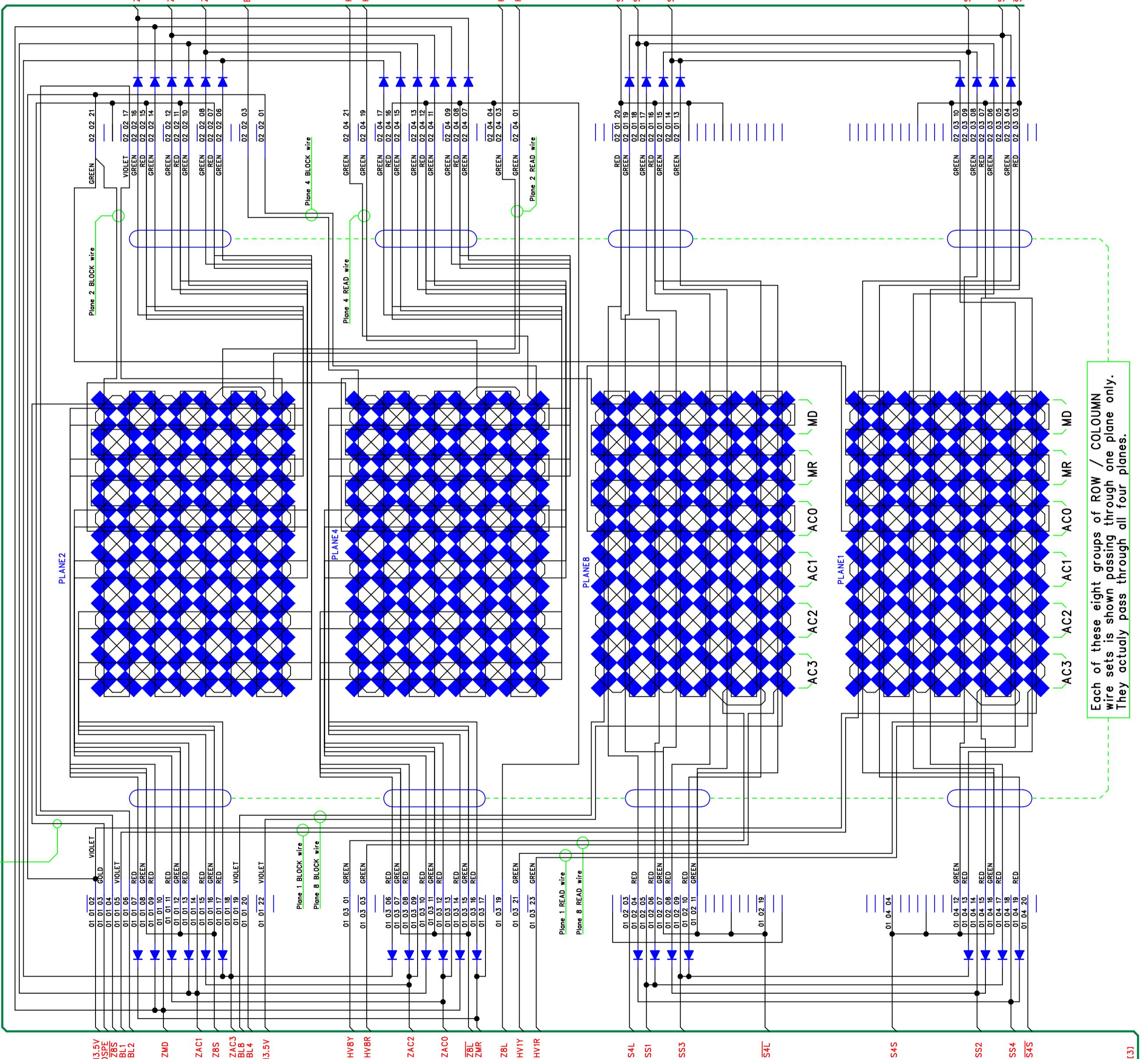


RevNo	Revision note	Date	By	Checked
—	—	—	—	—
8	9	10		

Lö SPE only clears the MD, MR and ACO register



BOARD-1 [3]

Each of these eight groups of ROW / COLUMN wire sets is shown passing through one plane only. They actually pass through all four planes.

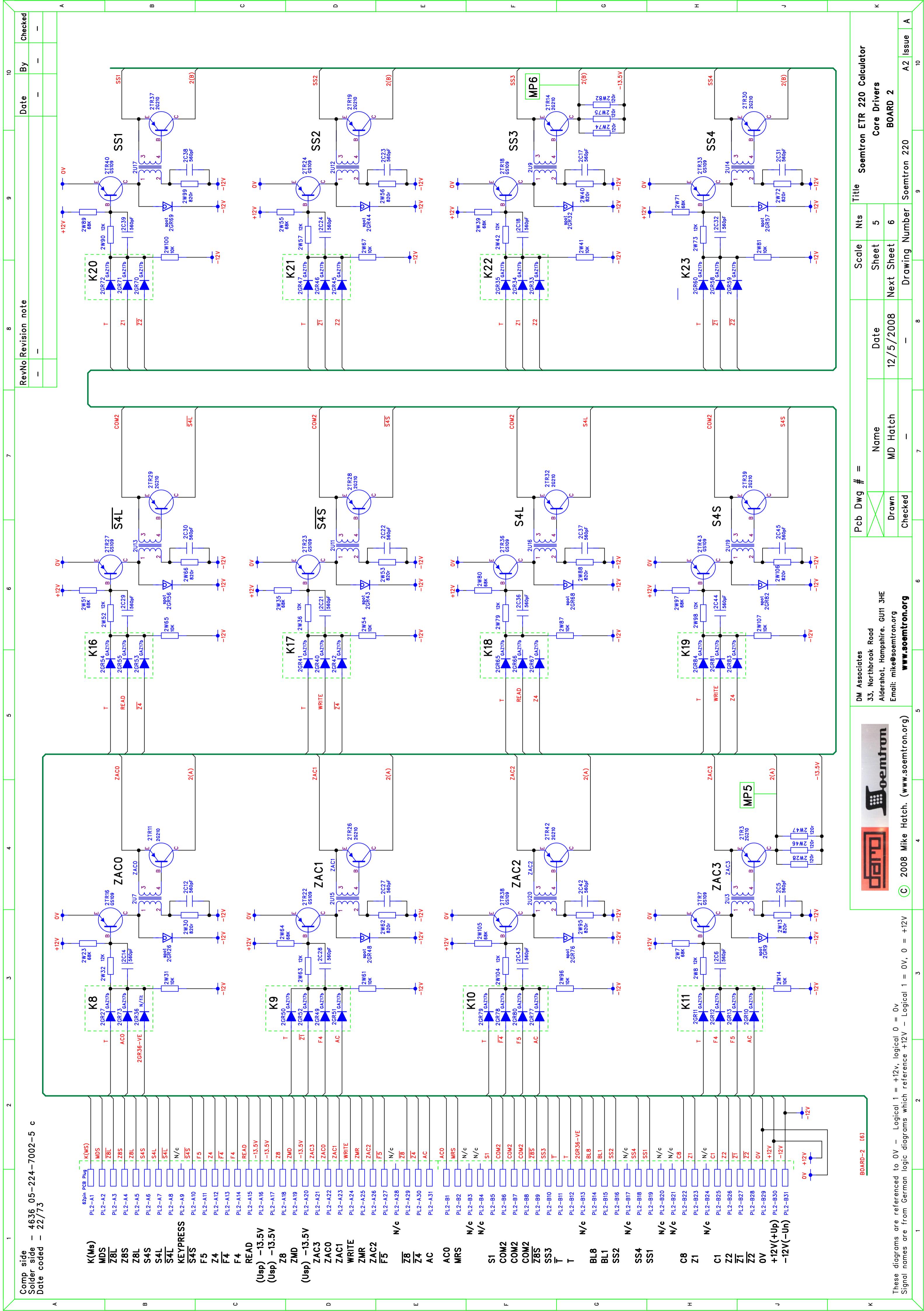
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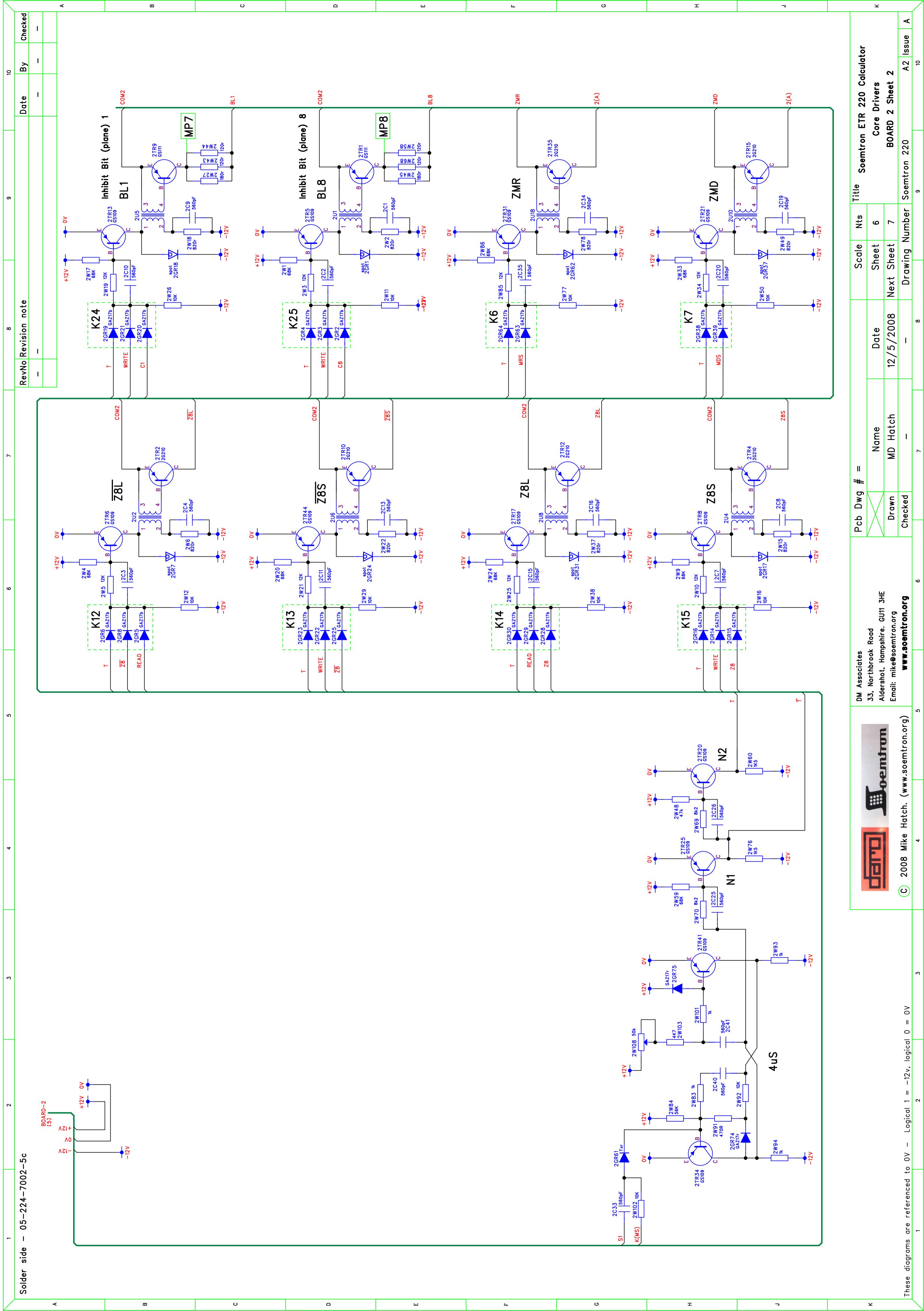
**M Associates**  
5, Northbrook Road  
Andershot, Hampshire. GU11 3HE  
Email: mike@soemtron.org

