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USERGUIDE

Pendant Board 20E9400x

⚠ **WARNING - Reliance on this Manual Could Result in Severe Bodily Injury or Death!**

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PENDANT BOARD

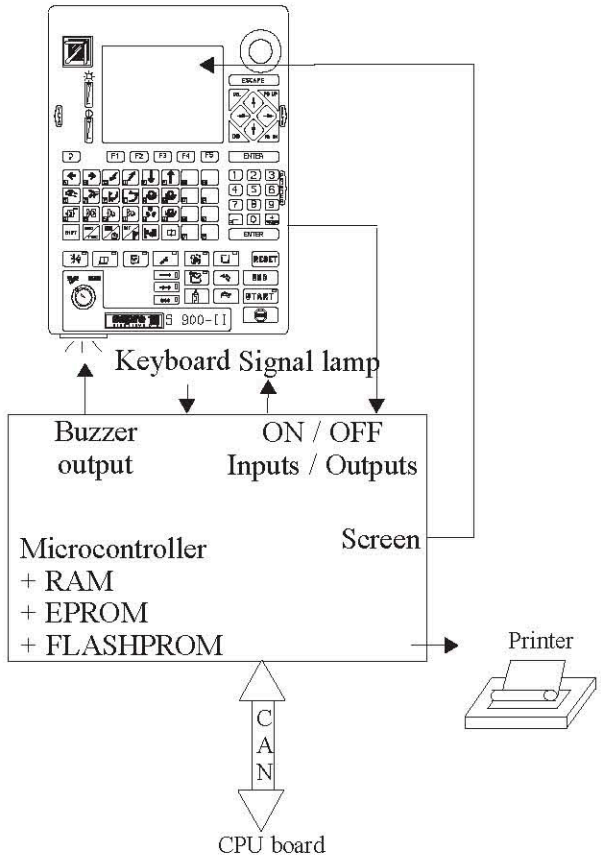
Ref. : 20E9400x

Function :

The pendant is made up of a board that manages the keyboard, the display, a printer link and a few ON / OFF inputs / outputs.

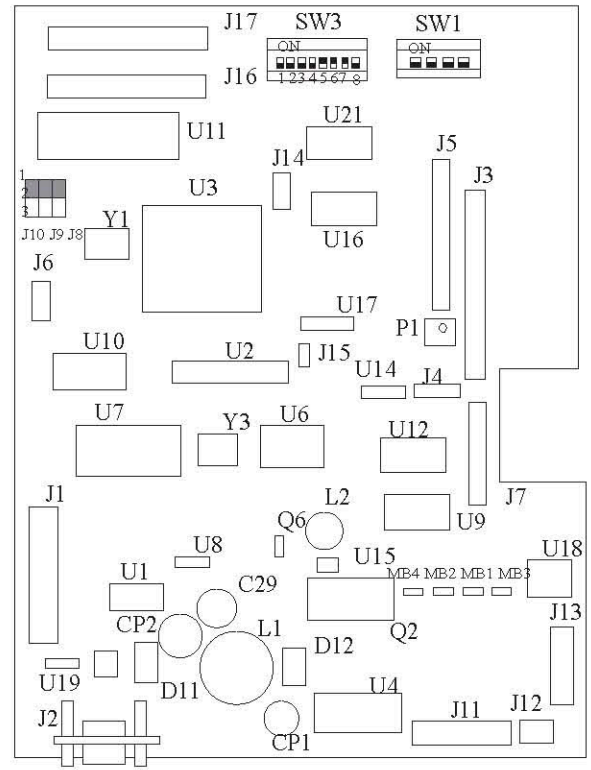
The screen is a 320 x 240 pixel graphic display, i.e. 20 lines of 40 characters. It is backlit by a replaceable neon.

Skeleton drawing :



Component layout on the board :

Always leave these jumpers in this position.



