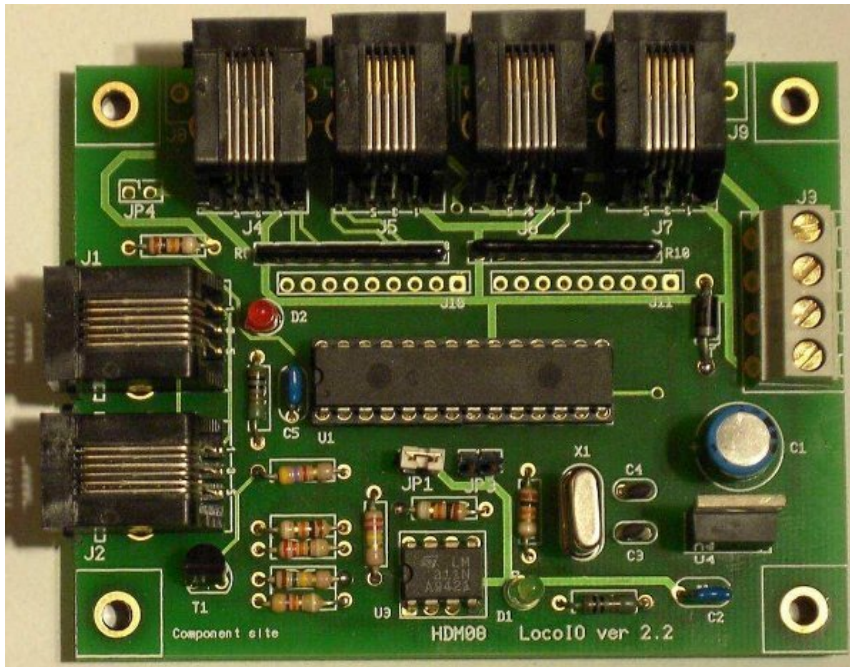




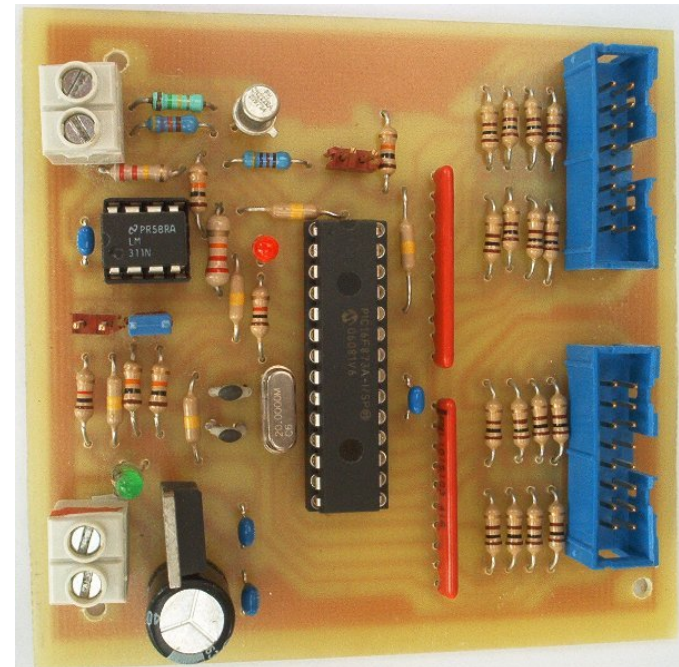
Atelier DCC

17.10.2009

Les modules Loco10



Hans Deloof
users.telenet.be/deloof



Club Ferroviaire du Centre



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17.10.2009

LocoNet : réseau de commande et de rétrosignalisation

(Digitrax)

LocoIO : module d'entrée / sortie avec ses interfaces

(concepteur belge : Hans Deloof)

users.telenet.be/deloof

LocoBuffer : générateur bus LocoNet (RS232 / USB)



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LocoIO CFC V1.47

- Circuit imprimé simple face
- Composants DIP (non CMS)
- Alimentation DC (+12V à +16V)
- Schématique identique (alimentation DC)
- Bornier à visser (alimentation DC, prises LocoNet)
- Connecteur câble plat vers les interfaces



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Logiciel de configuration

- Point à point (RS232)
- En réseau (LocoNet)
- Outil : LocoHDL (Hans Deloof)
- Paramètres : adresses (1-79, 81 ... 127)
- Définition IO (input, output, impulsion, clignotement, ...)



