DN-8468MB

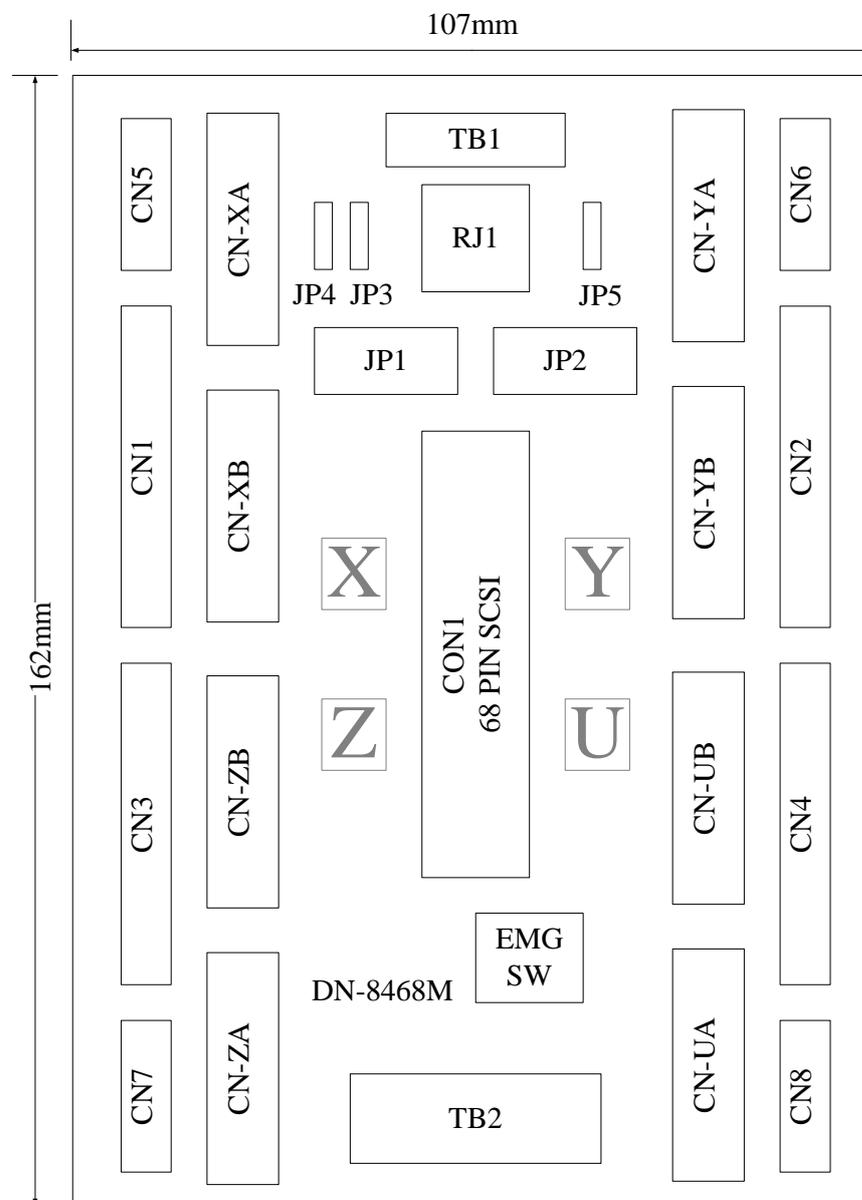


Fig. 1-1 Board layout for the DN-8468MB

1.2 Signal Connections for DN-8468MB

Maintaining signal connections is one of the most important factors in ensuring that your application system is sending and receiving data correctly.

■ Pin Assignment for CON1

The I/O connector on the DN-8468MB is a 68-pin SCSI II connector that enables you to connect to the I-8094 motion card. Fig. 1-2 shows the pin assignment for the 68-pin I/O connector on the DN-8468MB (or on the I-8094), and refer to Table 1-2, 1-3 for description of each motion I/O signal.

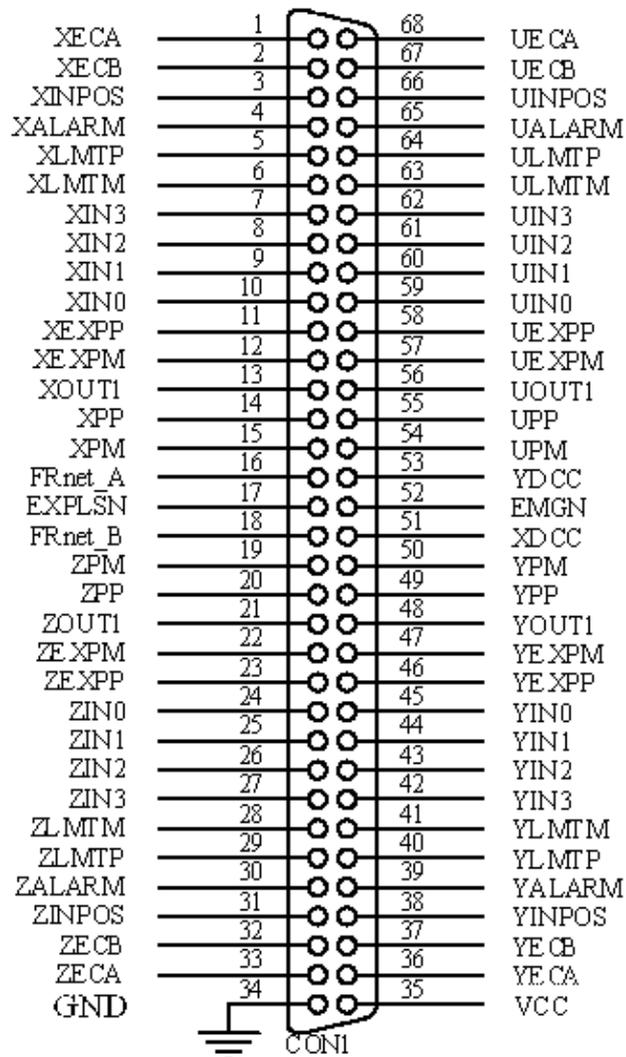


Fig. 1-2 I/O connector pin assignment for the CON1

Table 1-2 DN-8468MB I/O connector signal description (part 1)

Pin name	Pin number	Description
XECA	1	Encoder A-phase signal for X axis
YECA	36	Encoder A-phase signal for Y axis
ZECA	33	Encoder A-phase signal for Z axis
UECA	68	Encoder A-phase signal for U axis
XECB	2	Encoder B-Phase signal for X axis
YECB	37	Encoder B-Phase signal for Y axis
ZECB	32	Encoder B-Phase signal for Z axis
UECB	67	Encoder B-Phase signal for U axis
XINPOS	3	In-position signal for X axis
YINPOS	38	In-position signal for Y axis
ZINPOS	31	In-position signal for Z axis
UINPOS	66	In-position signal for U axis
XALARM	4	Alarm signal for X axis
YALARM	39	Alarm signal for Y axis
ZALARM	30	Alarm signal for Z axis
UALARM	65	Alarm signal for U axis
XLMTM	5	Limit switch input signal (+) for X axis
YLMTM	40	Limit switch input signal (+) for Y axis
ZLMTM	29	Limit switch input signal (+) for Z axis
ULMTM	64	Limit switch input signal (+) for U axis
XLMTM	6	Limit switch input signal (-) for X axis
YLMTM	41	Limit switch input signal (-) for Y axis
ZLMTM	28	Limit switch input signal (-) for Z axis
ULMTM	63	Limit switch input signal (-) for U axis
XIN3	7	Input 3 signal for X axis
YIN3	42	Input 3 signal for Y axis
ZIN3	27	Input 3 signal for Z axis
UIN3	62	Input 3 signal for U axis
XIN2	8	Input 2 signal for X axis
XIN2	43	Input 2 signal for Y axis
XIN2	26	Input 2 signal for Z axis
XIN2	61	Input 2 signal for U axis
XIN1	9	Input 1 signal for X axis
YIN1	44	Input 1 signal for Y axis
ZIN1	25	Input 1 signal for Z axis
UIN1	60	Input 1 signal for U axis
XIN0	10	Input 0 signal for X axis
YIN0	45	Input 0 signal for Y axis
ZIN0	24	Input 0 signal for Z axis
UIN0	59	Input 0 signal for U axis

