

Heathkit AJ-1510A
Digital FM Stereo Tuner
Schematic

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Board List

Label / Function	Component Key	This Schematic	Earlier Version	Change
POWER	1	85-1643	85-585	- 1643 added C114.
PROGRAMMER	2	85-586		
PRE-LOAD DECODER	3	85-587		
GEN.-OSC.-DIVIDER	4	85-588		
TUNER-PLL	5	85-589		
IF-DEMODULATOR	6	85-1487	85-590	- 1407 replaces U606 with discretes.
MULTIPLEX-AUDIO-SQUELCH	7	85-1204	85-591	- ? presumed.
MASTER	0	85-592		
KEYBOARD	8	85-593		
READOUT	9	85-594		

IC Types & Power Connections

ID	TYPE	V+5	GND	ID	TYPE	V+5	GND
U001	7410	14	7	U401	7400	*	*
U002	7400	14	7	U402	7476	*	*
U003	7410	14	7	U403	74192	*	*
U004	7410	14	7	U404	74192	*	*
U005	MC3006	14	7	U405	74192	*	*
U006	MC3006	14	7	U406	7427	*	*
U007	MC3006	14	7	U407	74H10	*	*
U008	MC3006	14	7	U408	7400	*	*
U009	MC3003	14	7				
				U501	MC1023	14	7
U201	MC4012	14	7	U502	MC1034	14	7
U202	MC4016	16	8	U503	MC1032	16	8
U203	MC4016	16	8	U504	7400	14	7
U204	MC4016	16	8	U505	MC4044	14	7
U205	MC4016	16	8				
U206	7402	14	7	U601	uA703	*	*
U207	MC3003	14	7	U602	MC1357	*	*
U208	7408	14	7	U603	MC1357	*	*
U209	7402	14	7	U604	MC8601	*	*
U210	7400	14	7	U605	SN72709	*	*
				U606	MC1335	*	*
U301	7486	14	7	U607	MC1350	*	*
U302	7400	14	7	U608	MC1350	*	*
U303	7404	14	7				
U304	7410	14	7	U701	MC1310	*	*
U305	7400	14	7	U702	7420	*	*
U306	7404	14	7				
U307	7486	14	7	U901	CD2500E	16	8
U308	7400	14	7	U902	CD2500E	16	8
U309	7410	14	7	U903	CD2500E	16	8
U310	7408	14	7				

IC Functions

HEATH #	TYPE	FUNCTION
443-1	7400	quad 2-IN NAND
443-46	7402	quad 2-IN NOR
443-18	7404	hex NOT
443-45	7408	quad 2-IN AND
443-12	7410	triple 3-IN NAND
443-68	74H10	triple 3-IN NAND
443-2	7420	dual 4-IN NAND
443-65	7427	triple 3-IN NOR
443-16	7476	dual JK FF
443-59 -698	7486	quad 2-IN XOR
443-66	74192	BCD UP/DOWN COUNTER
443-64	CD2500E	7-SEGMENT DECODER/DRIVER
443-38	MC1023	ECL dual 4-IN OR/NOR
443-56	MC1032	ECL dual JK FF
443-39	MC1034	ECL D FF
442-46	MC1310	PLL STEREO MULTIPLEX DECODER
442-29	MC1335	
442-18	MC1350	IF AMP
442-28	MC1357	IF AMP & FM DEMODULATOR
443-57	MC3003	TTL quad 2-IN OR
443-58	MC3006	TTL triple 3-IN AND
443-60	MC4012	TTL 4-BIT SHIFT REGISTER
443-61	MC4016	TTL BCD DOWN COUNTER
443-62	MC4044	PHASE/FREQUENCY DETECTOR
443-67	MC8601	MONOSTABLE
442-2	SN72709	OP AMP
442-20	uA703	RF/IF AMP

* See diagram for IC power connections

Notes

- Capacitance in microfarads unless otherwise indicated.
- Based on original Heathkit AJ-1510A manual. Component labels and values may require confirmation due to unclear scan.
- Observed differences for the earlier AJ-1510 are noted in the Board List.