soemtron ETR 220 Calculations  
Core Store – Planes

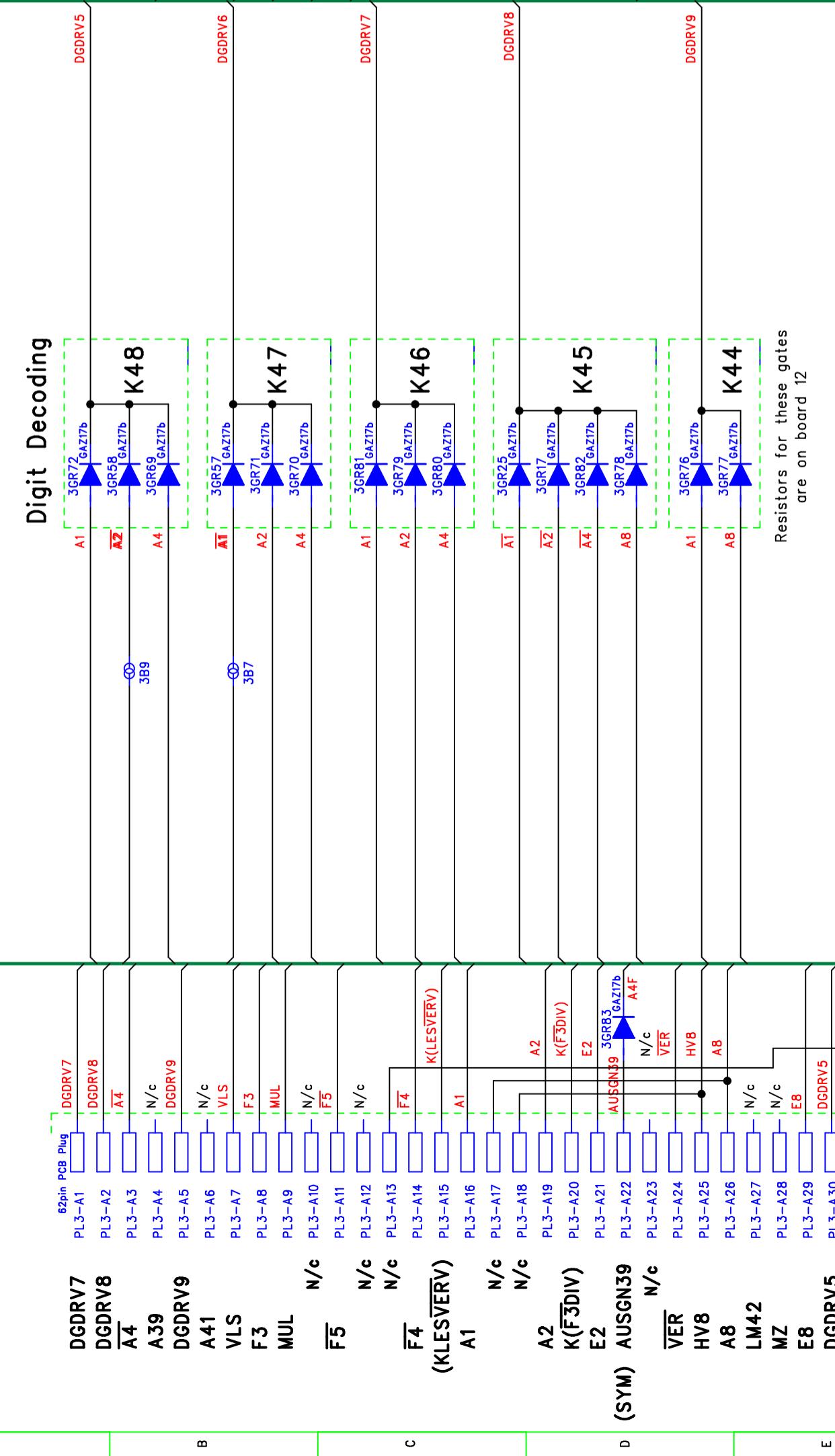
	Date	Scale	Nts	Title	Soemtron ETR 220 Calculator	
	25/11/2008	Sheet 4		Core Store - Planes	BOARD1 Sheet 2	
	Next Sheet	5				
	-	Drawing Number	Soemtron 220	A2	Issue	A

These diagrams are referenced to 0V – Logical 1 = -12V, logical 0 = 0V

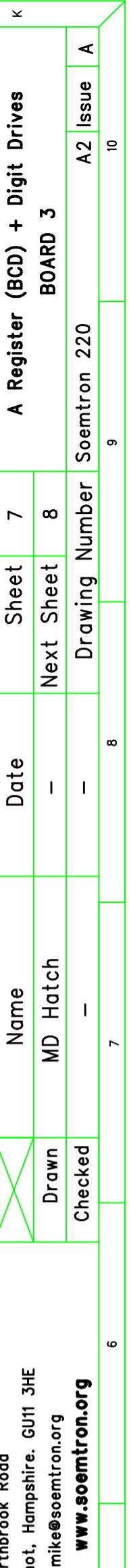
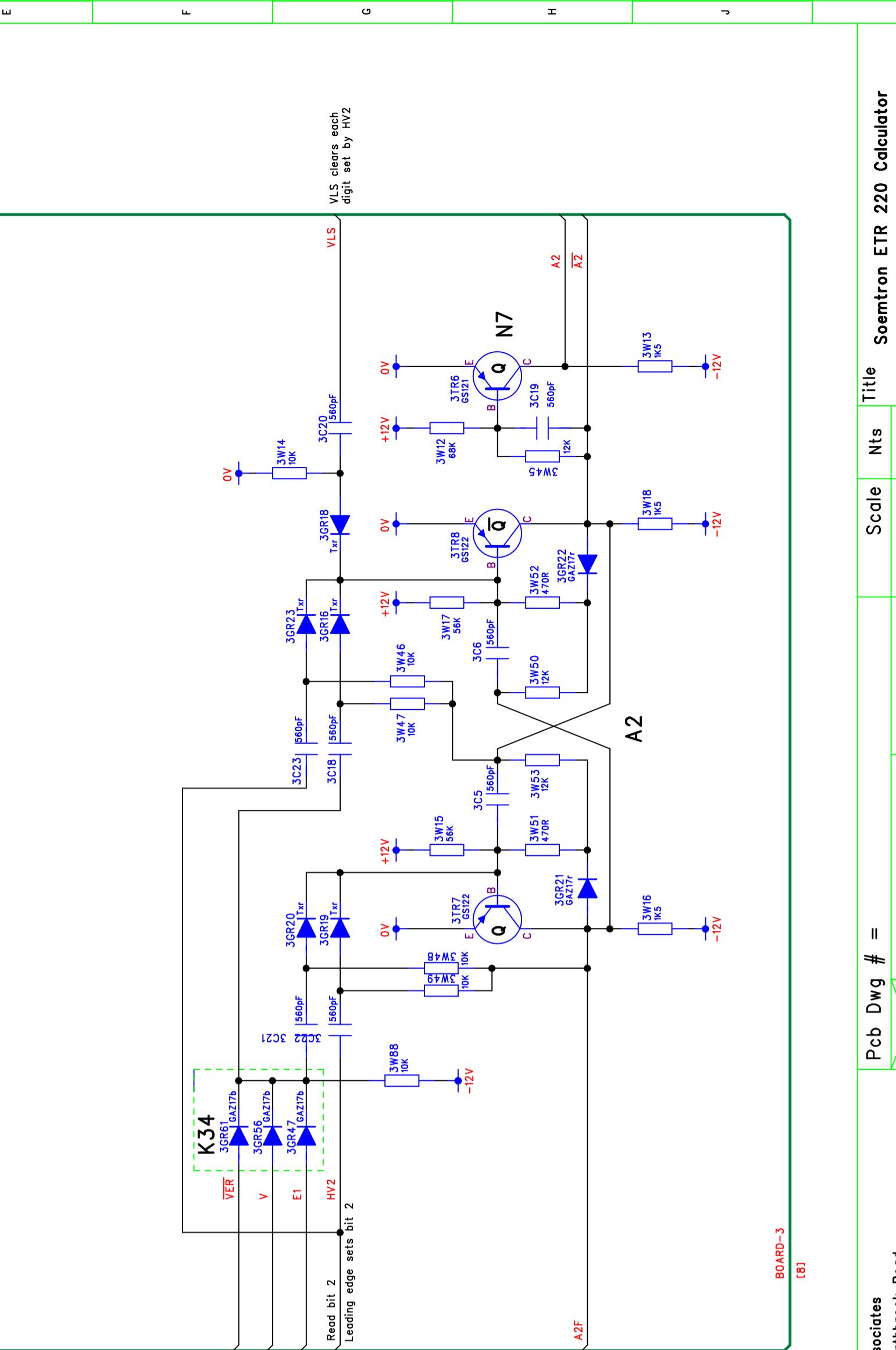
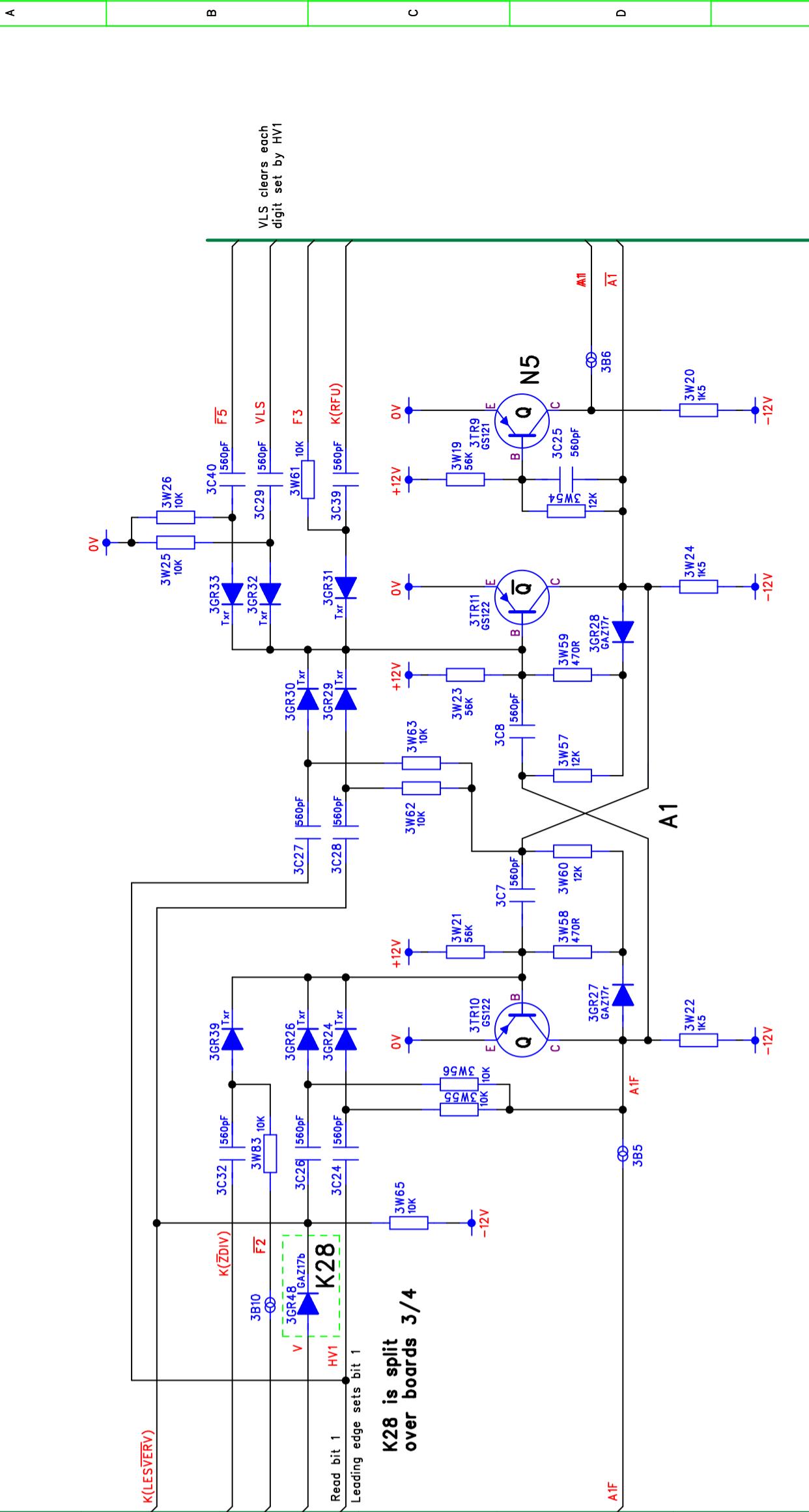
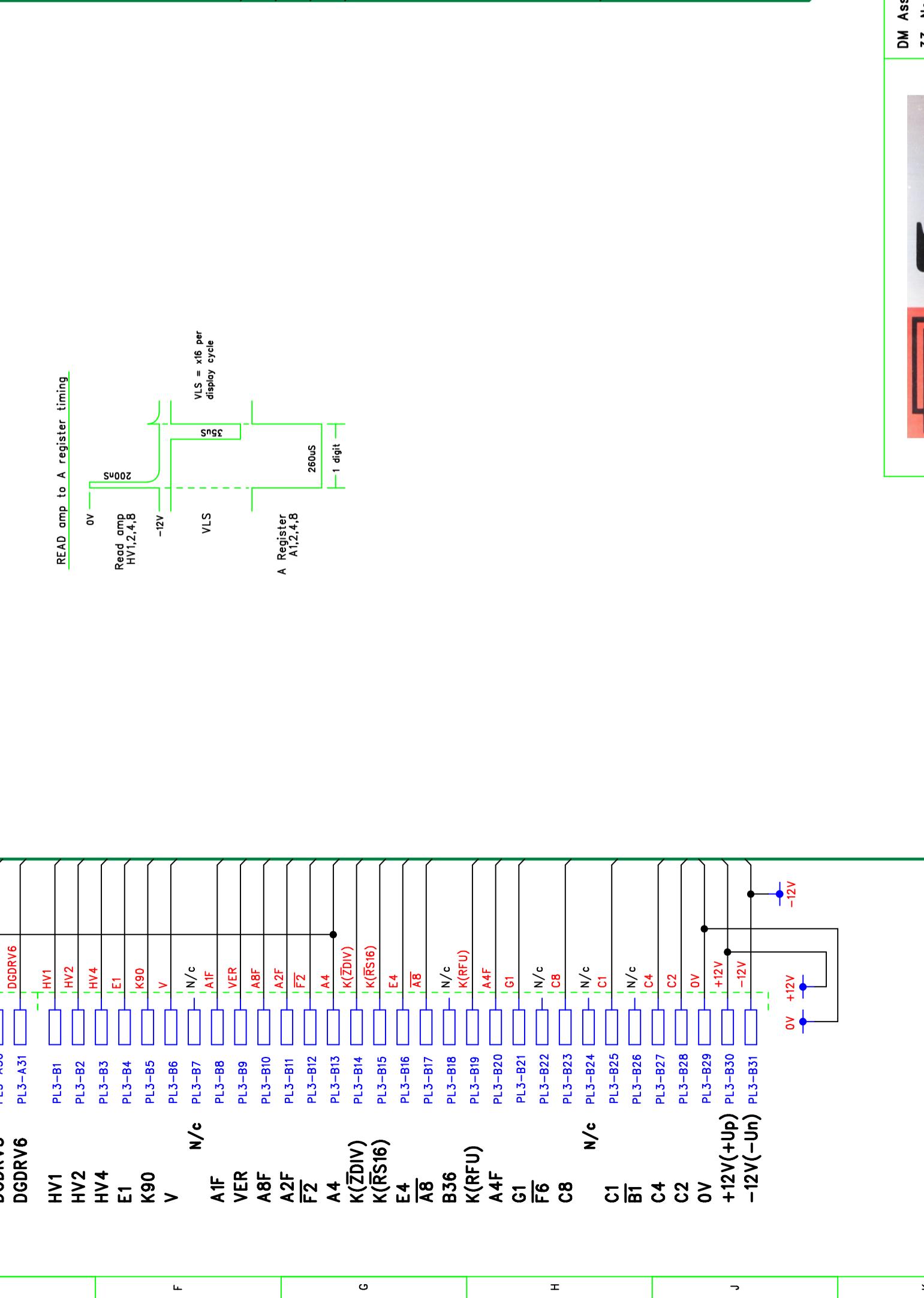
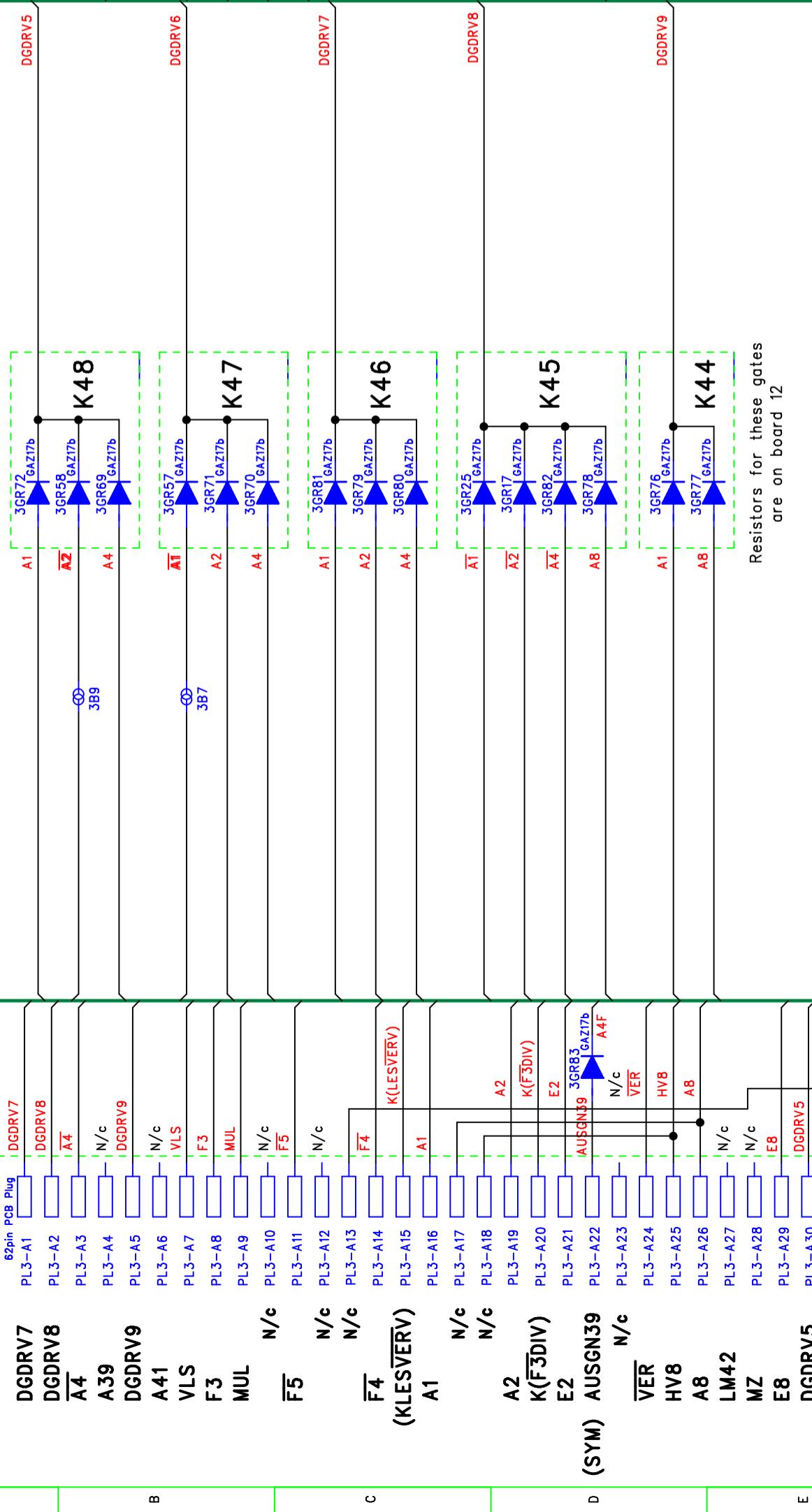