Table 1-3 DN-8468MB I/O connector signal description (part 2)

Pin name	Pin number	Description
XEXPP	11	EXT pulsar input signal (+) for X axis
YEXPP	46	EXT pulsar input signal (+) for Y axis
ZEXPP	23	EXT pulsar input signal (+) for Z axis
UEXPP	58	EXT pulsar input signal (+) for U axis
XEXPM	12	EXT pulsar input signal (-) for X axis
YEXPM	47	EXT pulsar input signal (-) for Y axis
ZEXPM	22	EXT pulsar input signal (-) for Z axis
UEXPM	57	EXT pulsar input signal (-) for U axis
XDRIVE	13	Driver enable signal for X axis
YDRIVE	48	Driver enable signal for Y axis
ZDRIVE	21	Driver enable signal for Z axis
UDRIVE	56	Driver enable signal for U axis
XPP	14	Driving pulsar signal (+) for X axis
YPP	49	Driving pulsar signal (+) for Y axis
ZPP	20	Driving pulsar signal (+) for Z axis
UPP	55	Driving pulsar signal (+) for U axis
XPM	15	Driving pulsar signal (+) for X axis
YPM	50	Driving pulsar signal (+) for Y axis
ZPM	19	Driving pulsar signal (+) for Z axis
UPM	54	Driving pulsar signal (+) for U axis
XOUT1	16	Output 1 signal for X axis
YOUT1	48	Output 1 signal for Y axis
ZOUT1	21	Output 1 signal for Z axis
UOUT1	56	Output 1 signal for U axis
EXPLSN1	17	EXT pulse input signal for interpolation
EMGN1	52	Emergency stop input signal
FRnetA	16	FRnet port A
FRnetB	18	FRnet port B
XDCC	51	Deviation Counter Clear for X axis
YDCC	53	Deviation Counter Clear for Y axis
GND	34	Ground
VCC	35	External power (12~24V)

■ TB1

The connector TB1 is 7-pin connector that enables you to connect to the signals of your motor drivers. Fig.1-3 shows the pin assignment for the 7-pin connector on the DN-8468MB, and the Table 1-4 shows its I/O connector signal description.

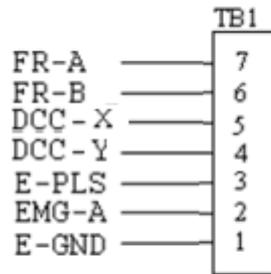


Fig. 1-3 Pin definition for TB1

Table 1-4 TB1 Signal Connection

Name	Description
FR-A	FRnet port A
FR-B	FRnet port B
DCC - X	Deviation Counter Clear for X axis
DCC - Y	Deviation Counter Clear for Y axis
E-PLS	EXT pulse signal
EMG-A	EMG input signal for all axes
E-GND	EXT power ground

■ TB2

The connector TB2 is 5-pin connector that enables you to connect to the signals of your motor drivers. Fig.1-4 shows the pin assignment for the 5-pin connector on the DN-8468MB, and the Table 1-5 shows its I/O connector signal description.

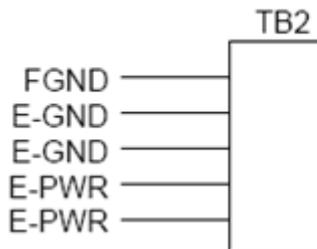


Fig. 1-4 Pin definition for TB2

Table 1-5 TB2 Signal Connection

Pin name	Description
E-PWR	EXT power supply +24V
E-GND	EXT power ground
FGND	Frame ground

► **Note:** Don't reverse connect signals with E_PWR and E_GND. Serious damage to your motion card and motion controller might be happened.

■ **CN-XA, CN-YA, CN-ZA, CN-UA (Fig1-5 connector for each AXIS)**

The connectors CN-XA, CN-YA, CN-ZA, and CN-UA are 20-pin connectors that enable you to connect to the CNA connector of Mitsubishi motor drivers. Fig.1-5 shows the pin assignment for the 20-pin connector on the DN-8468MB, and the Table 1-6 shows its I/O connector signal description.

Table 1-6 CN-X A,CN-YA ,CN-ZA ,CN-UA

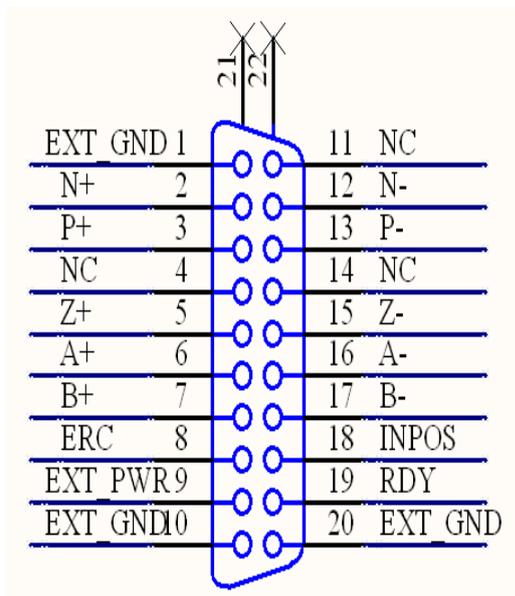


Fig 1-5 Pin definition for CN-XA, CN-YA, CN-ZA, CN-UA

Name	Number	Description
EXT_GND	1	EXT POWER Ground
N+	2	Negative Direction Pulse(+)
P+	3	Positive Direction Pulse(+)
NC	4	No connection
Z+	5	Encoder Z-phase(+)
A+	6	Encoder A-phase(+)
B+	7	Encoder B-phase(+)
ERC	8	Error Count Clear
EXT_PWR	9	EXT POWER 24V
EXT_GND	10	EXT POWER Ground
NC	11	No connection
N-	12	Negative Direction Pulse(-)
P-	13	Positive Direction Pulse (-)
NC	14	No connection
Z-	15	Encoder Z-phase(-)
A-	16	Encoder A-phase (-)
B-	17	Encoder B-phase (-)
INPOS	18	Servo In Position
RDY	19	Servo Ready
EXT_GND	20	EXT POWER Ground

- ▶ **Note 1:** There are two sets encoder signals for X and Y axes. In X axis, one is from CN-XA and the other is from CN5. In Y axis, one is from CN-YA and the other is from CN6. Users can select encoder signals from JP1 and JP2, respectively.
- ▶ **Note 2:** In Z and U axes, only one set of encoder signals is used for each axis. In Z axis, do not connect CN-ZA and CN7 at the same time. In U axis, do not connect CN-UA and CN8 at the same time.
- ▶ **Note 3 :** Don't connect NC (not connected) signals. Connecting these signals could cause permanent damage to your motion controller.