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LocoNet +
LocoNet -

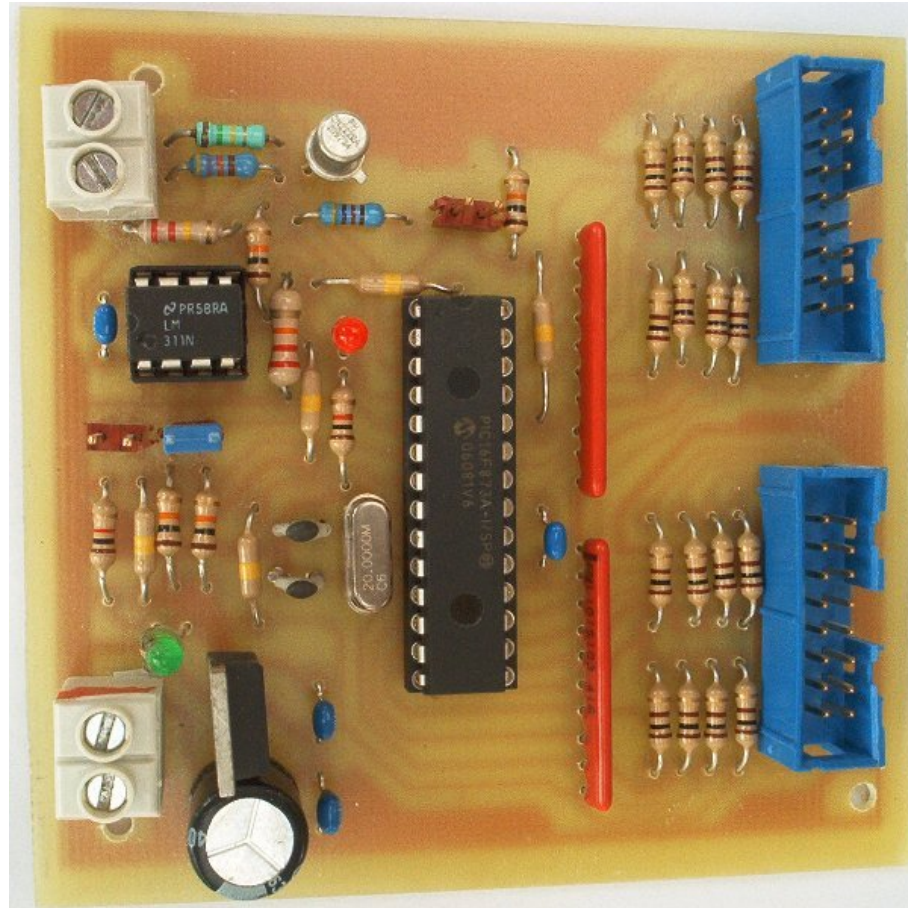
LED d'activité (rouge)

PIC 16F873

20 MHz

LED d'alimentation (verte)

