

## 9020 Modification - for compatibility with PromoCoder100S

### Disclaimer

The PromoCoder100S device, in order to manage the communication with the MI 90xx printers, need the “SYNCMES” signal. This signal is available ONLY on the MI9030 printers, which have the complete set of IO signals.

In order to use the MI9020 printer, which has only a limited set of IO signals, you have to make a modification of the 9020 mainboard, and add the functionality of the “SYNCMES” signal.

This modification CAN NOT BE UNDONE without visible trace, and in this way can affect the warranty of the board, in case of a malfunction in the warranty period of the printer.

Despite that we offer you the possibility to “upgrade” the MI9020 printers to be compatible with the PromoCoder100S device, we advice you to use MI9030 printers to avoid warranty claim rejections by the printer manufacturer.

**Anyway, if you decide to use the modification, we can not be held responsible for any damages of the board or consequences of the modification.**

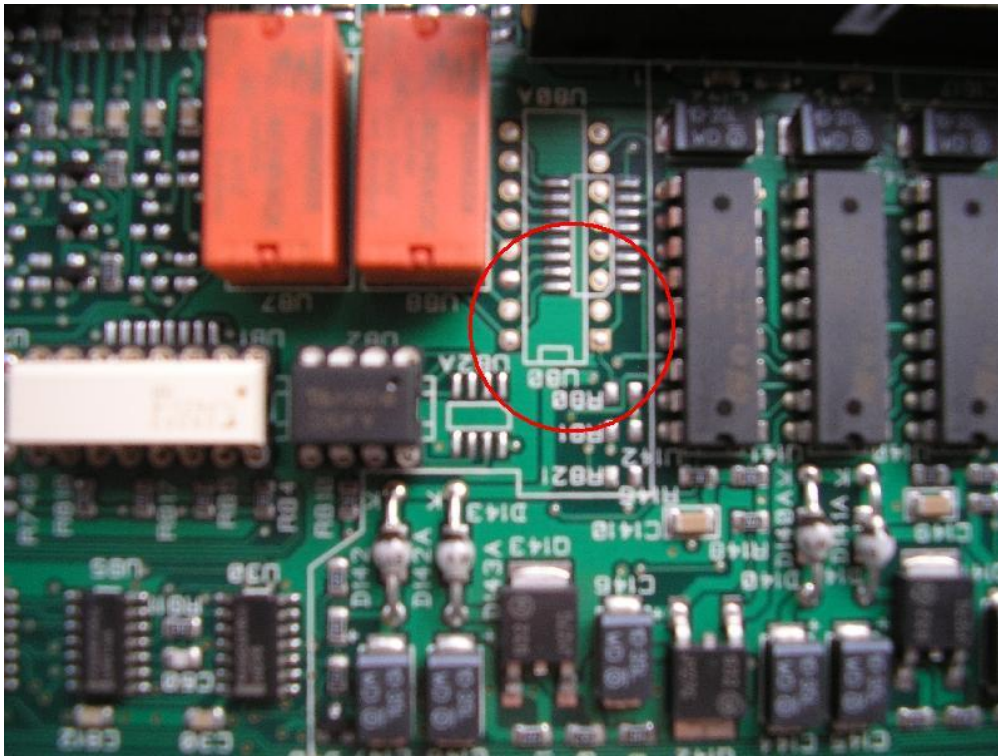
### The upgrade/modification kit consist of the following:

- Industrial Interface board designed for 9020 (not the original MI 9030 interface)
- Electronic kit for motherboard modification (1 pc Optocoupler TLP 621-2, 1 pc. IC socket, 1 pc. Resistor)
- This upgrade guide