■ **CN-XB, CN-YB, CN-ZB, CN-UB (Fig1-6 connector for each AXIS)**

The connectors CN-XB, CN-YB, CN-ZB, and CN-UB are 20-pin connectors that enable you to connect to the CNB connector of your motor drivers. Fig.1-6 shows the pin assignment for the 20-pin connector on the DN-8468MB, and the Table 1-7 shows its I/O connector signal description.

Table 1-7 CN-XB ,CN-YB ,CN-ZB ,CN-UB

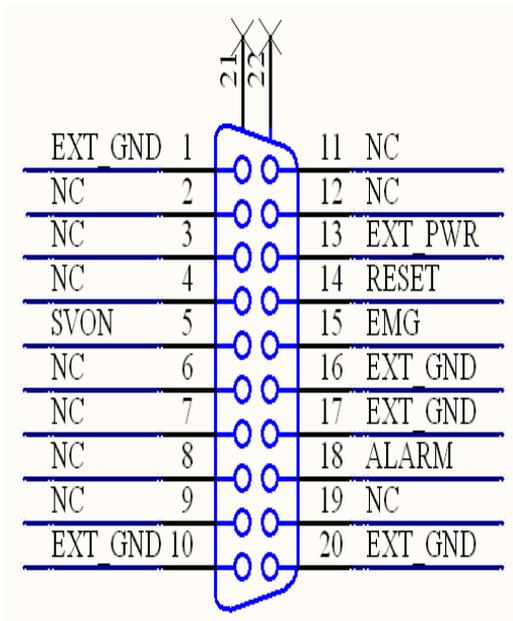


Fig 1-6 Pin definition for CN-XB, CN-YB, CN-ZB, CN-UB

Name	Number	Description
EXT_GND	1	EXT POWER Ground
NC	2	No connection
NC	3	No connection
NC	4	No connection
SVON	5	Servo On
NC	6	No connection
NC	7	No connection
NC	8	No connection
NC	9	No connection
EXT_GND	10	EXT POWER Ground
NC	11	No connection
NC	12	No connection
EXT_PWR	13	EXT POWER 24V
RESET	14	Servo Reset
EMG	15	Emergent Stop
EXT_GND	16	EXT POWER Ground
EXT_GND	17	EXT POWER Ground
ALARM	18	Servo Alarm
NC	19	No connection
EXT_GND	20	EXT POWER Ground

► **Note:** Don't connect NC (not connected) signals. Connecting these signals could cause permanent damage to your motion controller.

■ **CN1~CN4 (The I/O signals of the X, Y, Z, U AXIS)**

The connectors CN1~CN4 are 12-pin connectors that enable you to connect to the signals of your motor drivers. Fig.1-7 shows the pin assignment for the 20-pin connector on the DN-8468MB, and the Table 1-8 shows its I/O connector signal description.

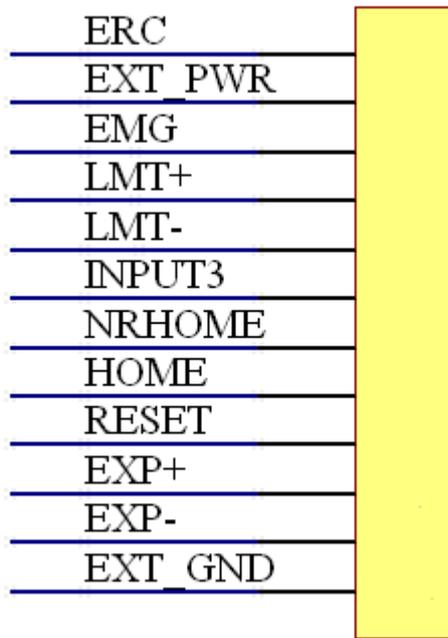


Fig 1-7 Pin definition for CN1~ CN4

Table 1-8 CN1~CN4

Name	Number	Description
ERC	12	Error Count Clear
EXT_PWR	11	EXT POWER 24V
EMG	10	Emergent Stop
LMT+	9	Limit switch Input Signal(+)
LMT-	8	Limit switch Input Signal(-)
INPUT3	7	Input Signal (IN3)
NRHOME	6	Near HOME Sensor Input Signal
HOME	5	HOME Sensor Input Signal
RESET	4	RESET Input Signal
EXP+	3	EXT Positive Direction Pulse(+)
EXP-	2	EXT Positive Direction Pulse(-)
EXT_GND	1	EXT POWER Ground

■ **CN5~CN8 (The I/O signals of the X, Y, Z, U AXIS)**

The connectors CN5~CN8 are 15-pin connectors that enable users to connect the signals to external motor drivers. Fig.1-8 shows the pin assignment for the 15-pin connector on the DN-8468MB, and the Table 1-9 shows its I/O connector signal description.

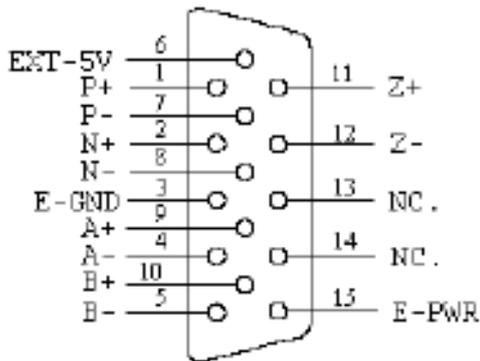


Fig. 1-8 Pin definition for CN5 ~ CN8

Table 1-9 CN5~8

Name	No.	Description
A+	9	Encoder A-Phase (+)
A-	4	Encoder A-Phase (-)
B+	10	Encoder B-Phase (+)
B-	5	Encoder B-Phase (-)
Z+	11	Encoder Z-Phase (+)
Z-	12	Encoder Z-Phase (-)
P+	1	Positive Direction Pulse Output(+)
P-	7	Positive Direction Pulse Output(-)
N+	2	Negative Direction Pulse Output(+)
N-	8	Negative Direction Pulse Output(-)
E-PWR	15	EXT power +24V
E-GND	3	EXT power ground
EXT-5V	6	EXT power +5V
NC	13, 14	No connection

- ▶ **Note 1:** There are two sets encoder signals for X and Y axes. In X axis, one is from CN-XA and the other is from CN5. In Y axis, one is from CN-YA and the other is from CN6. Users can select encoder signals from JP1 and JP2, respectively.
- ▶ **Note 2:** In Z and U axes, only one set of encoder signals is used for each axis. In Z axis, do not connect CN-ZA and CN7 at the same time. In U axis, do not connect CN-UA and CN8 at the same time.
- ▶ **Note 3 :** Don't connect NC (not connected) signals. Connecting these signals could cause permanent damage to your motion controller.

■ RJ1 (The I/O signals of the FRnet)

The connectors RJ1 is an 8-pin RJ45 connector that enable you to connect to the signals of FRnet. Fig.1-9 shows the pin assignment for the 8-pin connector on the DN-8468MB, and the Table 1-10 shows its I/O connector signal description.