Comp side	Solder side	RevNo	Revision note	Date	By	Checked
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22/73	05-220-7003-5 e	9				
		10				

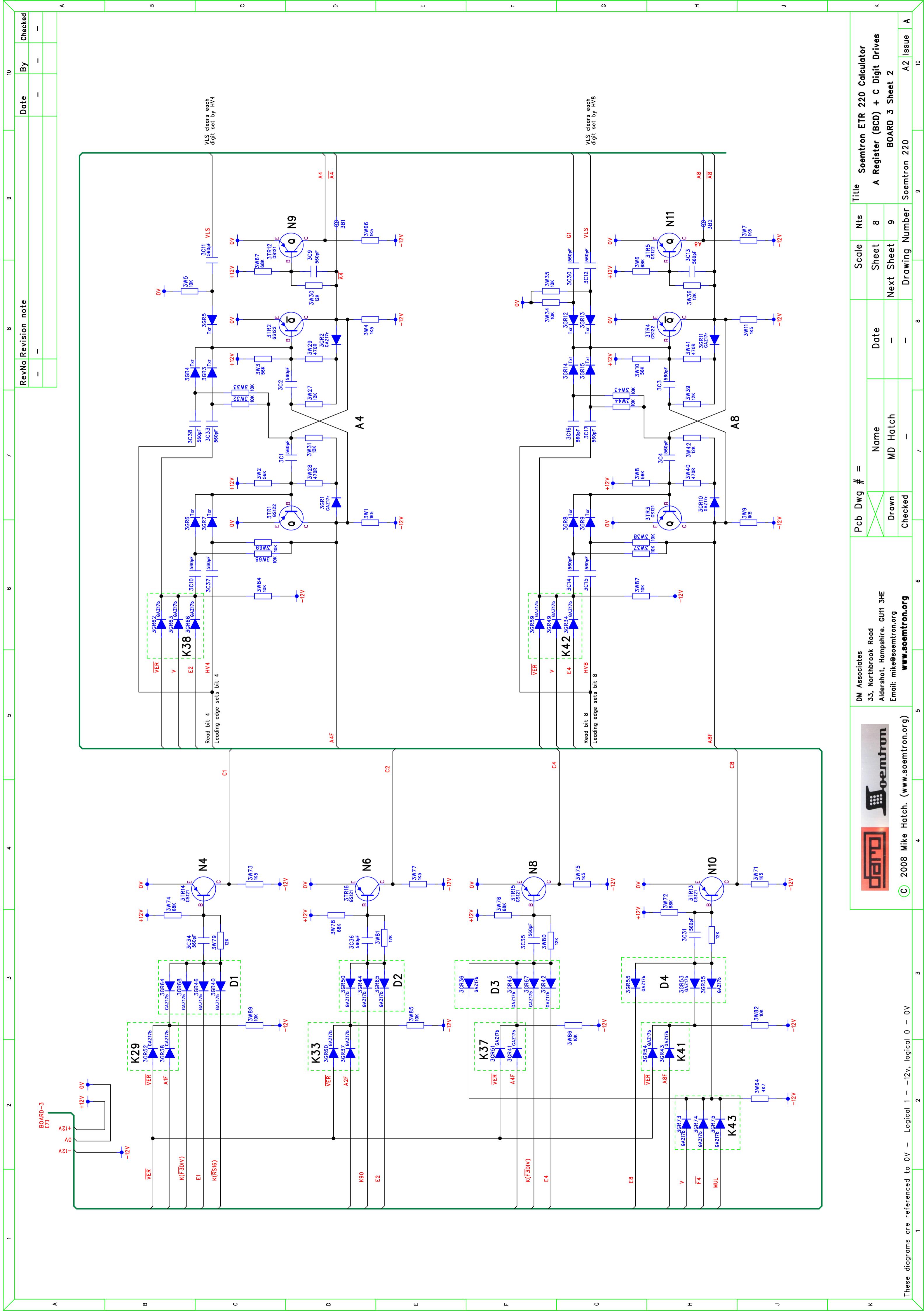


Digit Decoding

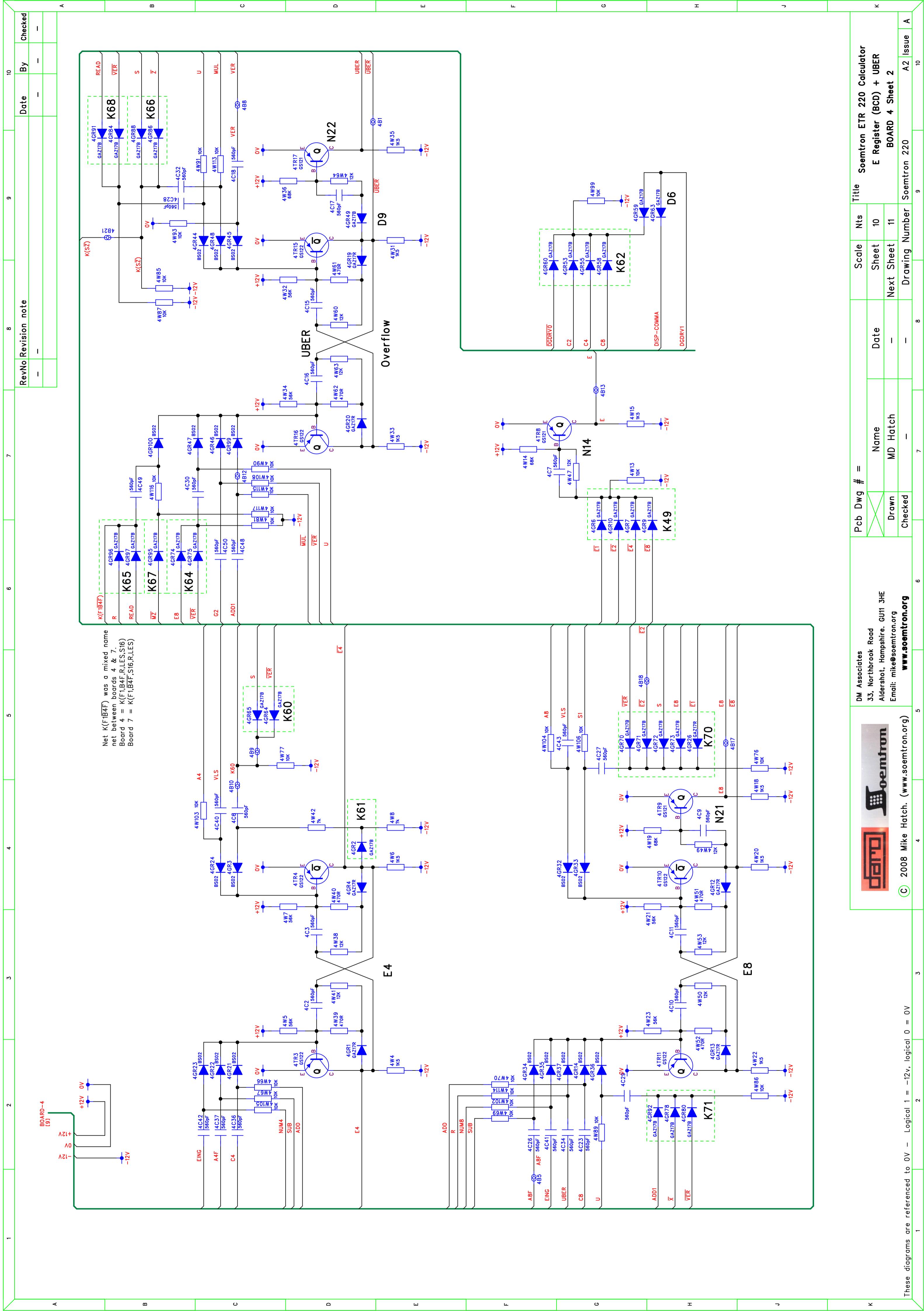


**BOARD-3 [8]**

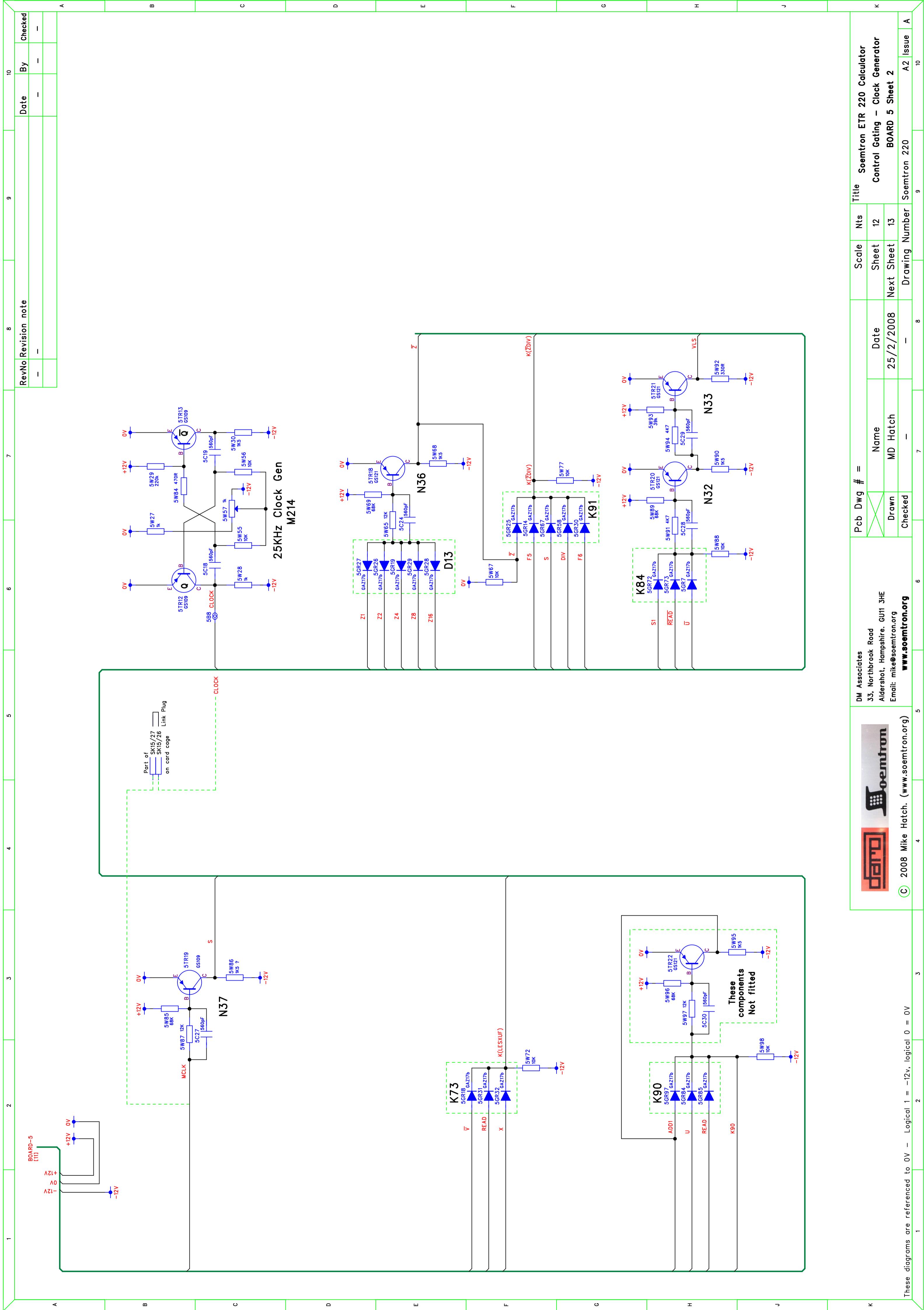
These diagrams are referenced to 0V – Logical 1 = -12V, logical 0 = 0V



