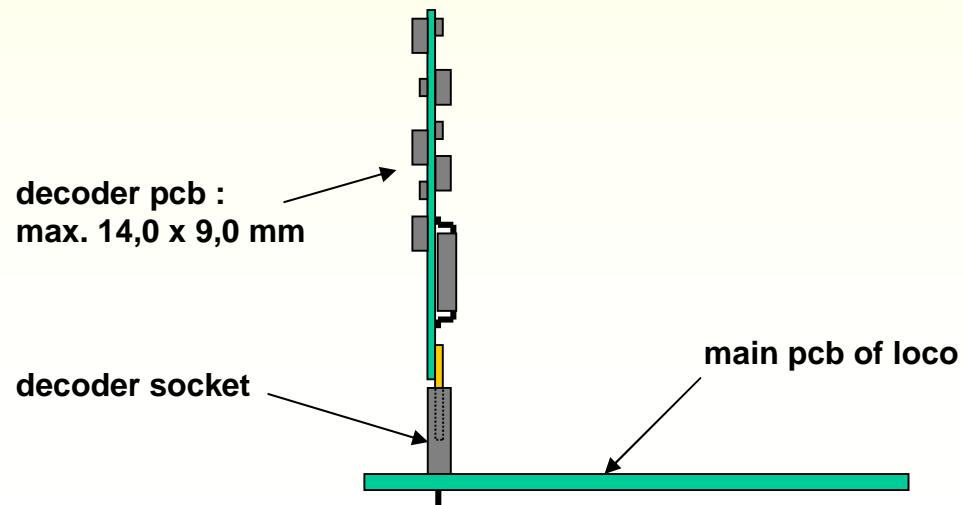
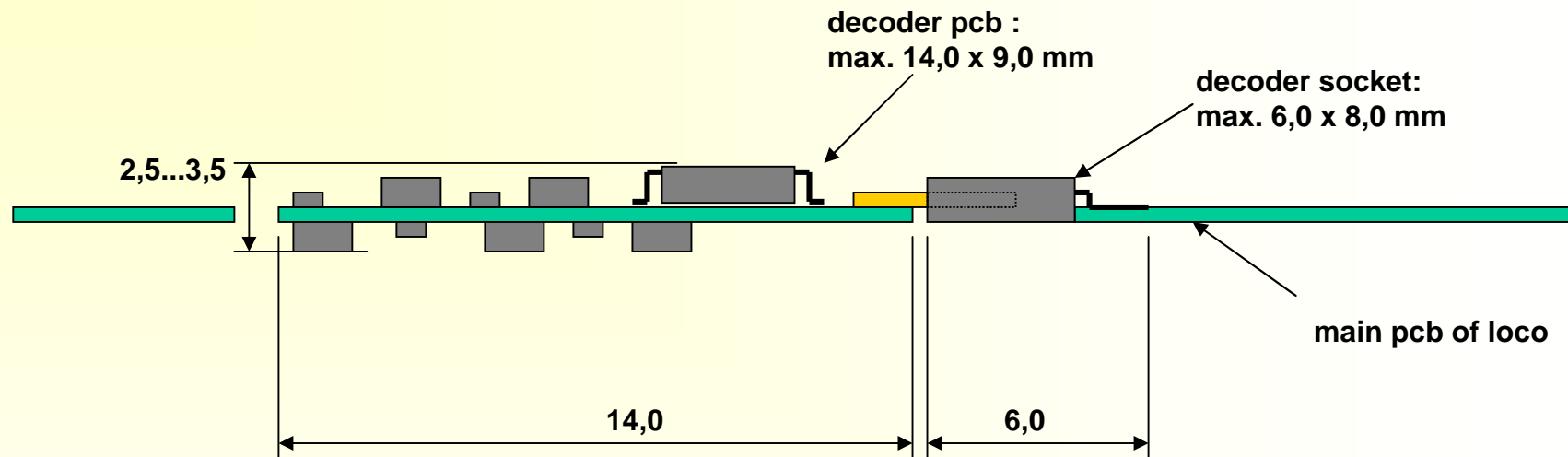