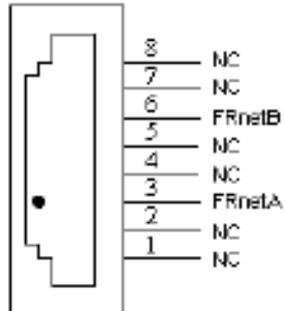


Table 1-10 RJ1

Pin name	Description
FRnetA	FRnet port A
FRnetB	FRnet port B
NC	No connection

Fig. 1-9 Pin definition for RJ1

► **Note:** Don't connect NC (not connected) signals. Connecting these signals could cause permanent damage to your motion controller.

1.3 Jumper and Switch Settings

■ JP5

Jumper 5 controls the EMG-A signal of the TB1 connector. The following diagram is shown the selection condition of the jumper 5.

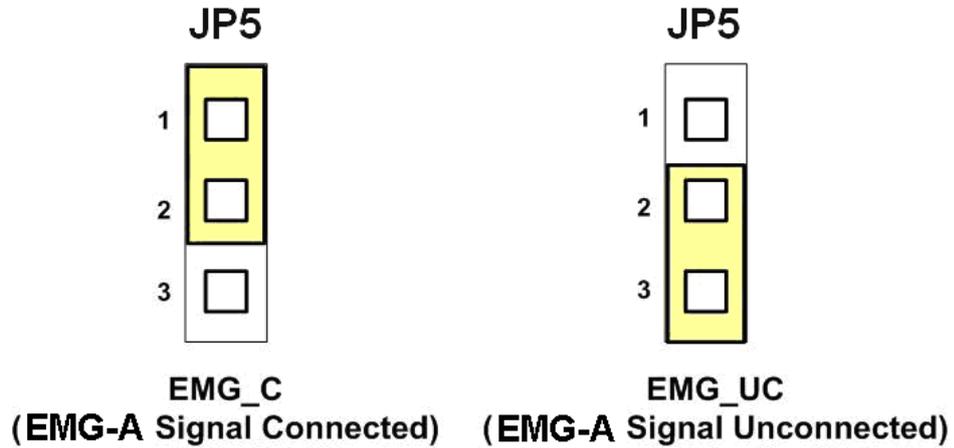


Fig. 1-10 Jumper 5 setting

■ JP1, JP2

The encoder signals of axis X and axis Y can be chosen from servo driver encoder or external encoder. Fig. 1-11 shows that the encoder signals are selected from servo driver encoder. In meantime, Fig. 1-12 shows that the encoder signals are selected from external encoder.

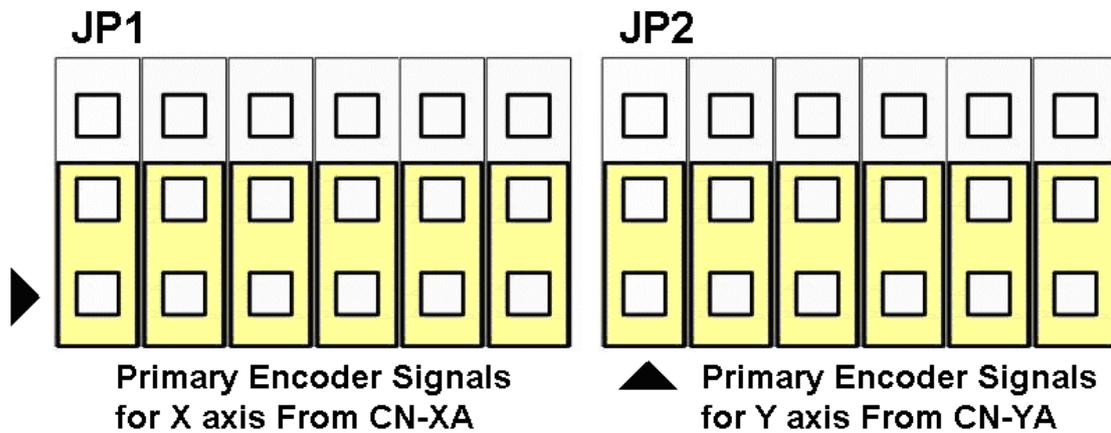


Fig. 1-11 Primary encoder signals setting

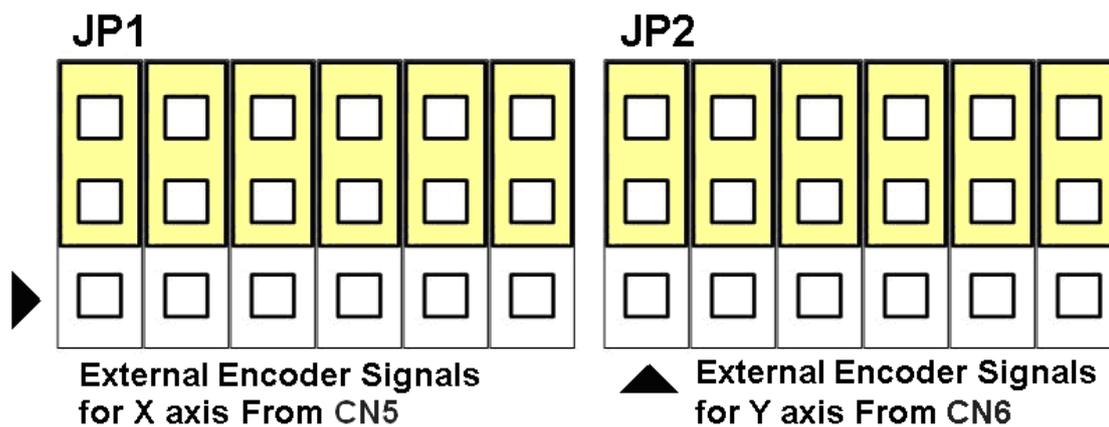


Fig. 1-12 External encoder signals setting

■ EMG SW

The emergency stop signal for each servo amplifier can be selected from EMG SW. The number 1, 2, 3, 4 on EMG SW are denoted as axis X, Y, Z, U, respectively. Fig. 1-13 is the default setting to connect the EMG signals to GND. The EMG signals from CN1 ~ CN4 will not take effect. If the switch is disconnected as shown in Fig. 1-14, the emergency stop signals can be controlled from EMG signals in CN1 ~ CN4.



Fig. 1-13 EMG SW setting for normally GND (Default setting)

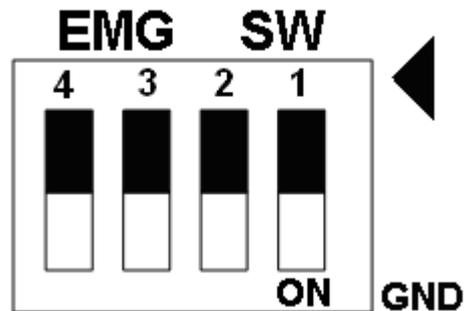


Fig. 1-14 EMG SW setting for user controlled signals.

2 DN-8468MB Daughter Board(For PCB V2.0)

The DN-8468MB is the daughter board for Mitsubishi J2 Series Amplifier. It has 4-axis I/O signals.