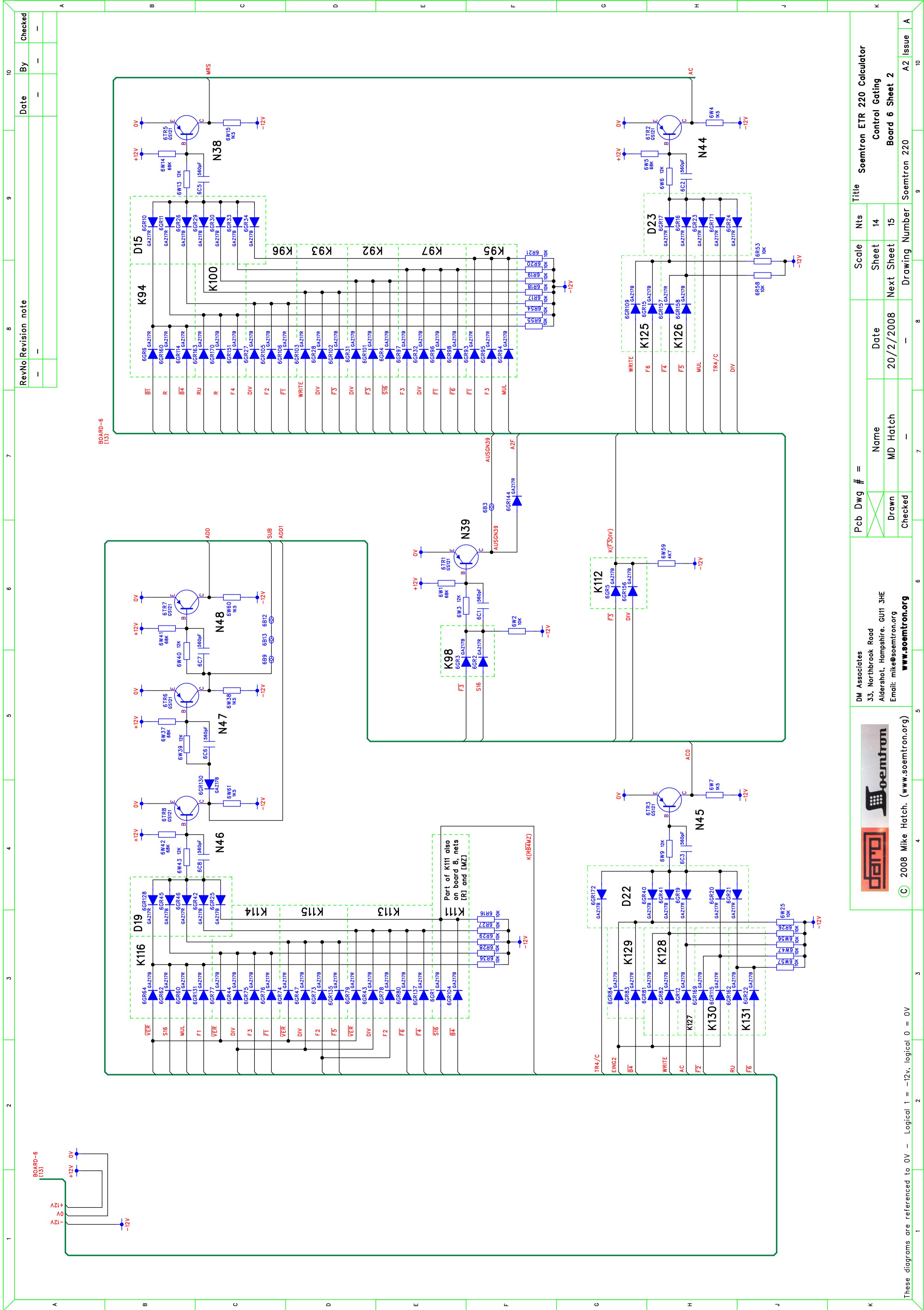


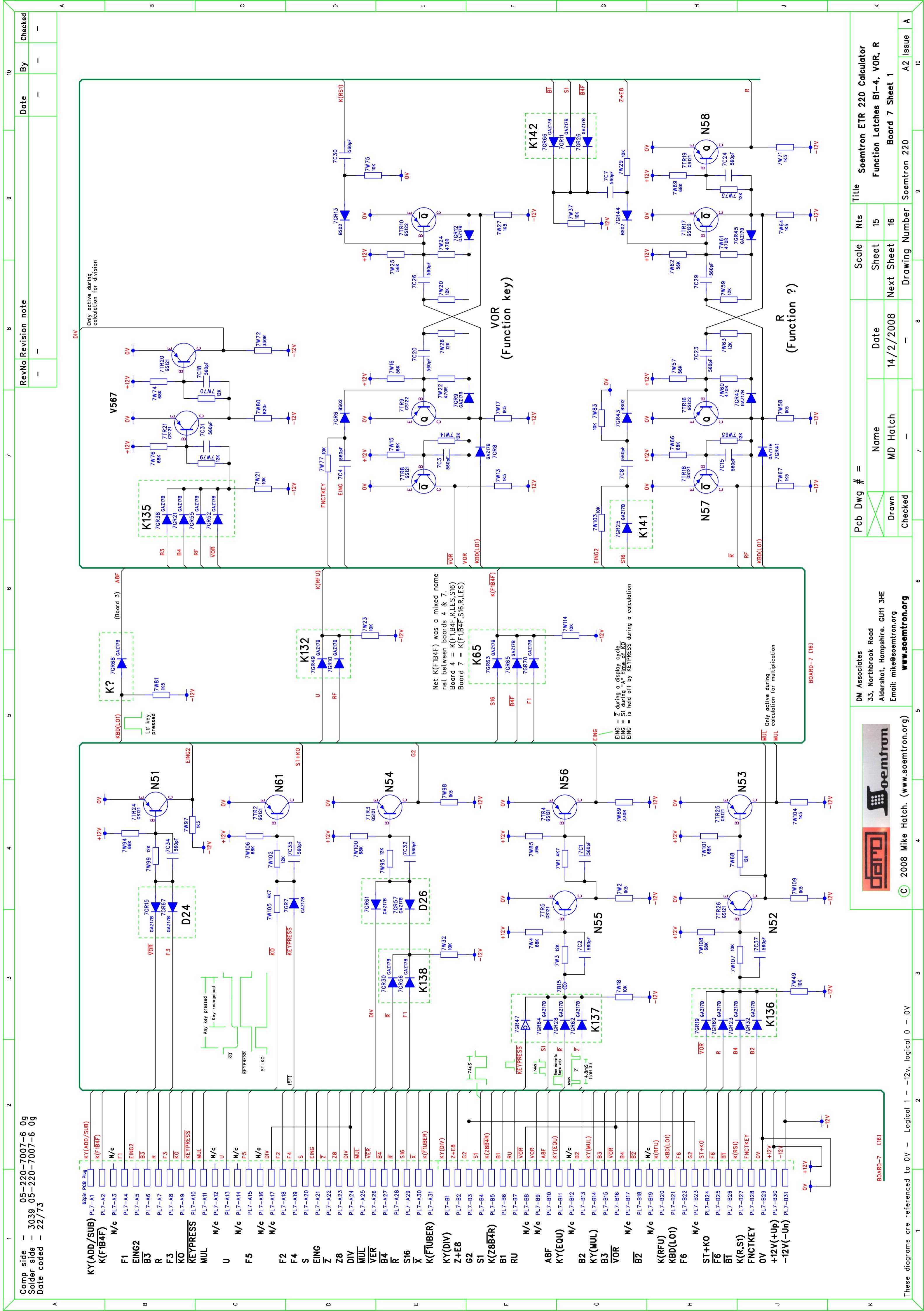


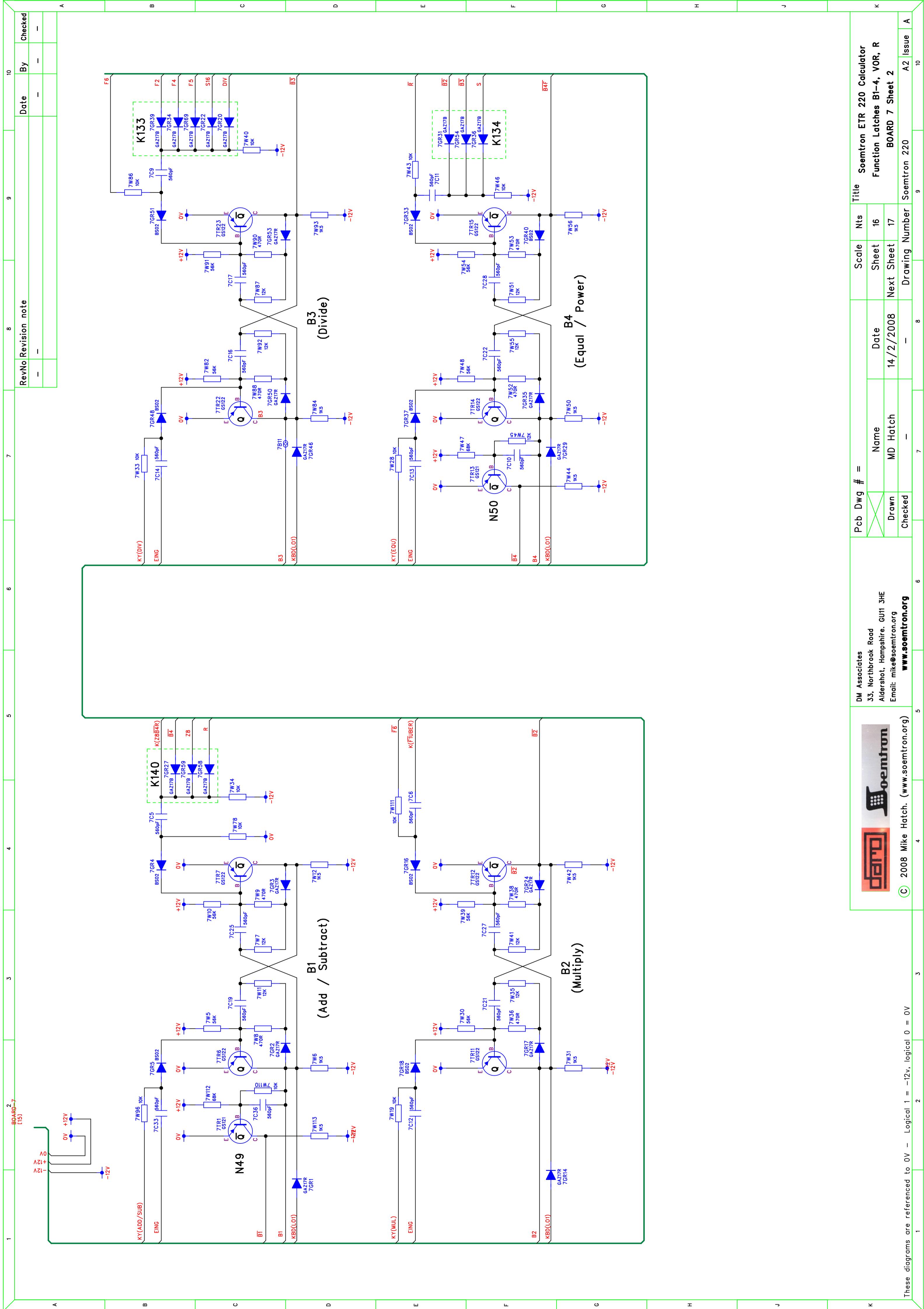
This figure contains two detailed circuit diagrams for a Soemtron ETR 220 calculator. The top diagram, labeled 'BOARD 5', shows the internal logic of the device, featuring various operational amplifiers (op-amps) and logic gates. Key components include N26, N25, K74, N28, N27, V, K81, K83, K82, K80, K86, K85, K87, K88, K89, K90, K91, K92, K93, K94, K95, K96, K97, K98, K99, K100, K101, K102, K103, K104, K105, K106, K107, K108, K109, K110, K111, K112, K113, K114, K115, K116, K117, K118, K119, K120, K121, K122, K123, K124, K125, K126, K127, K128, K129, K130, K131, K132, K133, K134, K135, K136, K137, K138, K139, K140, K141, K142, K143, K144, K145, K146, K147, K148, K149, K150, K151, K152, K153, K154, K155, K156, K157, K158, K159, K160, K161, K162, K163, K164, K165, K166, K167, K168, K169, K170, K171, K172, K173, K174, K175, K176, K177, K178, K179, K180, K181, K182, K183, K184, K185, K186, K187, K188, K189, K190, K191, K192, K193, K194, K195, K196, K197, K198, K199, K200, K201, K202, K203, K204, K205, K206, K207, K208, K209, K210, K211, K212, K213, K214, K215, K216, K217, K218, K219, K220, K221, K222, K223, K224, K225, K226, K227, K228, K229, K229, K230, K231, K232, K233, K234, K235, K236, K237, K238, K239, K240, 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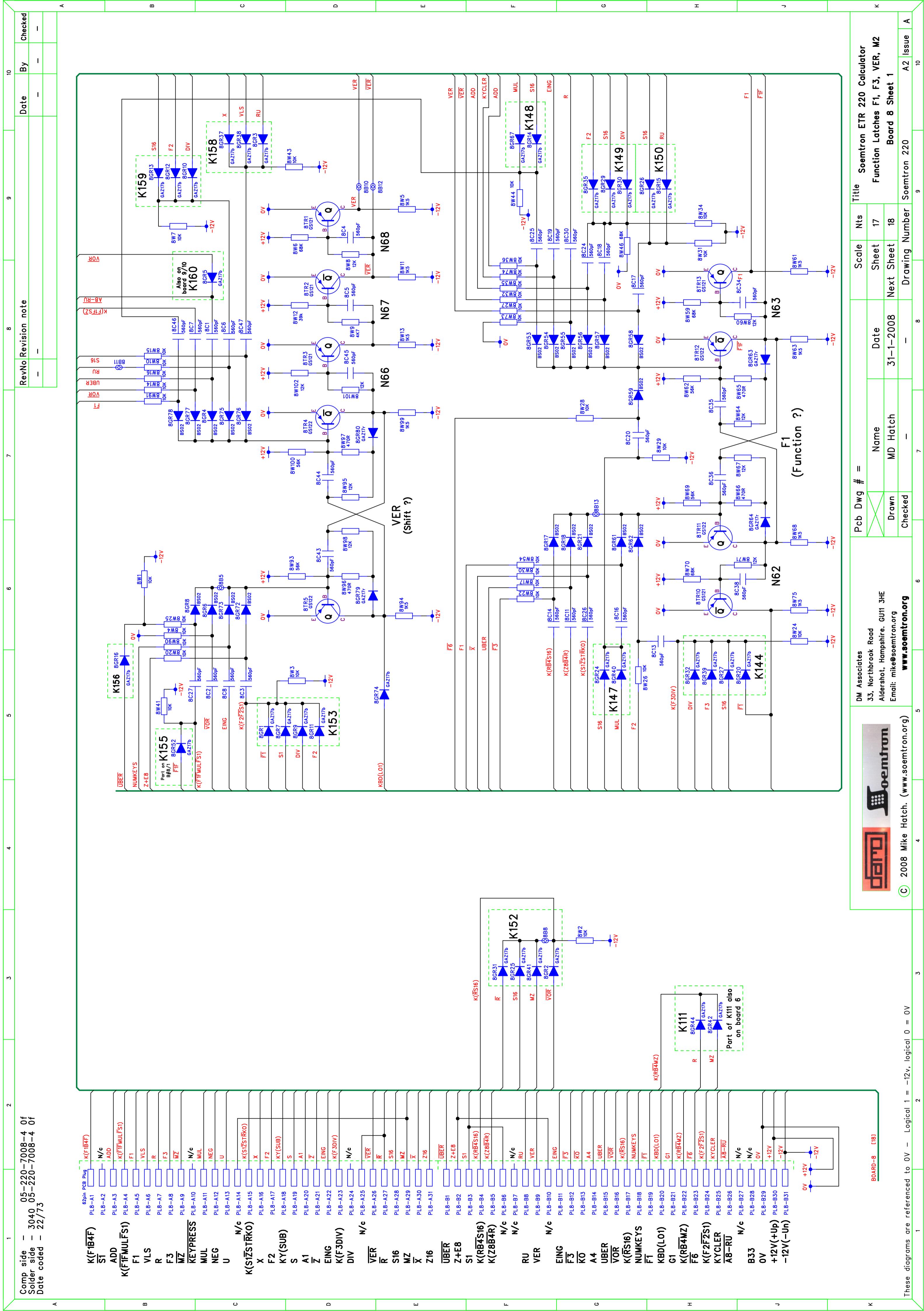


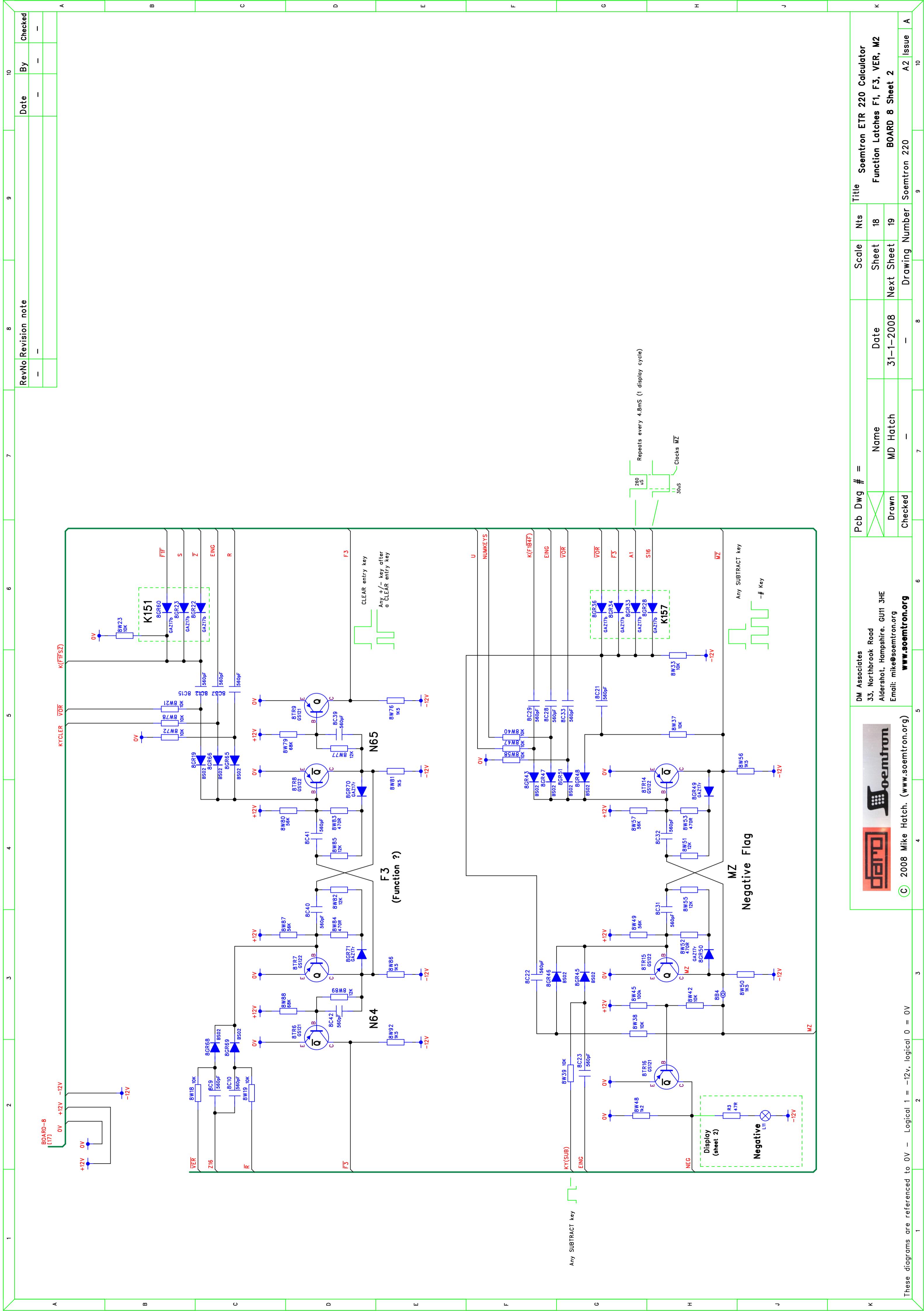
This figure contains two detailed circuit diagrams of the Soemtron ETR 220 calculator. The top diagram, labeled 'BOARD 6 Sheet 1', shows the internal logic and memory organization. It includes sections for MDS, ADD, EING2, KEYPRESS, MUL, READ, F2, F4, S, K(F3DV), AUSGN39, D, E, F, G, H, I, J, and K. Key components include integrated circuits N43, N42, and N40, along with various resistors, capacitors, and diodes. The bottom diagram, labeled 'BOARD 6 Sheet 2', provides a detailed view of the memory array, showing rows K101 through K118 and columns P1.6-A1 through P1.6-B27. It illustrates the memory architecture with multiple RAM chips and their connections to the address and data buses. Both diagrams are annotated with component labels, pin numbers, and voltage levels (+12V, -12V, 0V).