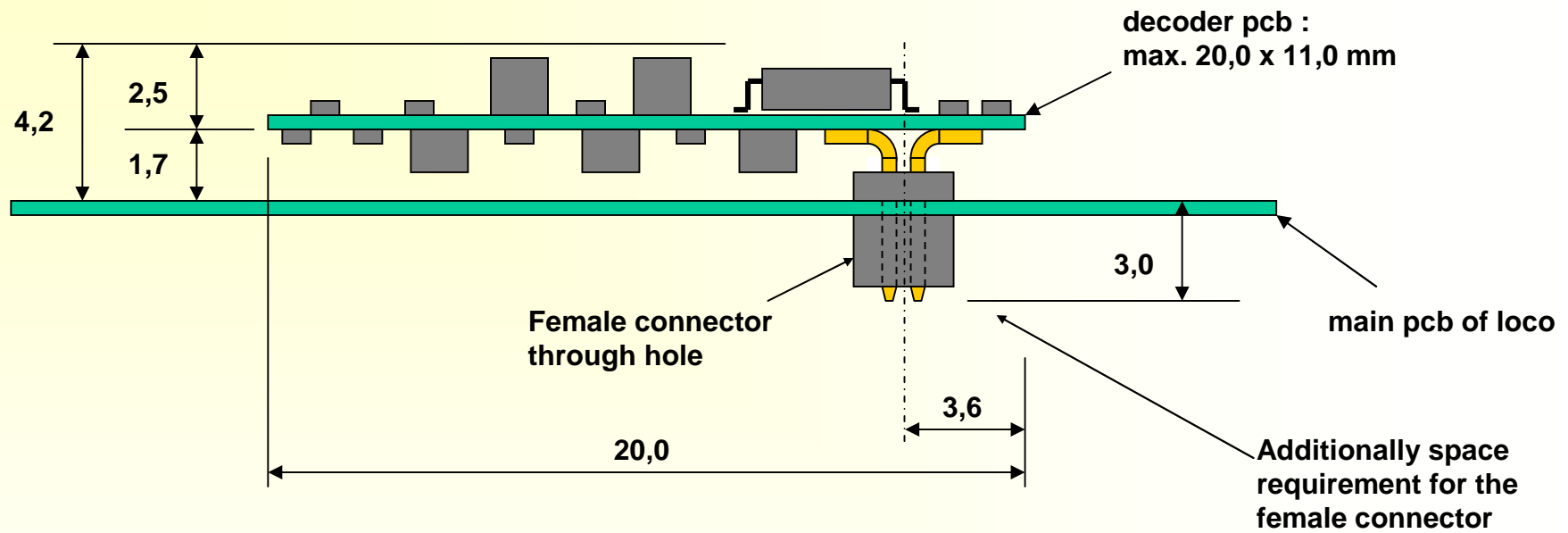
Decoder connector types for N and TT scale comparison table

	6pin-plug NEM651	Plux12 NEM658	Next18 no sound NEM662	Next18 with sound NEM662
Decoder size	14mm x 9mm x (3,5mm)	20,0mm x 11,0mm x 4,2mm	15mm x 9,5mm x 2,9mm	25mm x 10,5mm x 4,1mm
volume inside loco for decoder and socket	441+120 = 561 mm ³	924+72 = 996 mm ³	413 mm ³	1076 mm ³
Motor current	0.5A	1.0A	0.5A	0.5A
Function outputs (including front lights)	2	4	8	6
plug/socket suitable for automatic placement	no	yes	yes	yes
Serial expansion port (SUSI)	no	no	yes	yes