2.1 Board Layout for DN-8468MB

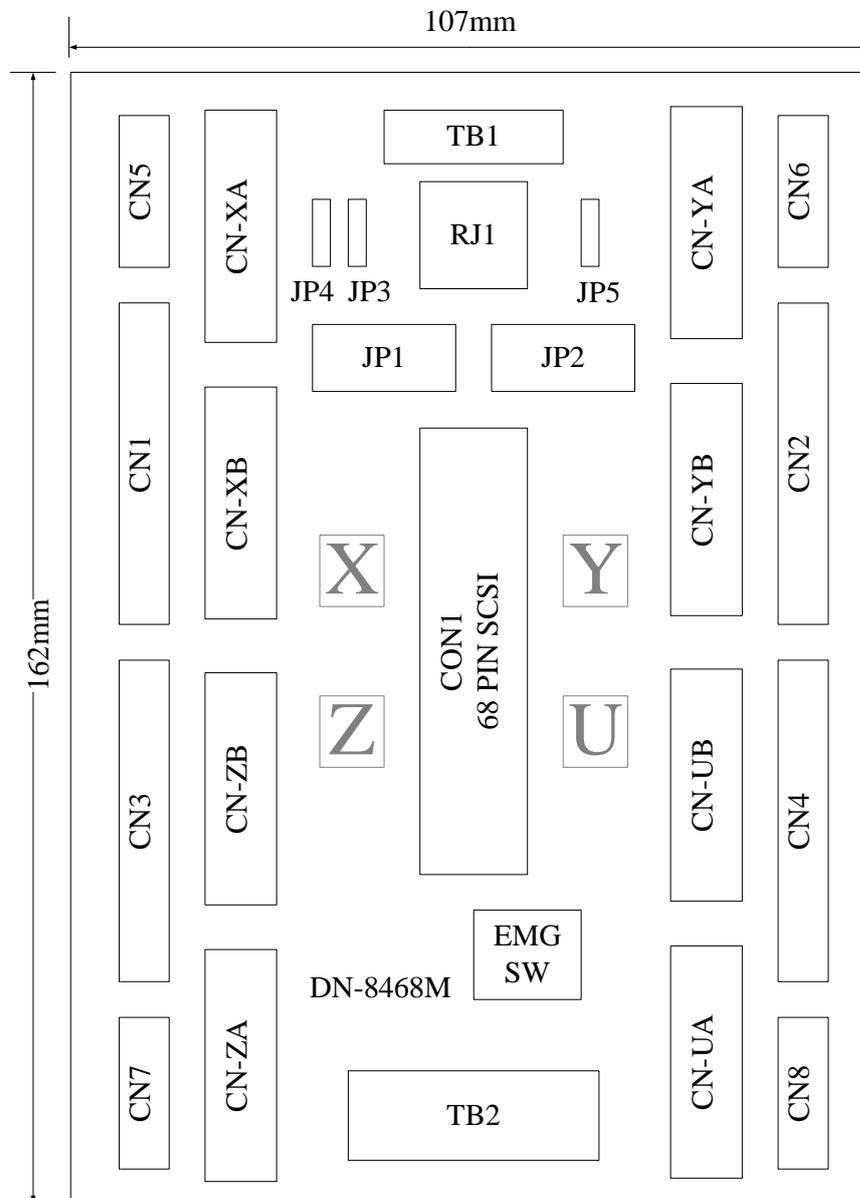


Fig. 1-1 Board layout for the DN-8468MB

2.2 Signal Connections for DN-8468MB

Maintaining signal connections is one of the most important factors in ensuring that your application system is sending and receiving data correctly.

■ Pin Assignment for CON1

The I/O connector on the DN-8468MB is a 68-pin SCSI II connector that enables you to connect to the I-8094 motion card. Fig. 1-2 shows the pin assignment for the 68-pin I/O connector on the DN-8468MB (or on the I-8094), and refer to Table 1-2, 1-3 for description of each motion I/O signal.

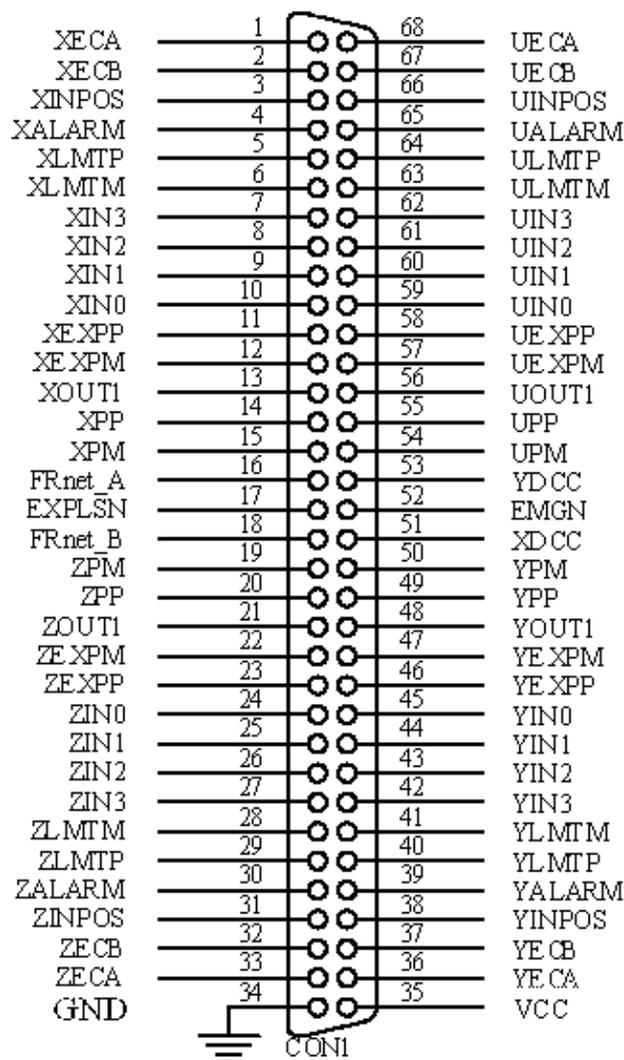


Fig. 1-2 I/O connector pin assignment for the CON1

Table 1-2 DN-8468MB I/O connector signal description (part 1)

Pin name	Pin number	Description
XECA	1	Encoder A-phase signal for X axis
YECA	36	Encoder A-phase signal for Y axis
ZECA	33	Encoder A-phase signal for Z axis
UECA	68	Encoder A-phase signal for U axis
XECB	2	Encoder B-Phase signal for X axis
YECB	37	Encoder B-Phase signal for Y axis
ZECB	32	Encoder B-Phase signal for Z axis
UECB	67	Encoder B-Phase signal for U axis
XINPOS	3	In-position signal for X axis
YINPOS	38	In-position signal for Y axis
ZINPOS	31	In-position signal for Z axis
UINPOS	66	In-position signal for U axis
XALARM	4	Alarm signal for X axis
YALARM	39	Alarm signal for Y axis
ZALARM	30	Alarm signal for Z axis
UALARM	65	Alarm signal for U axis
XLMTM	5	Limit switch input signal (+) for X axis
YLMTM	40	Limit switch input signal (+) for Y axis
ZLMTM	29	Limit switch input signal (+) for Z axis
ULMTM	64	Limit switch input signal (+) for U axis
XLMTM	6	Limit switch input signal (-) for X axis
YLMTM	41	Limit switch input signal (-) for Y axis
ZLMTM	28	Limit switch input signal (-) for Z axis
ULMTM	63	Limit switch input signal (-) for U axis
XIN3	7	Input 3 signal for X axis
YIN3	42	Input 3 signal for Y axis
ZIN3	27	Input 3 signal for Z axis
UIN3	62	Input 3 signal for U axis
XIN2	8	Input 2 signal for X axis
XIN2	43	Input 2 signal for Y axis
XIN2	26	Input 2 signal for Z axis
XIN2	61	Input 2 signal for U axis
XIN1	9	Input 1 signal for X axis
YIN1	44	Input 1 signal for Y axis
ZIN1	25	Input 1 signal for Z axis
UIN1	60	Input 1 signal for U axis
XIN0	10	Input 0 signal for X axis
YIN0	45	Input 0 signal for Y axis
ZIN0	24	Input 0 signal for Z axis
UIN0	59	Input 0 signal for U axis