+12V



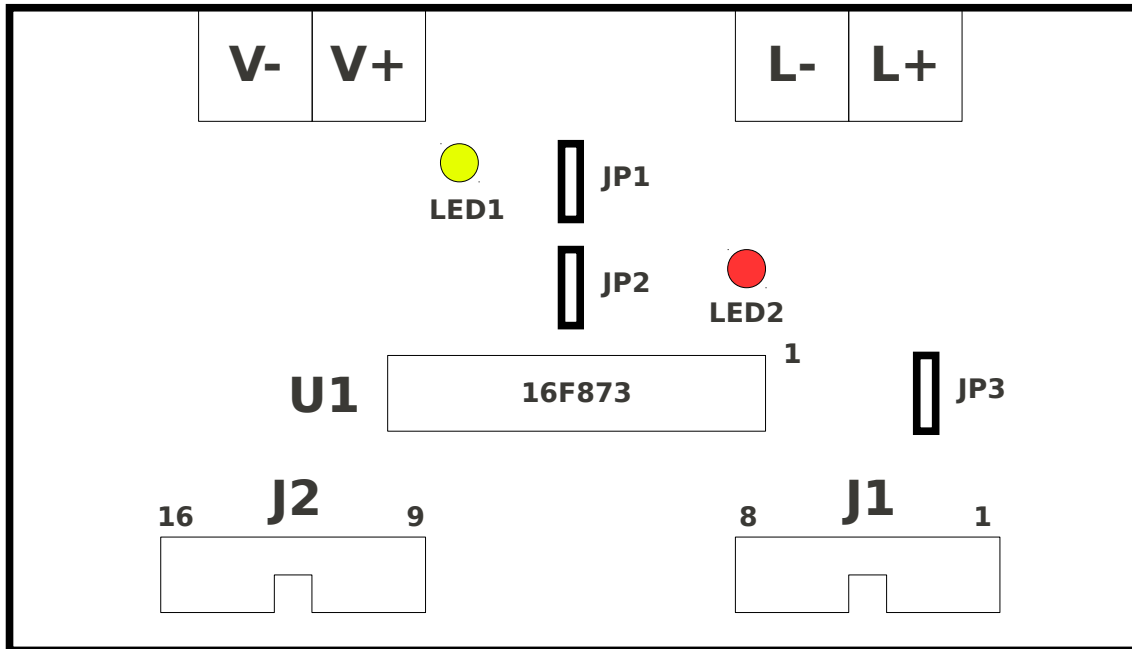
J1

J2



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J1, J2 : Flat cable 16B connectors to LBxxx Modules
V-, V+ : Pair LocoNet Power (+14V ... +22V)
L-, L+ : Pair LocoNet Bus

JP1 ON : Not used
JP1 OFF : Normal (*)

JP2 ON : No input status at power ON (*)
JP2 OFF : Input status at power ON

JP3 ON : Program mode
JP3 OFF : Normal (*)

LED1 : LocoIO Power Supply
LED2 : LocoNet activity

(*) Configuration CFC



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Les interfaces

- LB108-109 : 8 détecteurs de présence (courant)
- LB110 : commande d'accessoires
 - 4 signaux 2 positions
 - 2 signaux 4 positions
 - 4 aiguillages