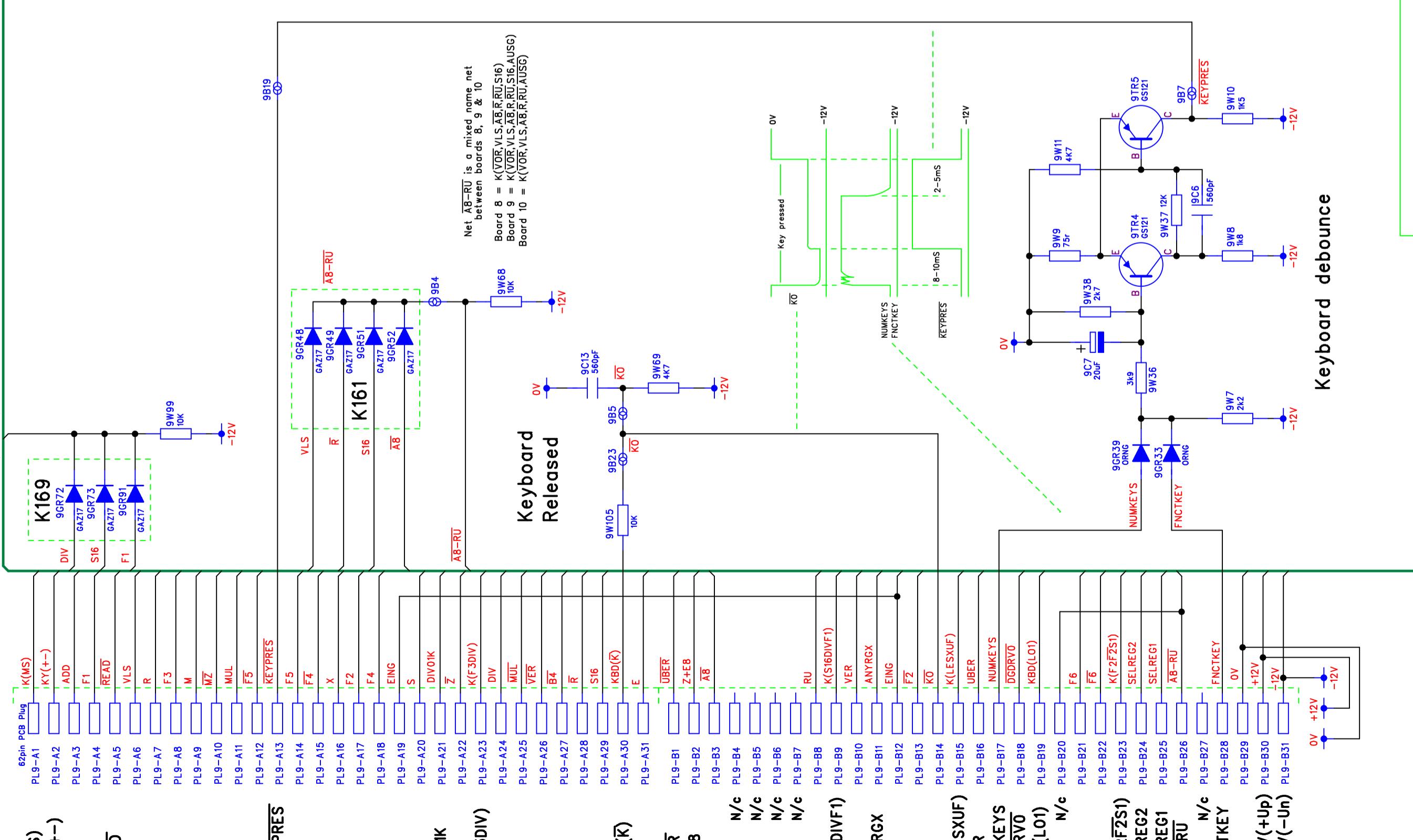




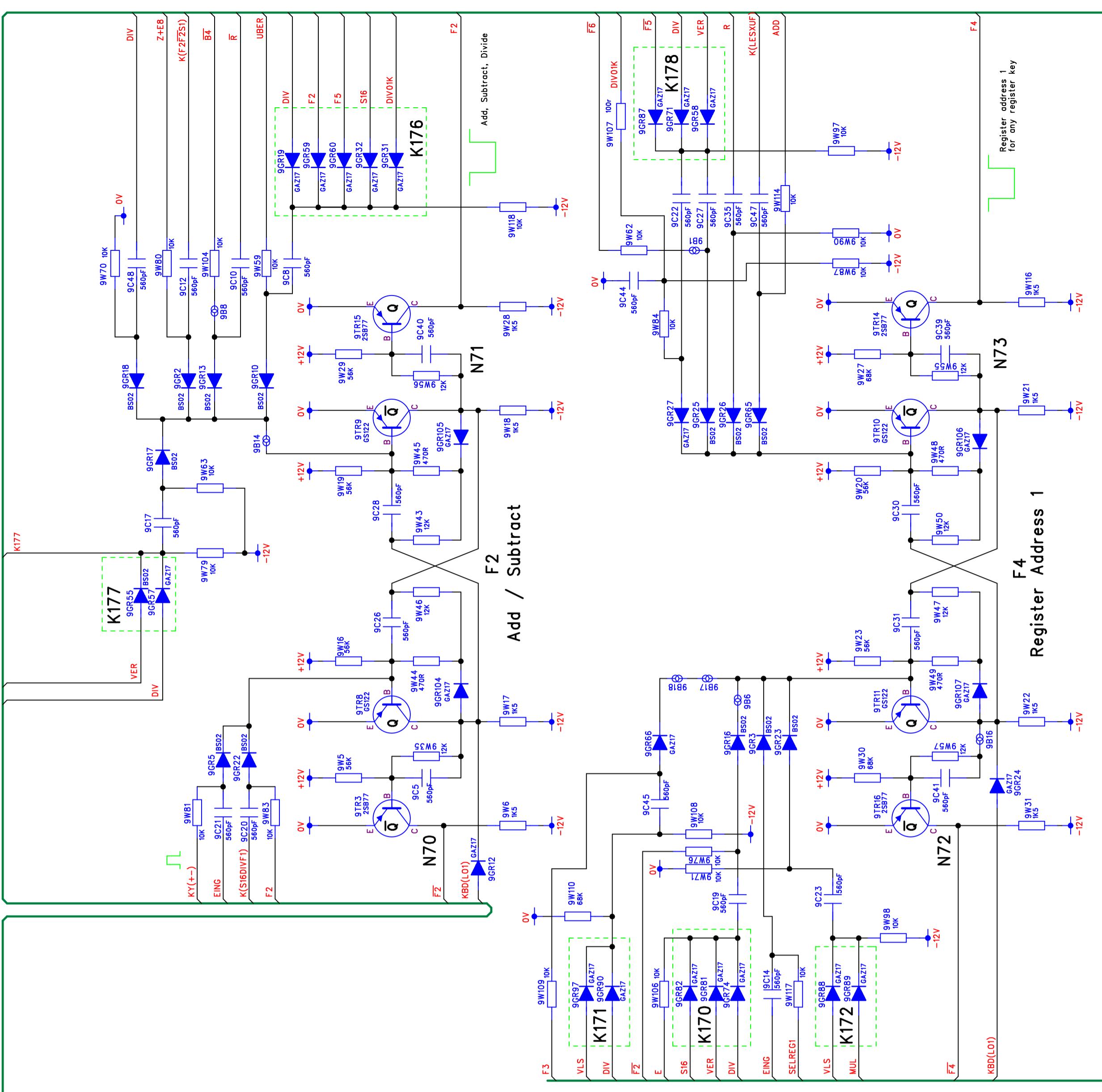






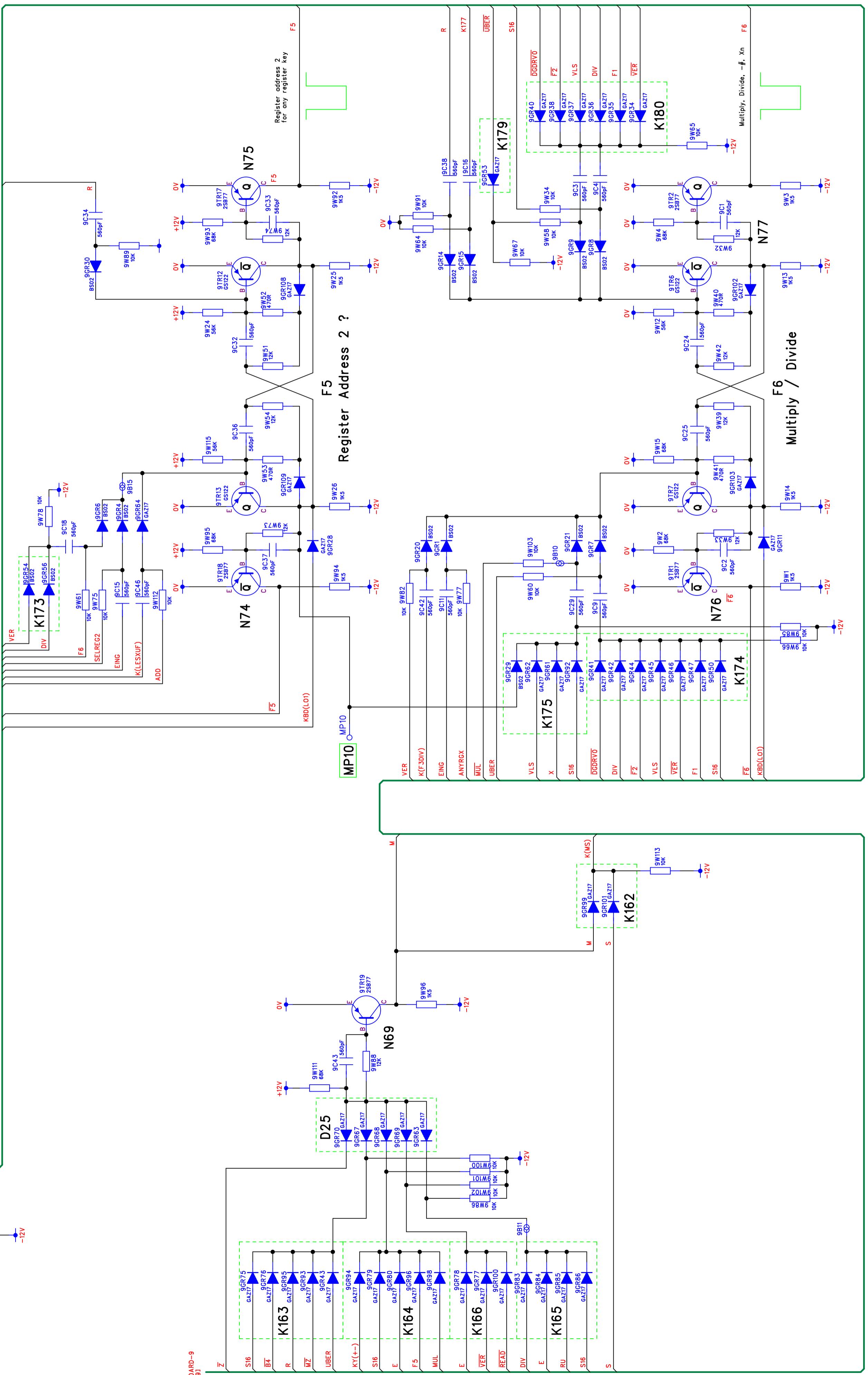



Keyboard debounce



These diagram

Pcb	Dwg #	=	Name	Date	Scale	Nts	Title	Soemtron ETR 220 Calculator
Drawn	MD Hatch		2/1/2008	Next Sheet	19		Function Latches	F2, F4, F5, F6
Checked	-	-	-	Drawing Number	20		BOARD 9	Sheet 1
				Soemtron 220		A2	Issue	A
					9		10	
					8			
					7			