Table 1-3 DN-8468MB I/O connector signal description (part 2)

Pin name	Pin number	Description
XEXPP	11	EXT pulsar input signal (+) for X axis
YEXPP	46	EXT pulsar input signal (+) for Y axis
ZEXPP	23	EXT pulsar input signal (+) for Z axis
UEXPP	58	EXT pulsar input signal (+) for U axis
XEXPM	12	EXT pulsar input signal (-) for X axis
YEXPM	47	EXT pulsar input signal (-) for Y axis
ZEXPM	22	EXT pulsar input signal (-) for Z axis
UEXPM	57	EXT pulsar input signal (-) for U axis
XDRIVE	13	Driver enable signal for X axis
YDRIVE	48	Driver enable signal for Y axis
ZDRIVE	21	Driver enable signal for Z axis
UDRIVE	56	Driver enable signal for U axis
XPP	14	Driving pulsar signal (+) for X axis
YPP	49	Driving pulsar signal (+) for Y axis
ZPP	20	Driving pulsar signal (+) for Z axis
UPP	55	Driving pulsar signal (+) for U axis
XPM	15	Driving pulsar signal (+) for X axis
YPM	50	Driving pulsar signal (+) for Y axis
ZPM	19	Driving pulsar signal (+) for Z axis
UPM	54	Driving pulsar signal (+) for U axis
XOUT1	16	Output 1 signal for X axis
YOUT1	48	Output 1 signal for Y axis
ZOUT1	21	Output 1 signal for Z axis
UOUT1	56	Output 1 signal for U axis
EXPLSN1	17	EXT pulse input signal for interpolation
EMGN1	52	Emergency stop input signal
FRnetA	16	FRnet port A
FRnetB	18	FRnet port B
XDCC	51	Deviation Counter Clear for X axis
YDCC	53	Deviation Counter Clear for Y axis
GND	34	Ground
VCC	35	External power (12~24V)

■ TB1

The connector TB1 is 7-pin connector that enables you to connect to the signals of your motor drivers. Fig.1-3 shows the pin assignment for the 7-pin connector on the DN-8468MB, and the Table 1-4 shows its I/O connector signal description.

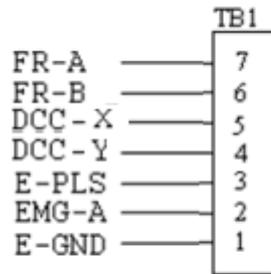


Fig. 1-3 Pin definition for TB1

Table 1-4 TB1 Signal Connection

Name	Description
FR-A	FRnet port A
FR-B	FRnet port B
DCC - X	Deviation Counter Clear for X axis
DCC - Y	Deviation Counter Clear for Y axis
E-PLS	EXT pulse signal
EMG-A	EMG input signal for all axes
E-GND	EXT power ground

■ TB2

The connector TB2 is 5-pin connector that enables you to connect to the signals of your motor drivers. Fig.1-4 shows the pin assignment for the 5-pin connector on the DN-8468MB, and the Table 1-5 shows its I/O connector signal description.

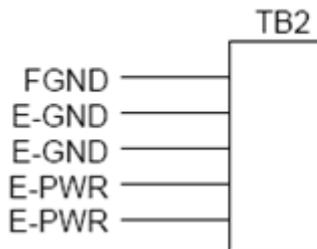


Fig. 1-4 Pin definition for TB2

Table 1-5 TB2 Signal Connection

Pin name	Description
E-PWR	EXT power supply +24V
E-GND	EXT power ground
FGND	Frame ground

► **Note:** Don't reverse connect signals with E_PWR and E_GND. Serious damage to your motion card and motion controller might be happened.

■ **CN-XA, CN-YA, CN-ZA, CN-UA (Fig1-5 connector for each AXIS)**

The connectors CN-XA, CN-YA, CN-ZA, and CN-UA are 20-pin connectors that enable you to connect to the CNA connector of Mitsubishi motor drivers. Fig.1-5 shows the pin assignment for the 20-pin connector on the DN-8468MB, and the Table 1-6 shows its I/O connector signal description.

Table 1-6 CN-X A,CN-YA ,CN-ZA ,CN-UA

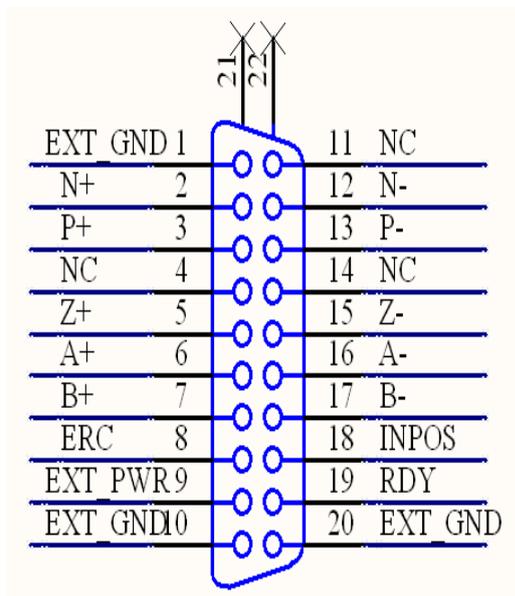


Fig 1-5 Pin definition for CN-XA, CN-YA, CN-ZA, CN-UA

Name	Number	Description
EXT_GND	1	EXT POWER Ground
N+	2	Negative Direction Pulse(+)
P+	3	Positive Direction Pulse(+)
NC	4	No connection
Z+	5	Encoder Z-phase(+)
A+	6	Encoder A-phase(+)
B+	7	Encoder B-phase(+)
ERC	8	Error Count Clear
EXT_PWR	9	EXT POWER 24V
EXT_GND	10	EXT POWER Ground
NC	11	No connection
N-	12	Negative Direction Pulse(-)
P-	13	Positive Direction Pulse (-)
NC	14	No connection
Z-	15	Encoder Z-phase(-)
A-	16	Encoder A-phase (-)
B-	17	Encoder B-phase (-)
INPOS	18	Servo In Position
RDY	19	Servo Ready
EXT_GND	20	EXT POWER Ground

- ▶ **Note 1:** There are two sets encoder signals for X and Y axes. In X axis, one is from CN-XA and the other is from CN5. In Y axis, one is from CN-YA and the other is from CN6. Users can select encoder signals from JP1 and JP2, respectively.
- ▶ **Note 2:** In Z and U axes, only one set of encoder signals is used for each axis. In Z axis, do not connect CN-ZA and CN7 at the same time. In U axis, do not connect CN-UA and CN8 at the same time.
- ▶ **Note 3 :** Don't connect NC (not connected) signals. Connecting these signals could cause permanent damage to your motion controller.