Revision Log

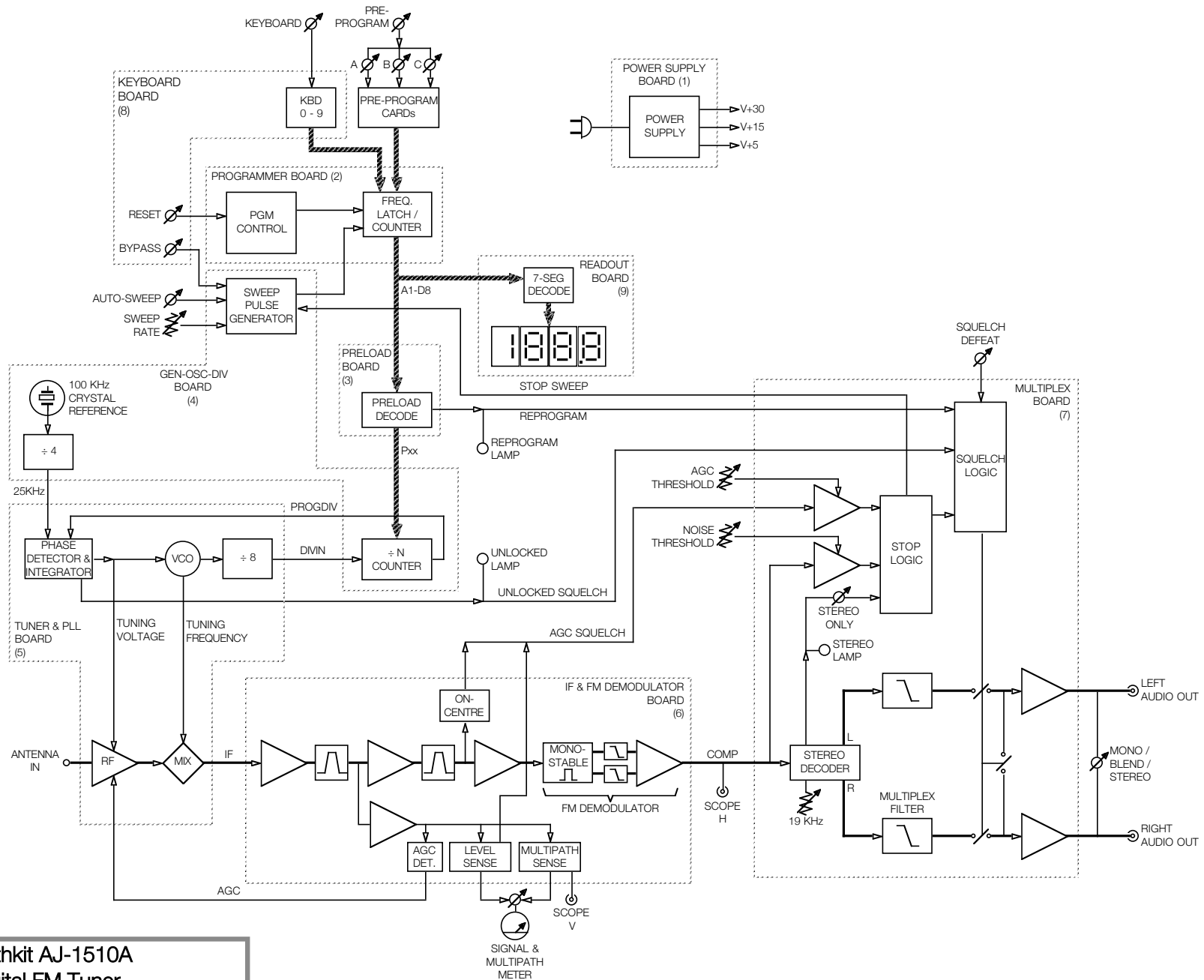
- 2016 Apr: Initial drawing / bhilpert.