J1 : Printer ribbon cable
J2 : Pendant + CAN link power supply
J3 : Keyboard
J4 : Backlight board
J5 : Keyboard LEDs
J6, J14, J15, J16 and J17 : Reserved
J7 : LCD display
J11 : Button, switch and buzzer inputs
J12 : I/O + J11 looping power supply
J13 : 4 additional inputs and 4 additional outputs
U2 : Programmable component
U11 : Software
P1 : Brightness adjustment

J13 connector : 4 additional inputs and 4 additional outputs connection

Pin	Name	Pin	Name
1	24VIO	2	IN 136
3	24VIO	4	IN 137
5	24VIO	6	IN 138
7	24VIO	8	IN 139
9	OUT 136	10	GNDE
11	OUT 137	12	GNDE
13	OUT 138	14	GNDE
15	OUT 139	16	GNDE

Pendant configuration for a 500Kbit/s CAN link

If the CAN link is longer than 20 metres, you should change the transfer speed from 1Mbits/s to 500Kbits/s.

To change the transmission speed, carry out the following :

▶ in the parameters, change the configuration of the "master" node (parameter 45) : add 10 to the value.

By default the value is 2, so it will become 2 + 10 = 12.

▶ Power down the robot cabinet, open the pendant and configure the switches as described below :

The SW3 switches are used to configure the CAN link. The S900–II command parameters MUST be changed if the position of the SW3 switches is changed. The SW3–8 position is not used.

CAN node address (Parameter 46 = 1)					
Switch N°	SW3–1	SW3–2	SW3–3	SW3–4	SW3–5
ON	16	8	4	2	1
OFF	0	0	0	0	0

Bit rate in kb/s (kilobits / second)				**Parameter N° 45**
SW3–6	SW3–7	Bitrate	Use	CLASS_MSTR_CAN
ON	ON	1000	Standard	2
OFF	ON	500	For cabling >20 m	12
ON	OFF	100	–	–
OFF	OFF	20	–	–

▶ Power the cabinet up again and the adjustments will be taken into account. *(The transfers between the CPU and the PENDANT for the display, keyboard use, ... are now carried out at 500Kbits/s).*

Colour and monochrome configurations :

Use the SW1 – 4 switch to set the parameters for the type of display (monochrome or colour). The other SW1 switches are not used.

Colour display	**Monochrome display**
SW1 – 4 in **ON** position	SW1 – 4 in **OFF** position
Colour display 06C02477	Monochrome display 06C02411
Bundle connected on J7 : 20E9440x	Bundle connected on J7 : 20E9530x

Note : The brightness and contrast are memorised after 2 minutes, once they have been adjusted.

Never open the pendant when it is powered up. The neon display is powered by a voltage of about 900 V !

Note : The grey areas represent the board's default configuration.

Replacing the neon tube :

The neon tube reference is the same for a colour or monochrome display : 06C02706.

▶ Disassembling the neon tube

- Power down the robot's electric cabinet.
- Place the pendant on a clean surface and, if possible, on an anti–static surface. Be careful not to scratch the screen.
- Open the pendant (4 screws on the back).
- Remove the power supply connector from the neon tube (2–pin connector with one pink and one white wire). This connector is wired up to the high voltage conversion board.
- Remove the small high voltage conversion board using the two 5 mm nuts.
- Disconnect the 2 ribbon cables that power the keyboard. To unwire the ribbon cables, remove the 2 side lock latches on the connectors fixed on the pendant board.
- Remove the board from its fixing pins by removing the five 5 mm nuts and the two 5 mm spacers.
- When you are able to access the neon's support screw, remove this screw and free the neon which is supported by a small notch at the opposite end to the screw.

▶ Putting the neon tube into place

- Position the new neon tube by first inserting the notch, then by fixing the screw.
- Position the board on its fixing nuts and put the 5 nuts and 2 spacers back into place. Push the board in making sure that it is flat but do not push it too hard.
- Put the 2 ribbon cables that power the display back into place. To do this, slip the ribbon cable into the connector fixed on the pendant board. When the ribbon cable is sufficiently advanced and if it is straight, then push in the 2 side lock latches on the connectors fixed on the pendant board.
- Put the high voltage conversion board back into place and fix it with the two 5 mm nuts.
- Plug the neon tube power supply connector (2–pin connector with one pink and one white wire) into the high voltage conversion board.
- Close the pendant (4 screws on the back).
- Power up the robot's electric cabinet to check the functioning of the new neon tube.