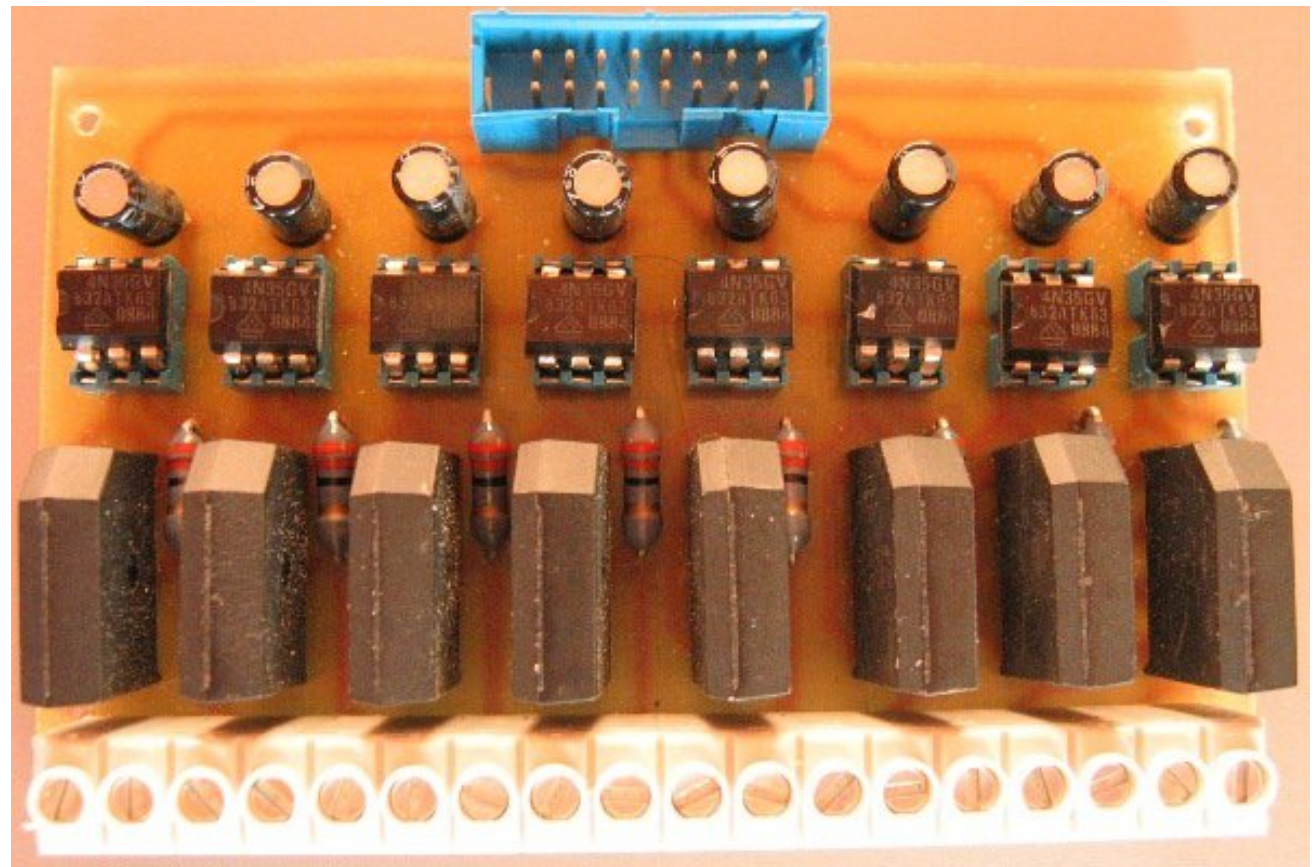


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Module LB109

Opto isolation



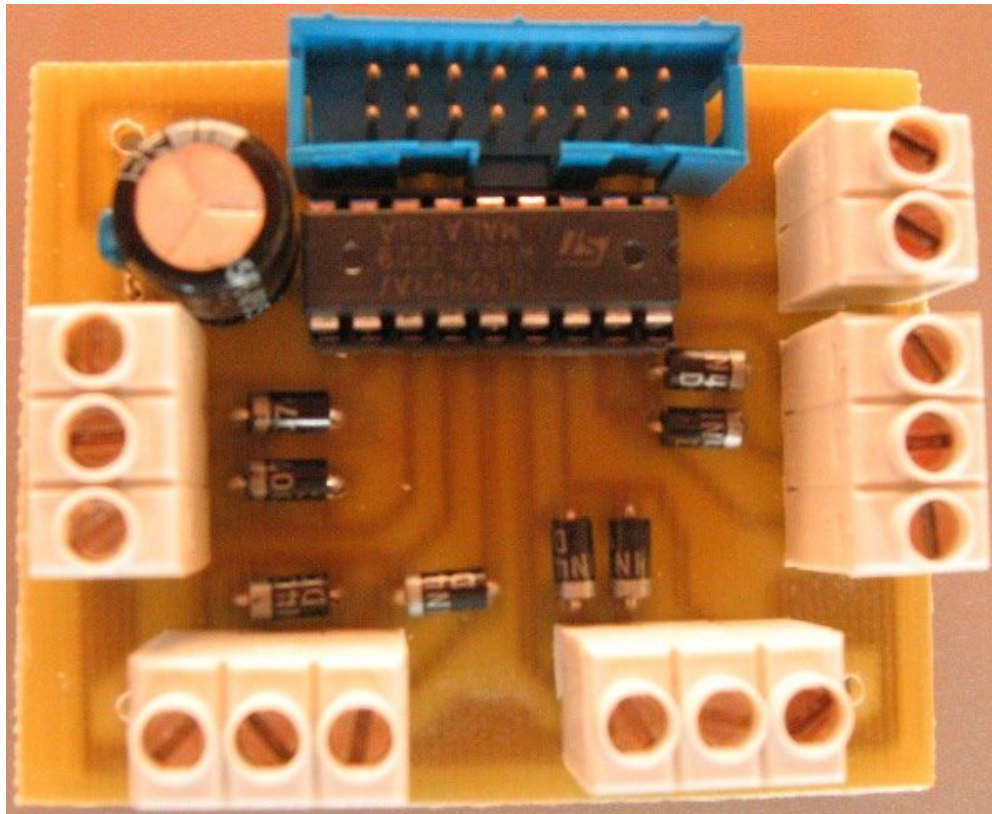
J,K
J1 ... J8, K1 ... K8



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Module LB110



+ 12V

J4

J1

J1 ... J4 vers
accessoires

Aiguillages,
signaux, ...