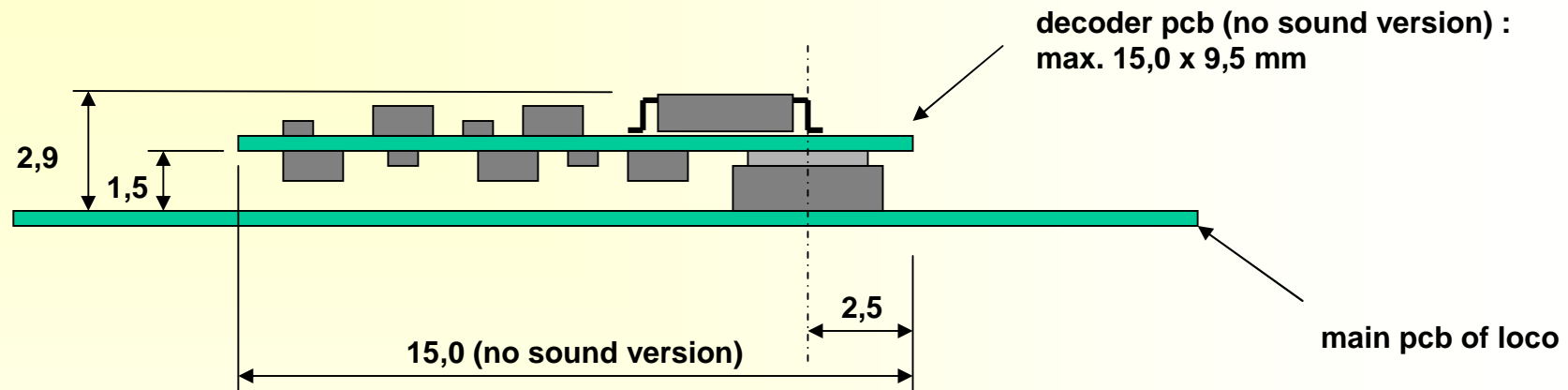
NEM651

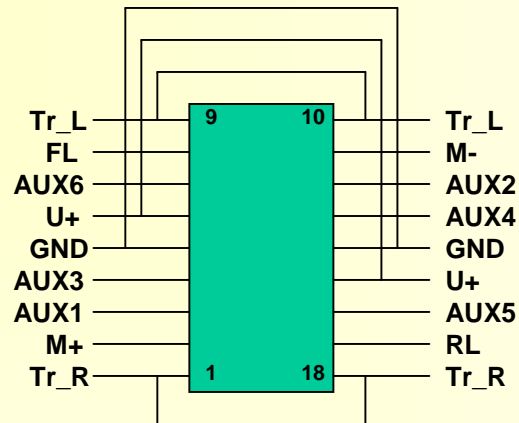


Plux12



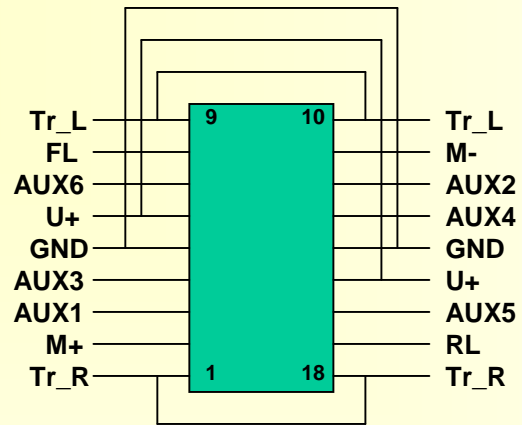
Next18





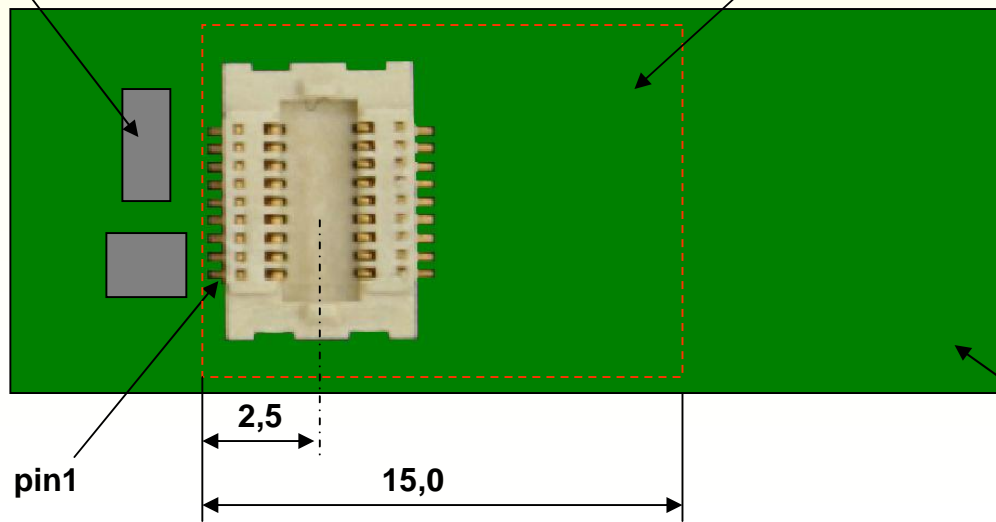
Pin description	Short name	Pin no.		Pin no.	Short name	Pin description
track pick up left side	Tr_L	9		10	Tr_L	track pick up left side
Front light	FL	8		11	M-	Motor -
AUX6 output (logic pegel) or loudspeaker B	AUX6	7		12	AUX2	AUX2 output
Positive voltage (after rectification)	V+	6		13	AUX4	AUX4 output (logic pegel) or SUSI_DATA
Ground pegel of decoder	GND	5		14	GND	Ground pegel of decoder
AUX3 output (logic pegel) or SUSI_CLK	AUX3	4		15	V+	Positive voltage (after rectification)
AUX1 output	AUX1	3		16	AUX5	AUX5 output (logic pegel) or loudspeaker A
Motor +	M+	2		17	RL	Rear light