■ **CN-XB, CN-YB, CN-ZB, CN-UB (Fig1-6 connector for each AXIS)**

The connectors CN-XB, CN-YB, CN-ZB, and CN-UB are 20-pin connectors that enable you to connect to the CNB connector of your motor drivers. Fig.1-6 shows the pin assignment for the 20-pin connector on the DN-8468MB, and the Table 1-7 shows its I/O connector signal description.

Table 1-7 CN-XB ,CN-YB ,CN-ZB ,CN-UB

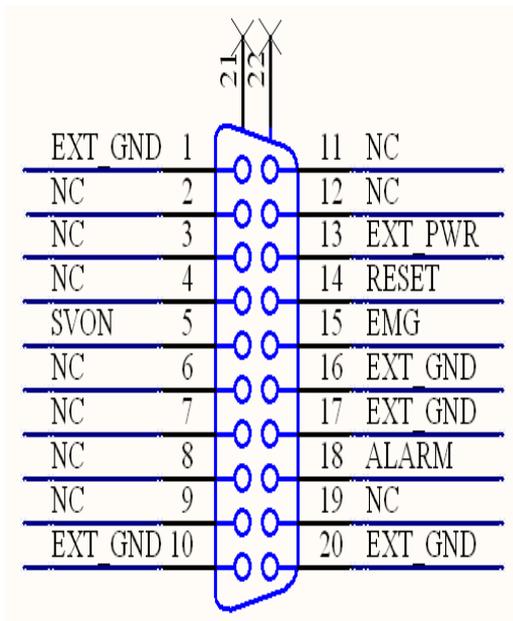


Fig 1-6 Pin definition for CN-XB, CN-YB, CN-ZB, CN-UB

Name	Number	Description
EXT_GND	1	EXT POWER Ground
NC	2	No connection
NC	3	No connection
NC	4	No connection
SVON	5	Servo On
NC	6	No connection
NC	7	No connection
NC	8	No connection
NC	9	No connection
EXT_GND	10	EXT POWER Ground
NC	11	No connection
NC	12	No connection
EXT_PWR	13	EXT POWER 24V
RESET	14	Servo Reset
EMG	15	Emergent Stop
EXT_GND	16	EXT POWER Ground
EXT_GND	17	EXT POWER Ground
ALARM	18	Servo Alarm
NC	19	No connection
EXT_GND	20	EXT POWER Ground

► **Note:** Don't connect NC (not connected) signals. Connecting these signals could cause permanent damage to your motion controller.

■ **CN1~CN4 (The I/O signals of the X, Y, Z, U AXIS)**

The connectors CN1~CN4 are 12-pin connectors that enable you to connect to the signals of your motor drivers. Fig.1-7 shows the pin assignment for the 20-pin connector on the DN-8468MB, and the Table 1-8 shows its I/O connector signal description.

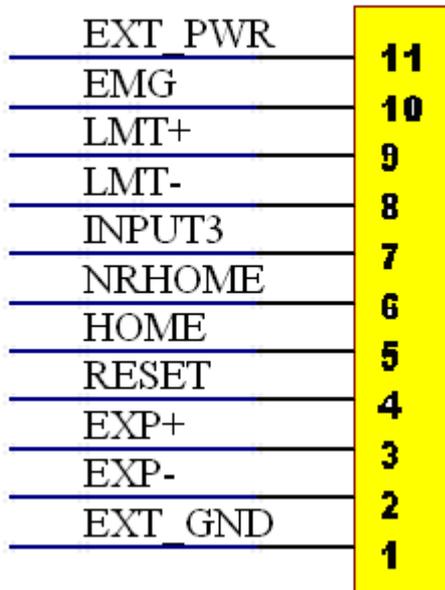


Fig 1-7 Pin definition for CN1~ CN4

Table 1-8 CN1~CN4

Name	Number	Description
EXT_PWR	11	EXT POWER 24V
EMG	10	Emergent Stop
LMT+	9	Limit switch Input Signal(+)
LMT-	8	Limit switch Input Signal(-)
INPUT3	7	Input Signal (IN3)
NRHOME	6	Near HOME Sensor Input Signal
HOME	5	HOME Sensor Input Signal
RESET	4	RESET Input Signal
EXP+	3	EXT Positive Direction Pulse(+)
EXP-	2	EXT Positive Direction Pulse(-)
EXT_GND	1	EXT POWER Ground

■ **CN5~CN8 (The I/O signals of the X, Y, Z, U AXIS)**

The connectors CN5~CN8 are 15-pin connectors that enable users to connect the signals to external motor drivers. Fig.1-8 shows the pin assignment for the 15-pin connector on the DN-8468MB, and the Table 1-9 shows its I/O connector signal description.

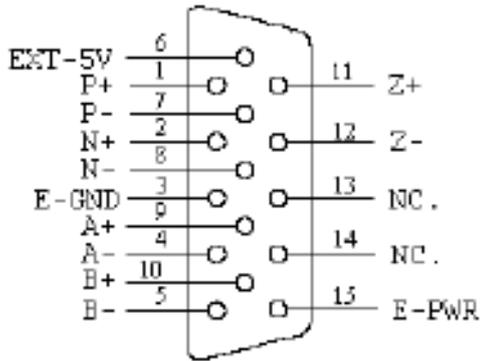


Fig. 1-8 Pin definition for CN5 ~ CN8

Table 1-9 CN5~8

Name	No.	Description
A+	9	Encoder A-Phase (+)
A-	4	Encoder A-Phase (-)
B+	10	Encoder B-Phase (+)
B-	5	Encoder B-Phase (-)
Z+	11	Encoder Z-Phase (+)
Z-	12	Encoder Z-Phase (-)
P+	1	Positive Direction Pulse Output(+)
P-	7	Positive Direction Pulse Output(-)
N+	2	Negative Direction Pulse Output(+)
N-	8	Negative Direction Pulse Output(-)
E-PWR	15	EXT power +24V
E-GND	3	EXT power ground
EXT-5V	6	EXT power +5V
NC	13, 14	No connection

- ▶ **Note 1:** There are two sets encoder signals for X and Y axes. In X axis, one is from CN-XA and the other is from CN5. In Y axis, one is from CN-YA and the other is from CN6. Users can select encoder signals from JP1 and JP2, respectively.
- ▶ **Note 2:** In Z and U axes, only one set of encoder signals is used for each axis. In Z axis, do not connect CN-ZA and CN7 at the same time. In U axis, do not connect CN-UA and CN8 at the same time.
- ▶ **Note 3 :** Don't connect NC (not connected) signals. Connecting these signals could cause permanent damage to your motion controller.

■ RJ1 (The I/O signals of the FRnet)

The connectors RJ1 is an 8-pin RJ45 connector that enable you to connect to the signals of FRnet. Fig.1-9 shows the pin assignment for the 8-pin connector on the DN-8468MB, and the Table 1-10 shows its I/O connector signal description.