J3

J2



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J1 : Flat cable 16B connector to LocoIO J2 (J1)

J2 : Output to signal, switch (DC command)

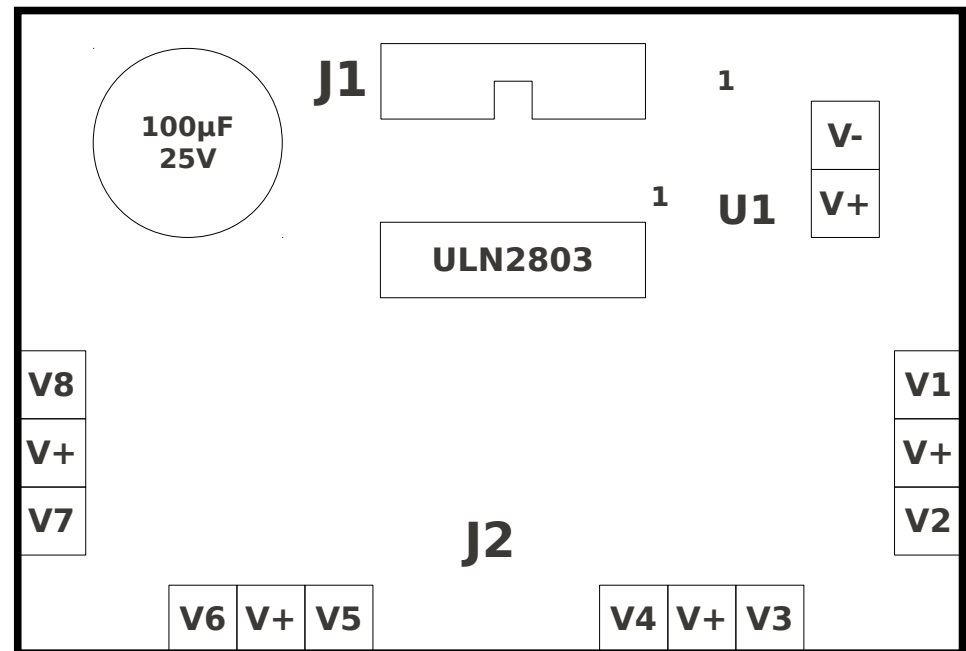
V+, V- : DC Power Supply +16V ... +22V

V1, V2 : Output Switch 1 or Signal 1 (two way)

V3, V4 : Output Switch 2 or Signal 2 (two way)

V5, V6 : Output Switch 3 or Signal 3 (two way)

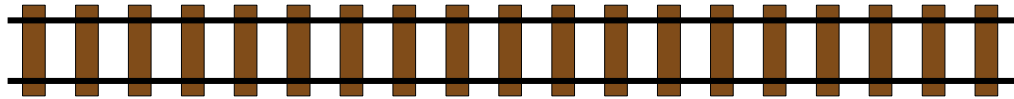
V7, V8 : Output Switch 4 or Signal 4 (two way)



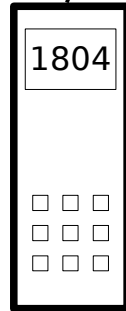
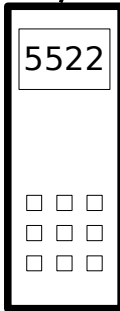


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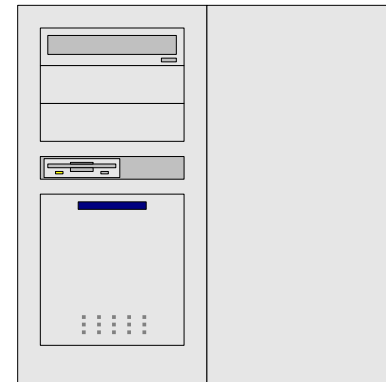
Centrale
Digitale



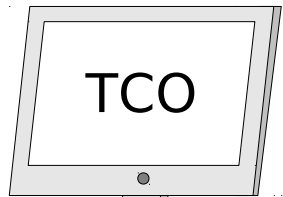
COM
RS232

COM1
ou USB

Ordinateur



Écran



TCO

COM2
ou USB

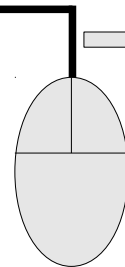


LocoIO 1

LocoIO 2

LocoBuffer
RS232

Souris





Atelier DCC

17.10.2009

LocoBuffer V1.63

Interface PC ↔ LocoNet : RS232 / USB

Isolation galvanique (opto)

57 kbps

Générateur de boucle de courant

Longueur du bus : 100m

Topologie : bus, arbre, ...