track pick up right side	Tr_R	1		18	Tr_R	track pick up right side

Remark: The following pins are connected in parallel to increase the continuous current-carrying capability: 1 and 18, 5 and 14, 6 and 15, 9 and 10



Electronic components (height >1mm) or mechanical parts as protection against wrong insert direction of decoder

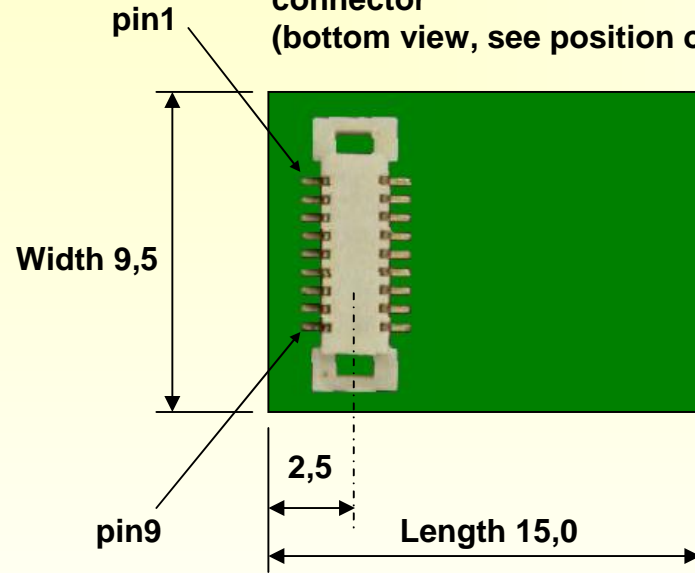
Keep out area on main PCB (same size like decoder). No electronic components or blanc metal parts in this area!



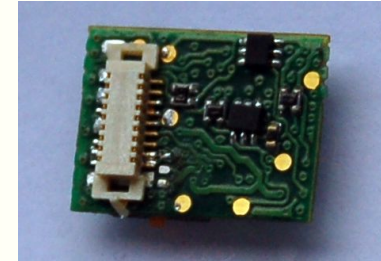
pin1

main pcb of loco

Maximum size for decoder without sound
or the DC-dummy-plug with Next18
connector
(bottom view, see position of pins)

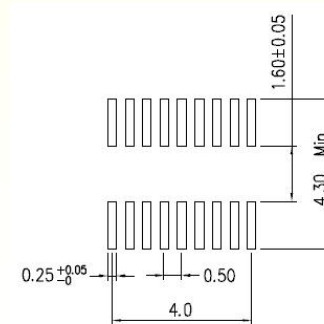


Decoder N45 from kuehn-
digital with Next18 plug
(bottom view)