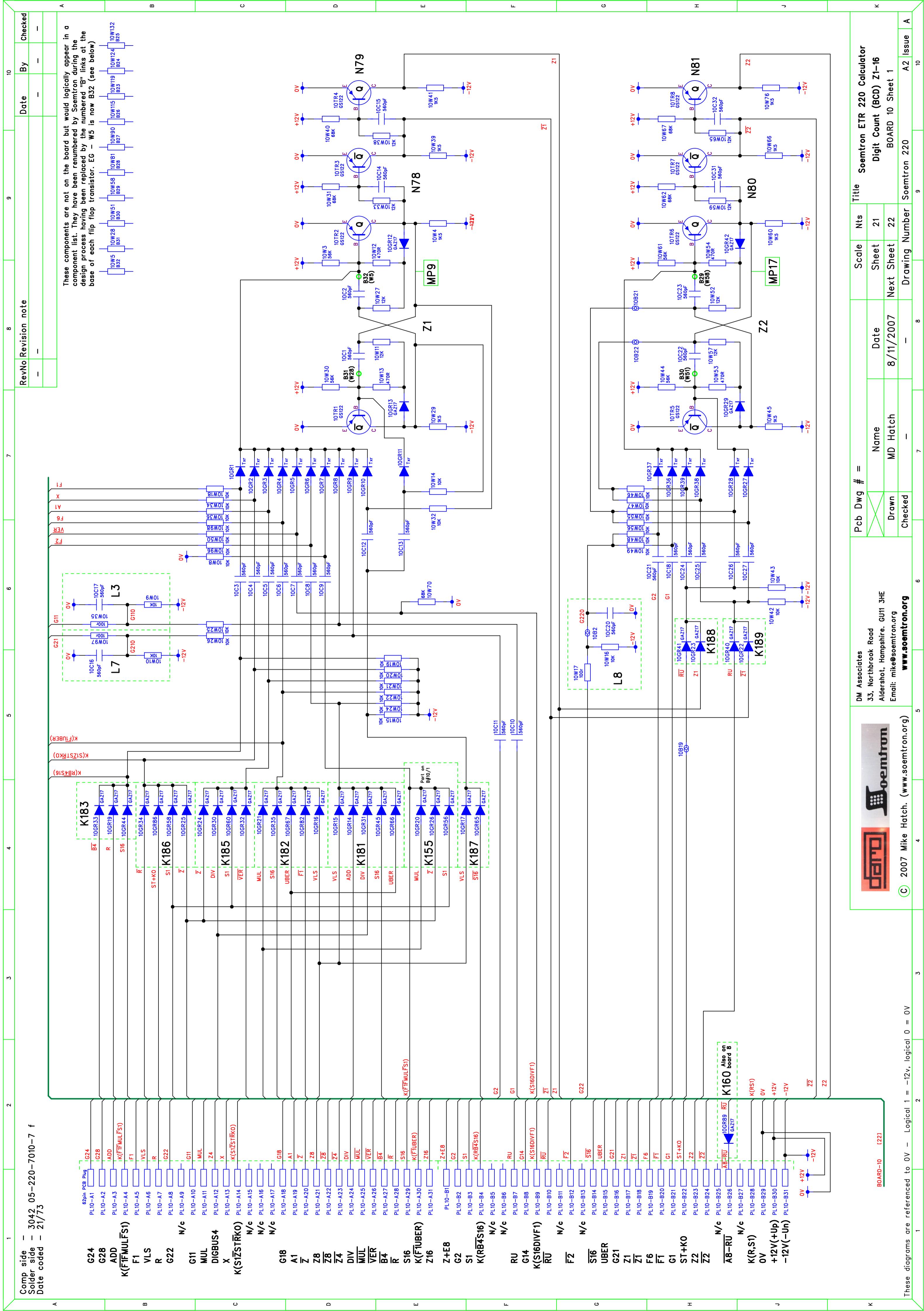



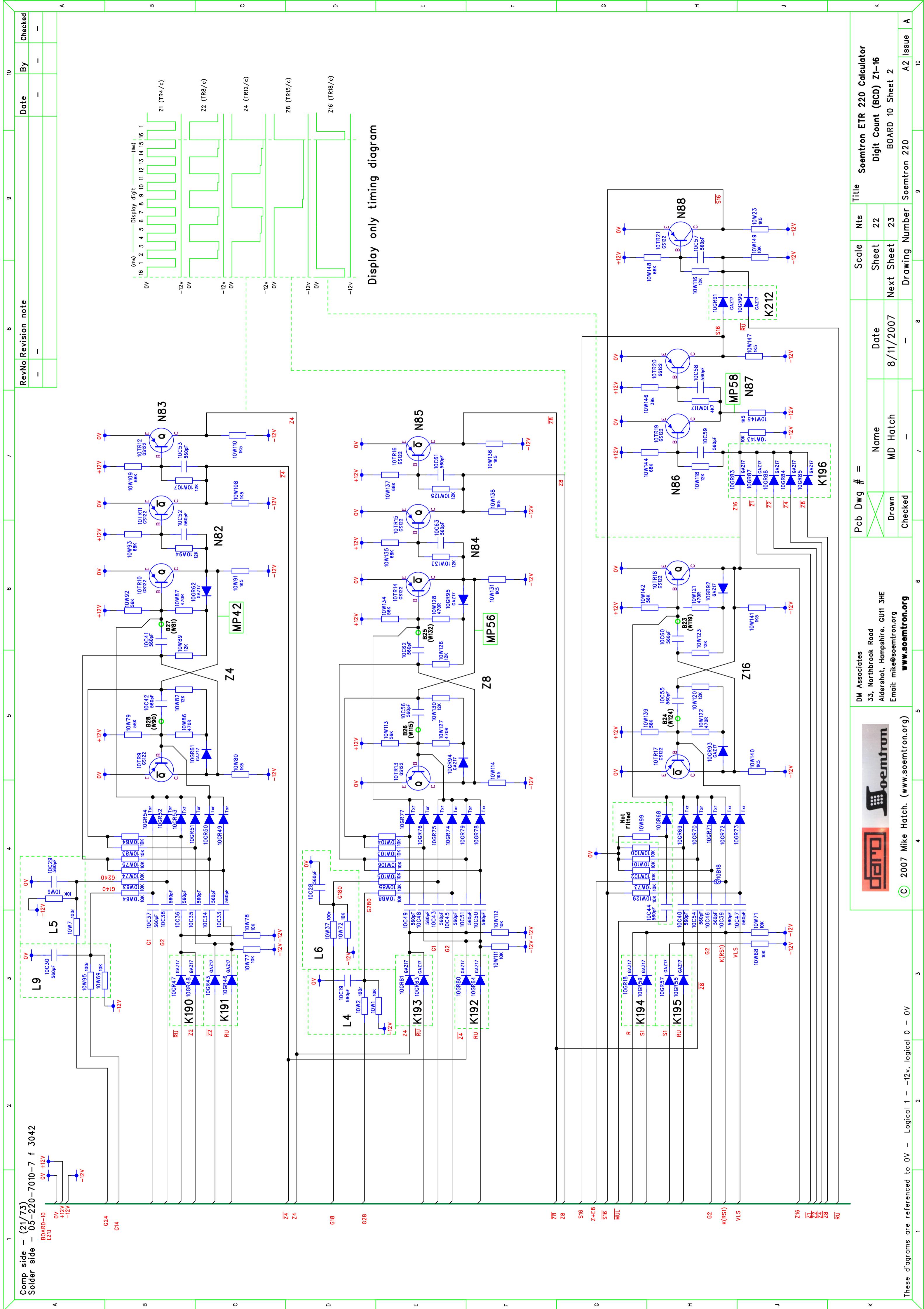
These diagrams are referenced to 0V - Logical 1 = -12v, logical 0 = 0V

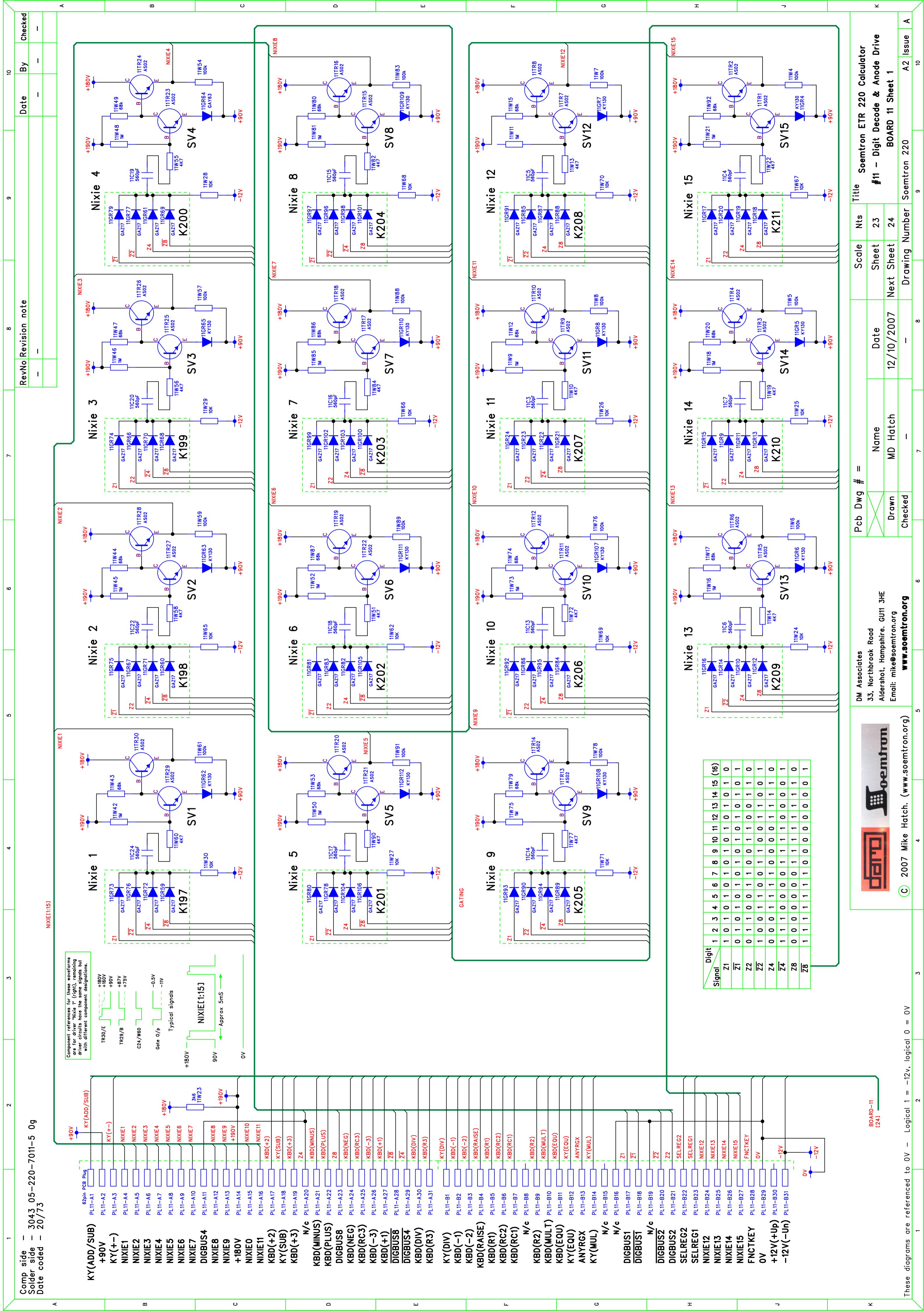
M Associates  
3, Northbrook Road  
Andershot, Hampshire. GU11  
Email: mike@soemtron.org  
[www.soemtron.org](http://www.soemtron.org)