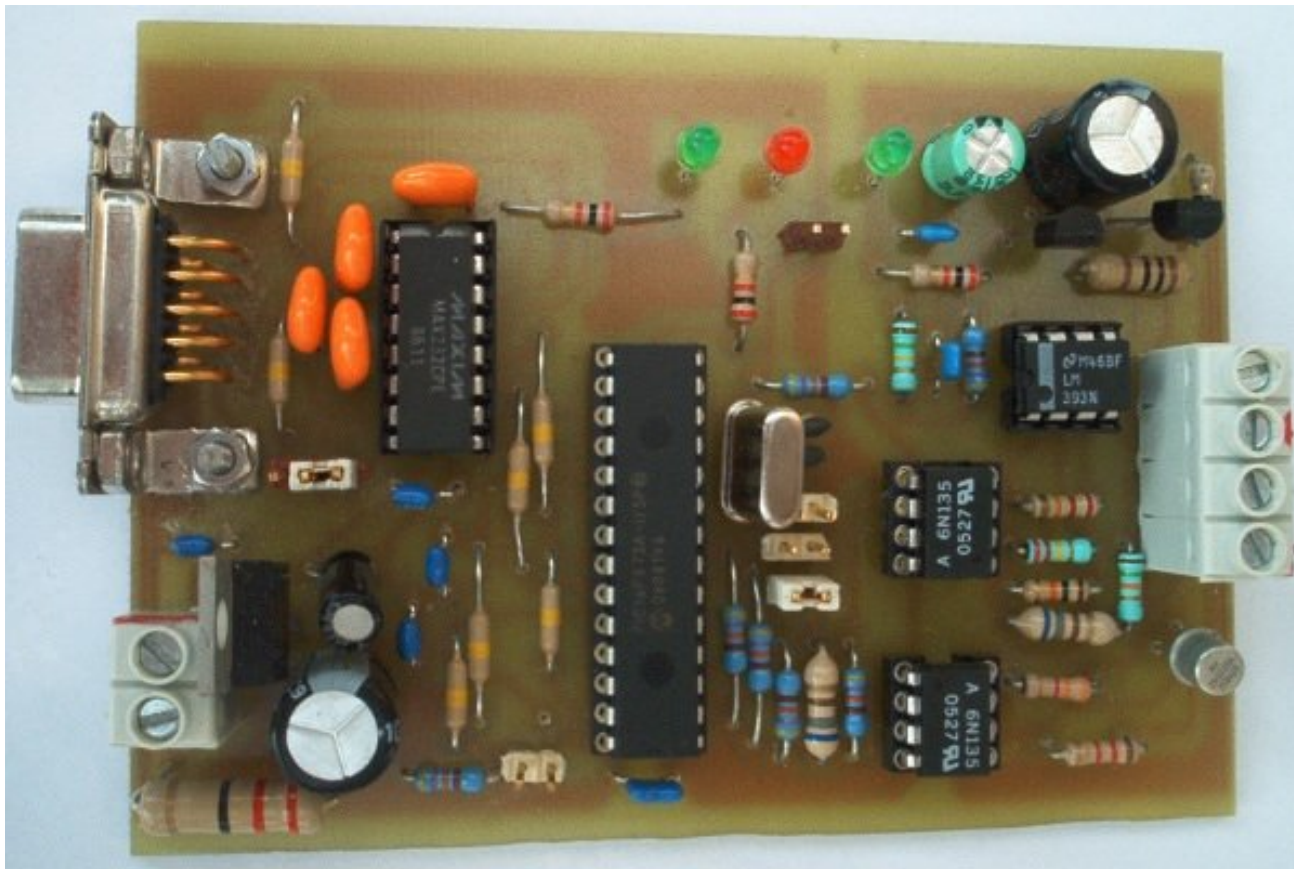
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Module LocoBuffer