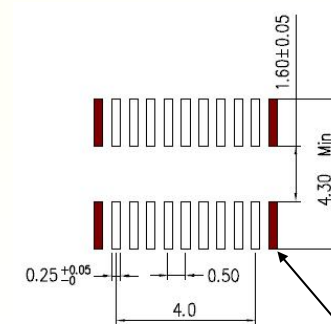


Recommended PCB layout

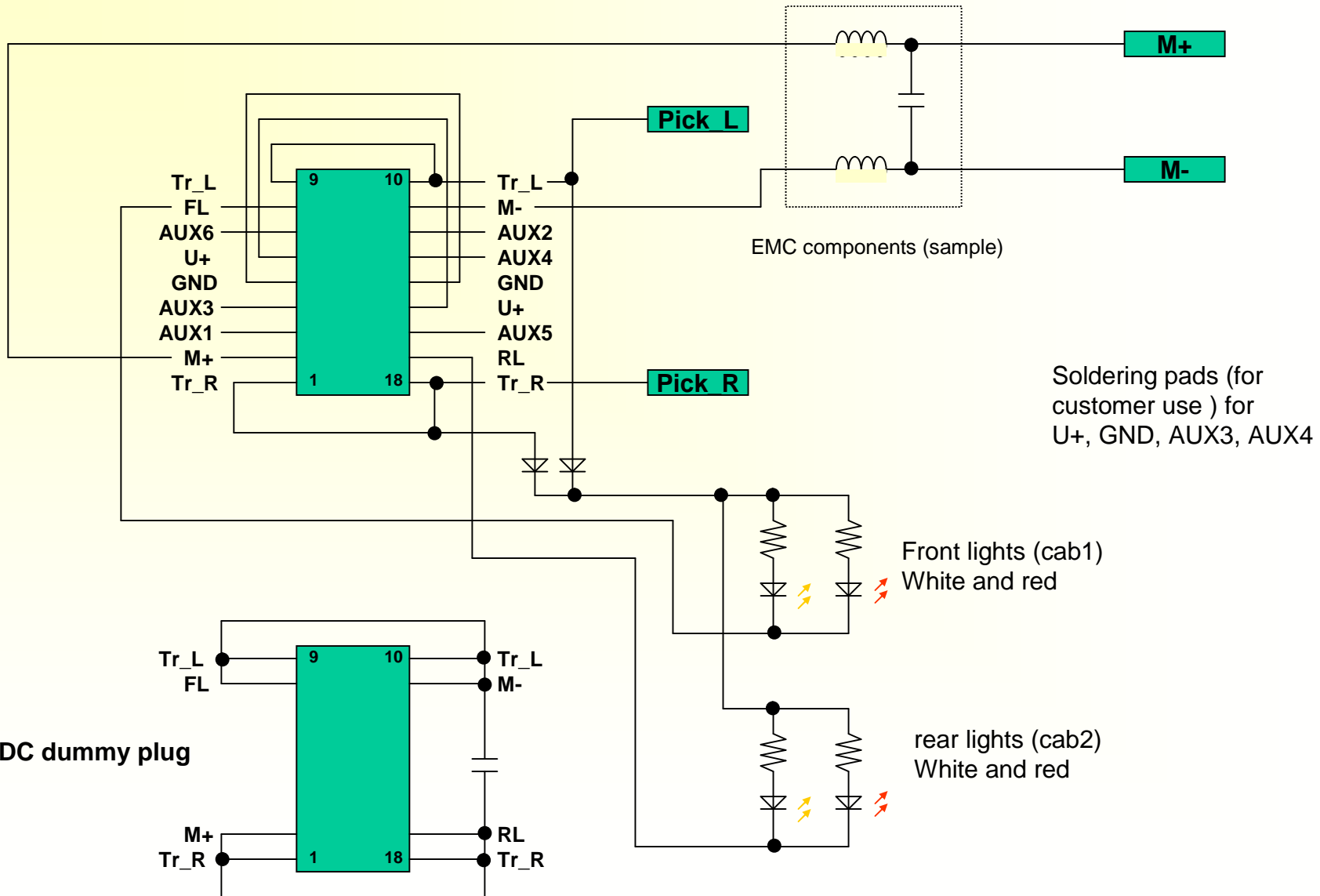
Automatic soldering

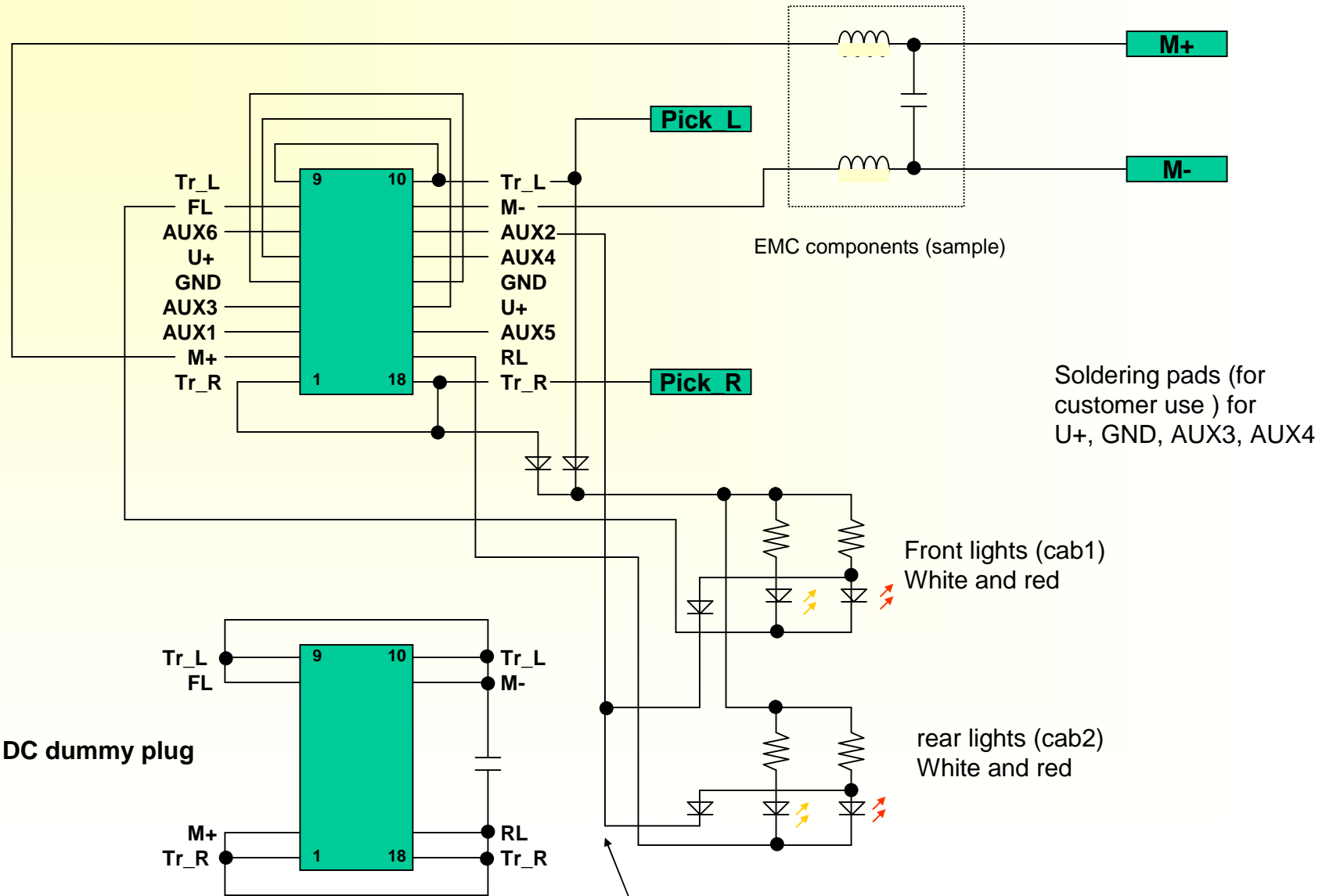