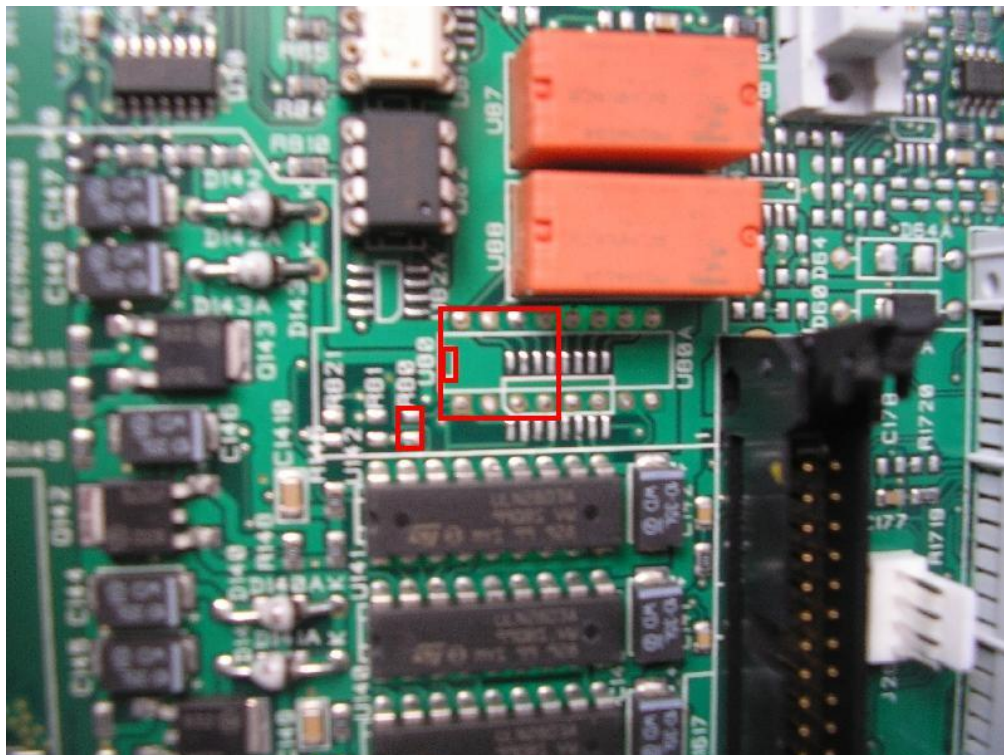
### Upgrading the MI9020 to have “SYNCMES” signal:

1. Localize the U80 “missing” circuit on the mainboard

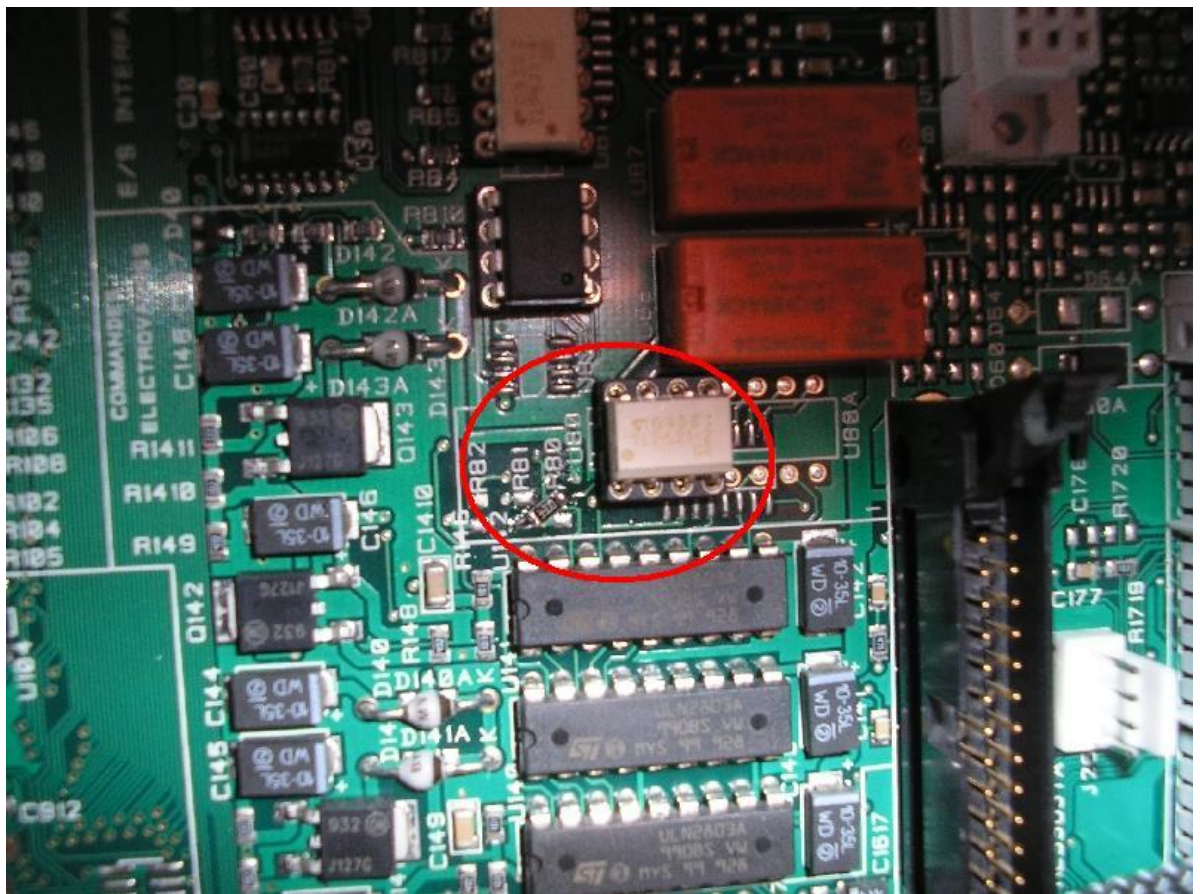
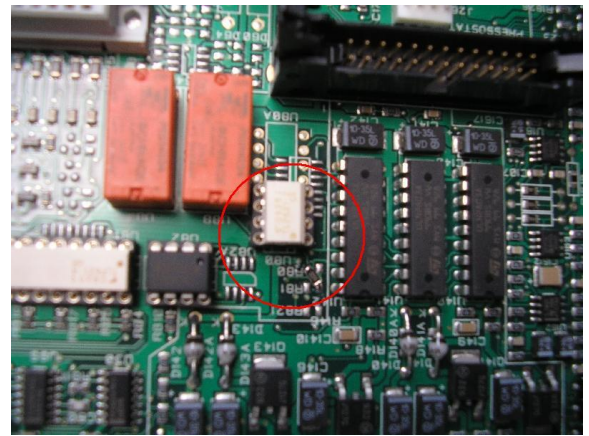
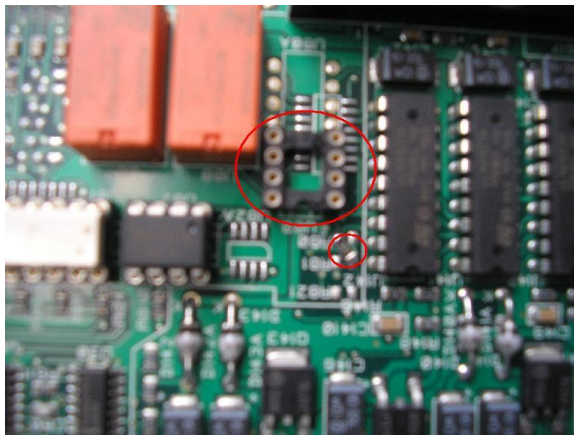