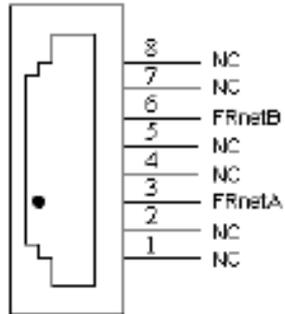


Table 1-10 RJ1

Pin name	Description
FRnetA	FRnet port A
FRnetB	FRnet port B
NC	No connection

Fig. 1-9 Pin definition for RJ1

▶ **Note:** Don't connect NC (not connected) signals. Connecting these signals could cause permanent damage to your motion controller.

2.3 Jumper and Switch Settings

■ JP5

Jumper 5 controls the EMG-A signal of the TB1 connector. The following diagram is shown the selection condition of the jumper 5.

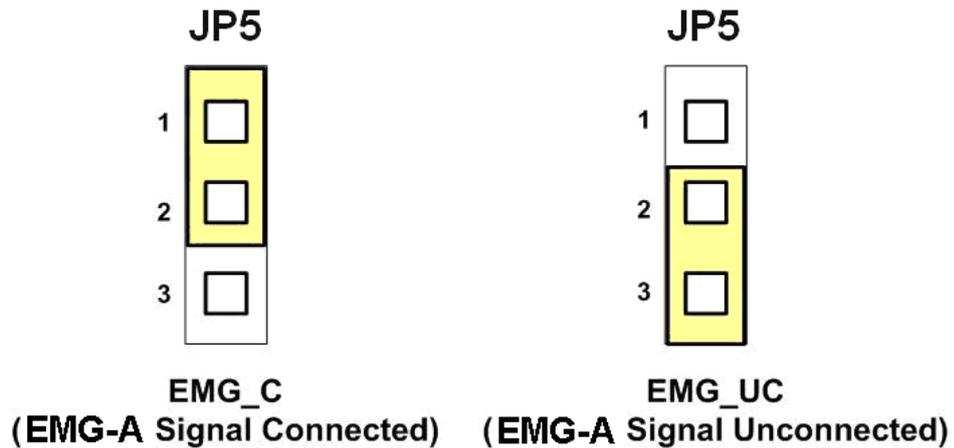


Fig. 1-10 Jumper 5 setting

■ JP1, JP2

The encoder signals of axis X and axis Y can be chosen from servo driver encoder or external encoder. Fig. 1-11 shows that the encoder signals are selected from servo driver encoder. In meantime, Fig. 1-12 shows that the encoder signals are selected from external encoder.

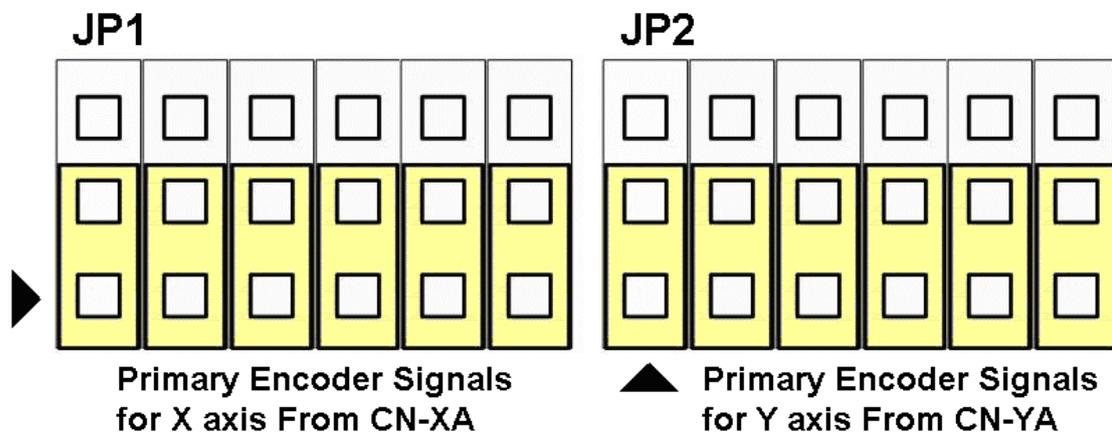


Fig. 1-11 Primary encoder signals setting

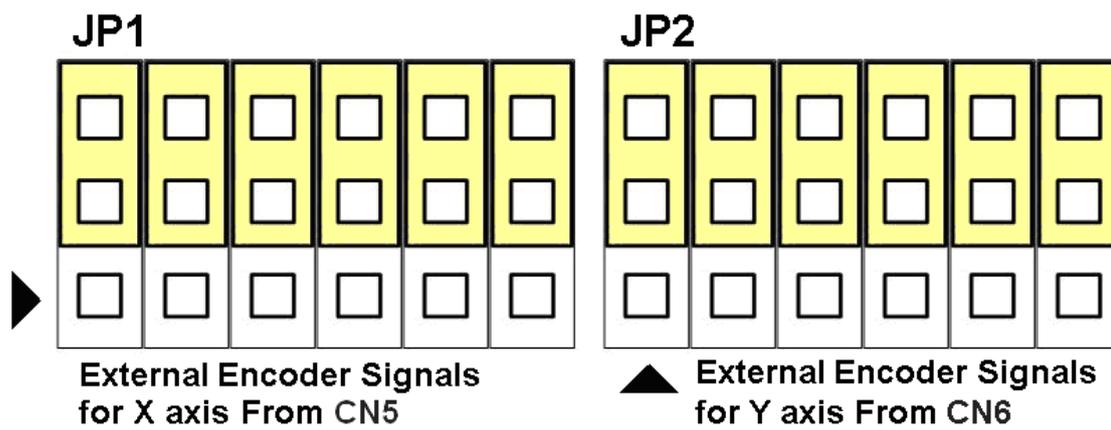


Fig. 1-12 External encoder signals setting

■ EMG SW

The emergency stop signal for each servo amplifier can be selected from EMG SW. The number 1, 2, 3, 4 on EMG SW are denoted as axis X, Y, Z, U, respectively. Fig. 1-13 is the default setting to connect the EMG signals to GND. The EMG signals from CN1 ~ CN4 will not take effect. If the switch is disconnected as shown in Fig. 1-14, the emergency stop signals can be controlled from EMG signals in CN1 ~ CN4.

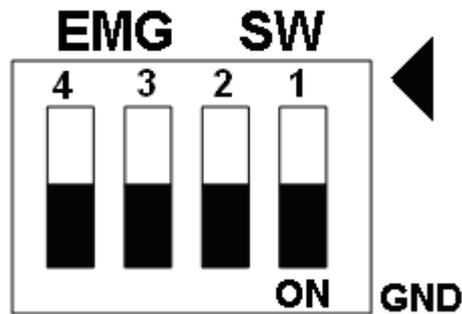


Fig. 1-13 EMG SW setting for normally GND (Default setting)

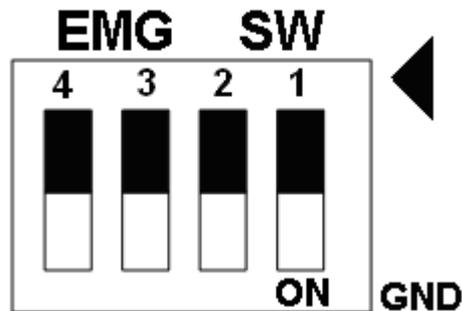


Fig. 1-14 EMG SW setting for user controlled signals.