hand soldering



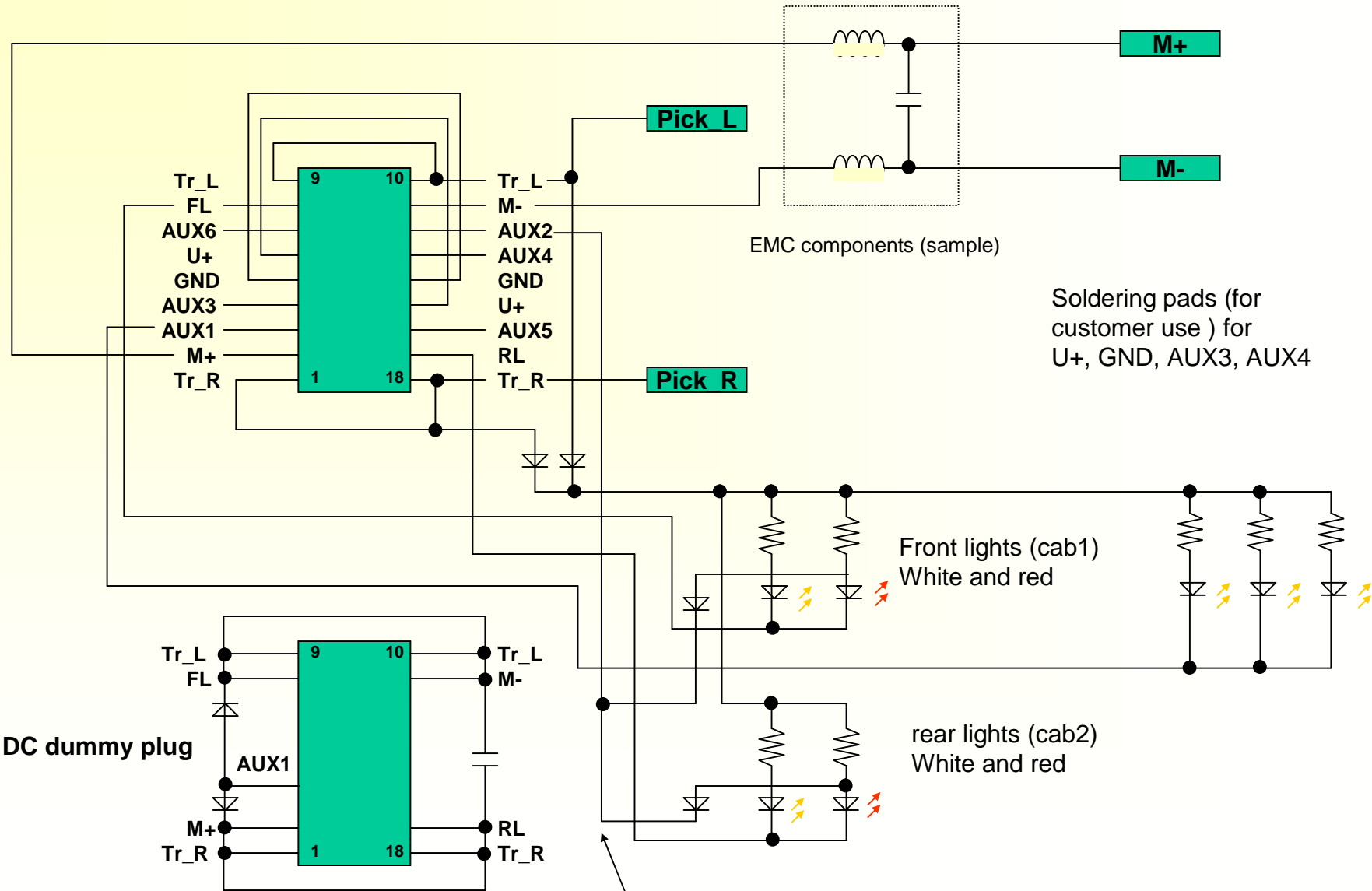
Red pads = collecting area
for tin-solder





Soldering pads (for customer use) for U+, GND, AUX3, AUX4

If AUX2=activ (low-level) the red lights are OFF. In analogue mode always ON



If AUX2=activ (low-level) the red lights are OFF. In analogue mode always ON