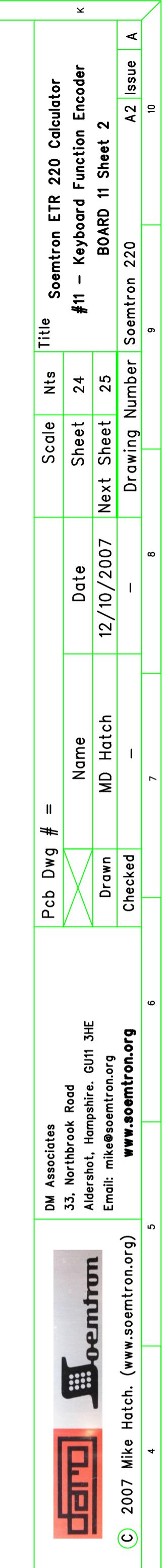
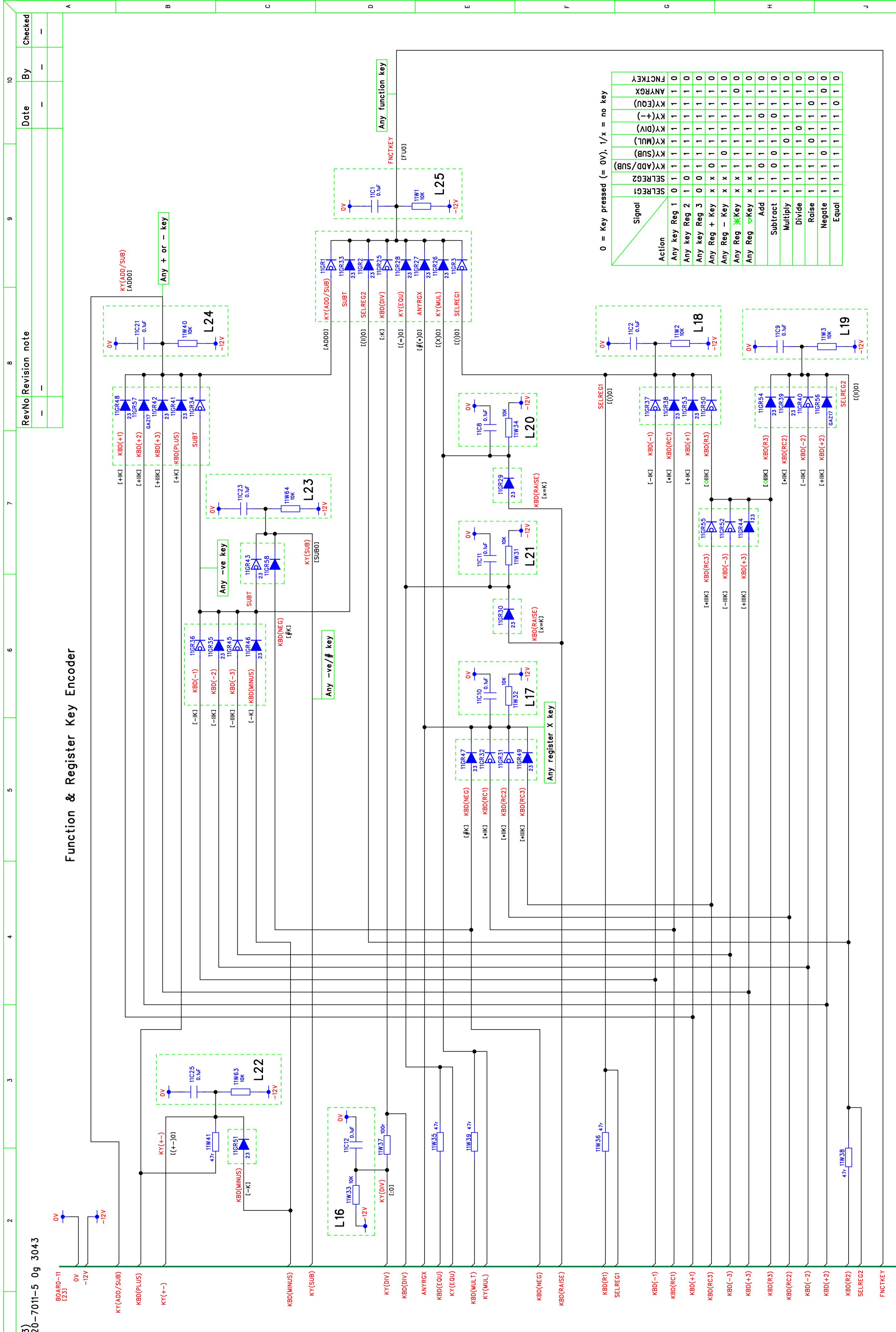
The logo for Soemtron consists of a white rectangular box at the top containing a black stylized 'S' and 'T' icon followed by the word "soemtron". Below this is a red horizontal bar containing a black square frame with a smaller square inside, resembling a stylized 'M' or a digital display.

4





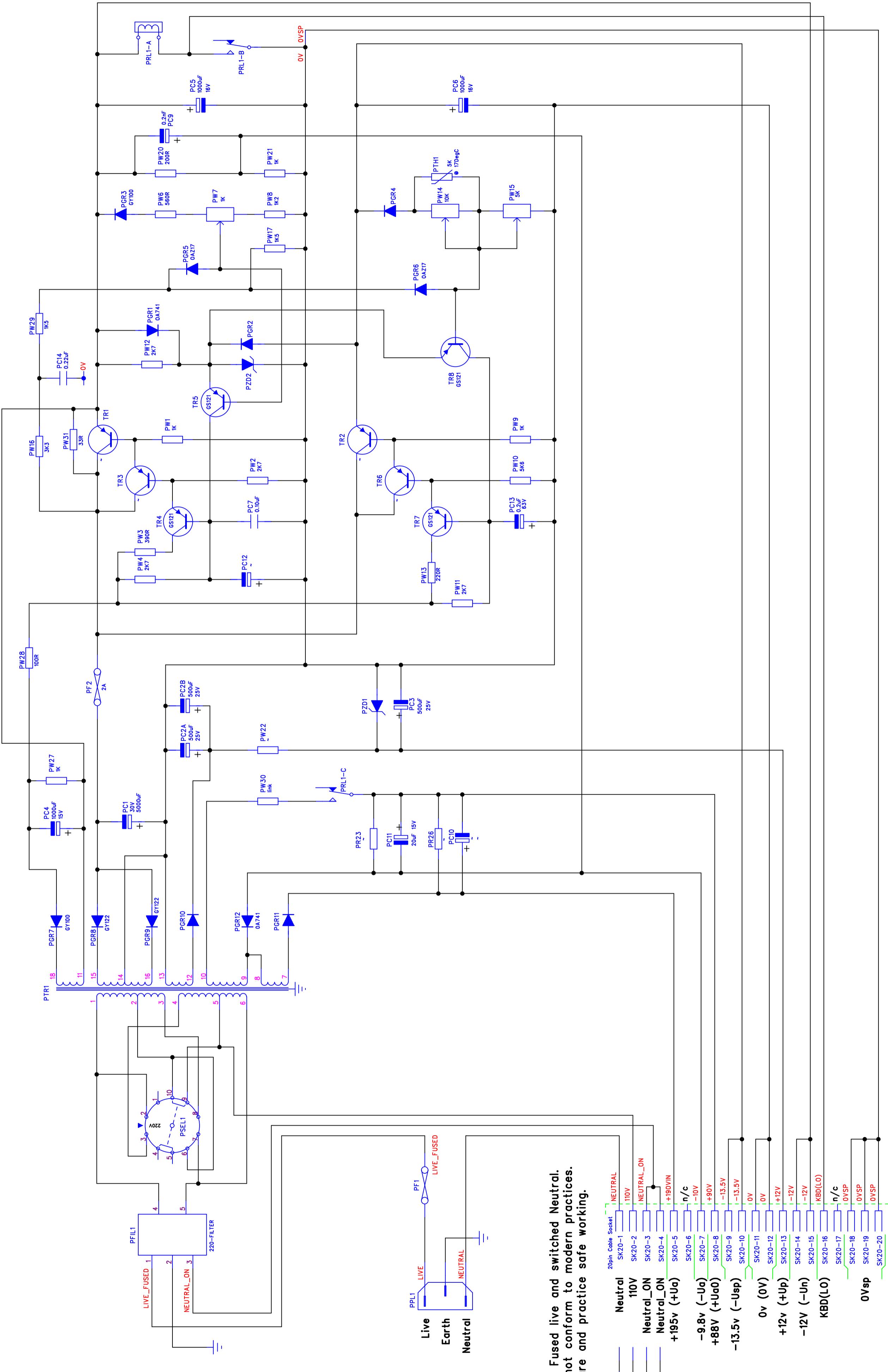




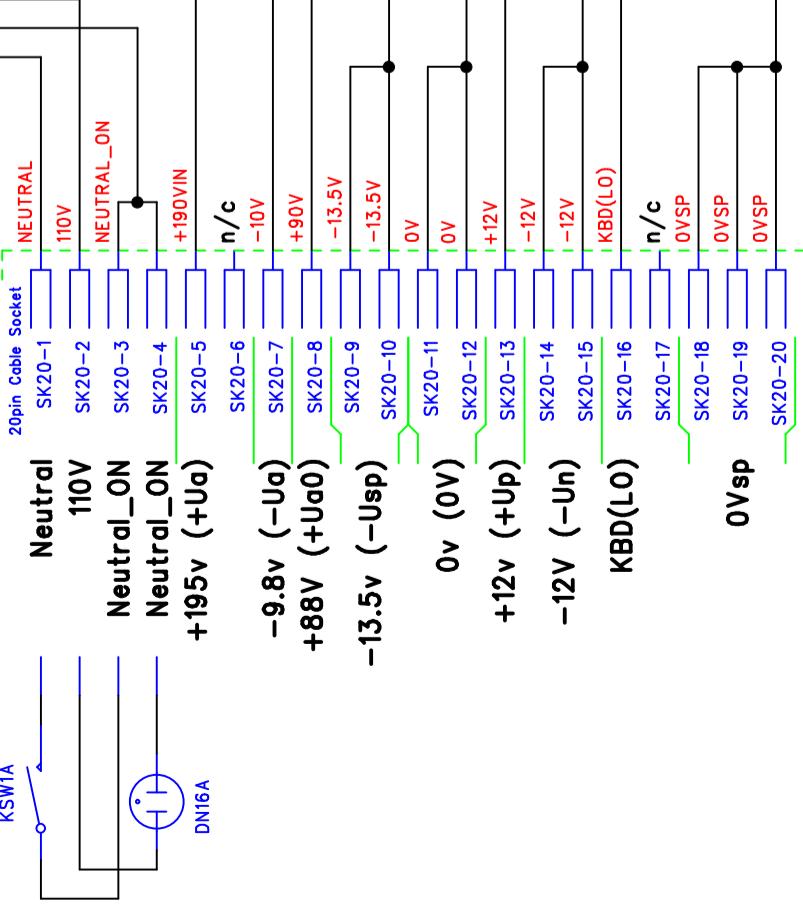
These diagrams are referenced to 0V – Logical 1 = -12V, logical 0 = 0V



A	B	C	D	E	F	G	H	J	K
10	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-
8	RevNo	Revision note	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-



The ZZZ is fused live and switched Neutral  
This does not conform to modern practices  
Exercise care and practice safe working.



 <b>Soemtron</b>		DM Associates 33, Northbrook Road Aldershot, Hampshire. GU11 3HE Email: mike@soemtron.org		Pcb Dwg # =  <del>Name</del> Drawn MD Hatch		Scale Name Date Sheet		Title Power Supply	
<b>(C) 2007 Mike Hatch. (<a href="http://www.soemtron.org">www.soemtron.org</a>)</b>						26		27	
						30/1/2024			
						Next Sheet			
						-			
						-			
						Drawing Number		Soemtron 220	
						8		9	
						7		10	
						6		5	
						4		3	

These diagrams are referenced to 0V – Logical 1 = -12V, logical 0 = 0V