RS232
ou
USB
vers le
PC

+12V



LocoNet

+12V



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J1 : DB9F to PC Com Port
 J2 : Vb+, Vb- +12V PC or external Power Supply
 J3 : LocoNet Bus L+, L- and Power V+, V-

JP1 ON : 57600 Bps (*)
 JP1 OFF : 19200 Bps

JP2 ON : Mode MS100
 JP2 OFF : Mode LocoBuffer (*)

JP3 ON : Echo OFF (*)
 JP3 OFF : Echo ON

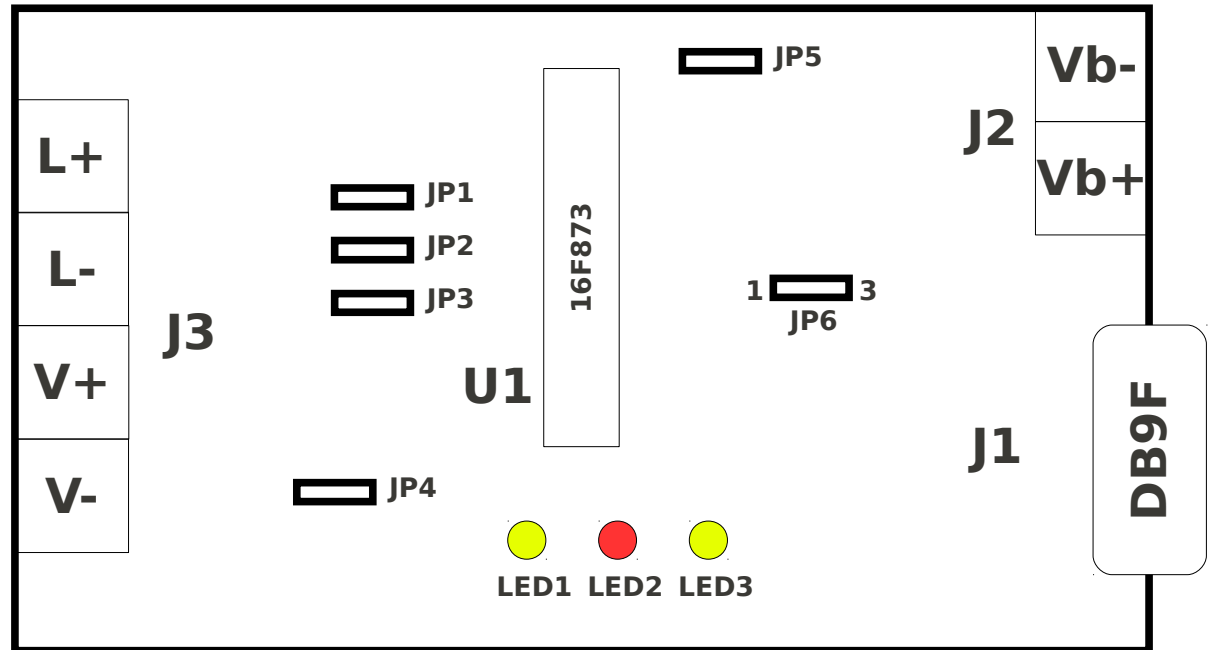
JP4 ON : Boot Program
 JP4 OFF : Normal (*)

JP5 ON : Program
 JP5 OFF : Normal (*)

JP6 1-2 : Normal (*)
 JP6 2-3 : Program

LED1 : LocoNet Power
 LED2 : LocoNet Busy
 LED3 : LocoBuffer Power

(*) Configuration CFC





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Maintenance

- Vérifier l'alimentation (+5V)
- Vérifier la LED d'activité
- Vérifier la configuration (LocoHDL)
- Tester en mode 16 entrées (rétrosignalisation)
- Reconfigurer (LocoHDL)



Atelier DCC

17.10.2009

Les sites Internet

Site DCC : www.nmra.org

Site RR&C : www.freiwald.com

Site LocoNet : www.loconet.com

Site LocoIO : users.telenet.be/deloof

Site du CFC : www.cfc.be.cx