2. You will have to solder  $\frac{1}{2}$  of U80 circuit (TLP 621-2 opto instead of the original TLP 621-4 ) and the R80 resistor . This two components are responsible for the “Syncness” signal. The original resistor value is  $R= 180 \Omega$ . However sometimes you have to “calibrate” this resistor (you have to test the output – described later)

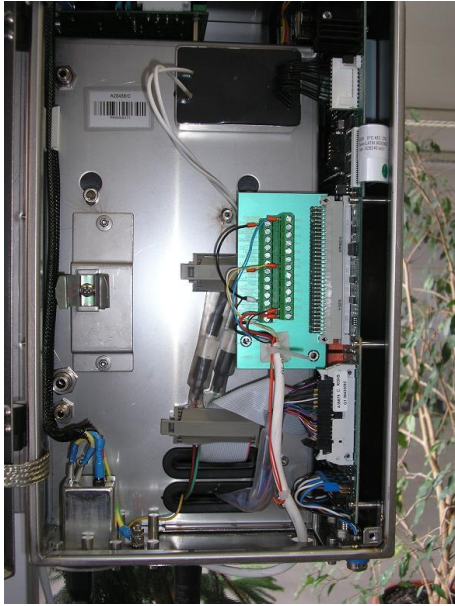


3. You have to clear the marked holes of the U80, and solder the IC socket (2x4pins). After that you have to solder the R80 resistor. For your convenience you can follow the picture, and you can use the equivalent pin from R81 which is short with R80 to make the soldering easy.

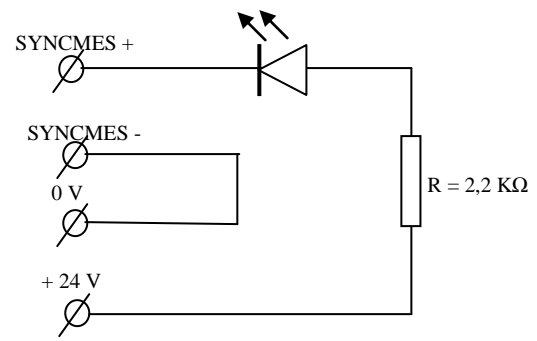


4. After you are finished, you have to test the circuit, and if is necessary, to calibrate the resistor (usually to increase the value from  $R = 180 \Omega$ .to  $330\Omega$ ,  $470\Omega$  or  $680\Omega$ ). You will have to make a very simple testing circuit, and have to watch the LED to be completely dark when the printer is not printing. If is not completely dark, it means that some residual current is flowing trough the opto . In this case you must to increase the resistor value until the LED is completely dark when the printer is not printing and lit during the message printed.

Here you can see the 9020 Ind. Interface:



Testing Circuit::



Congratulation, now you are ready to run your PromoCoder100S on the most affordable MI inkjet printer, the MI9020.