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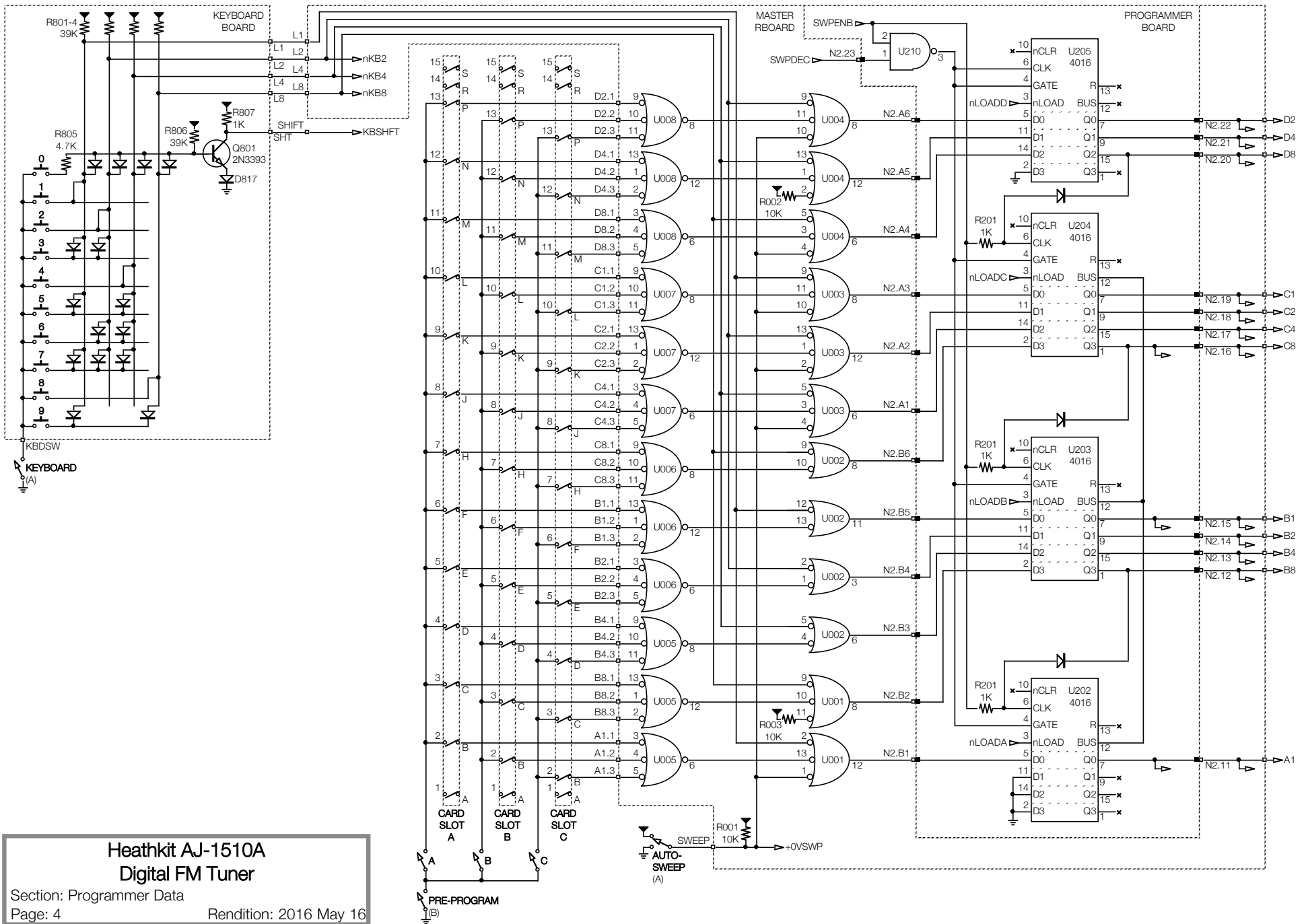
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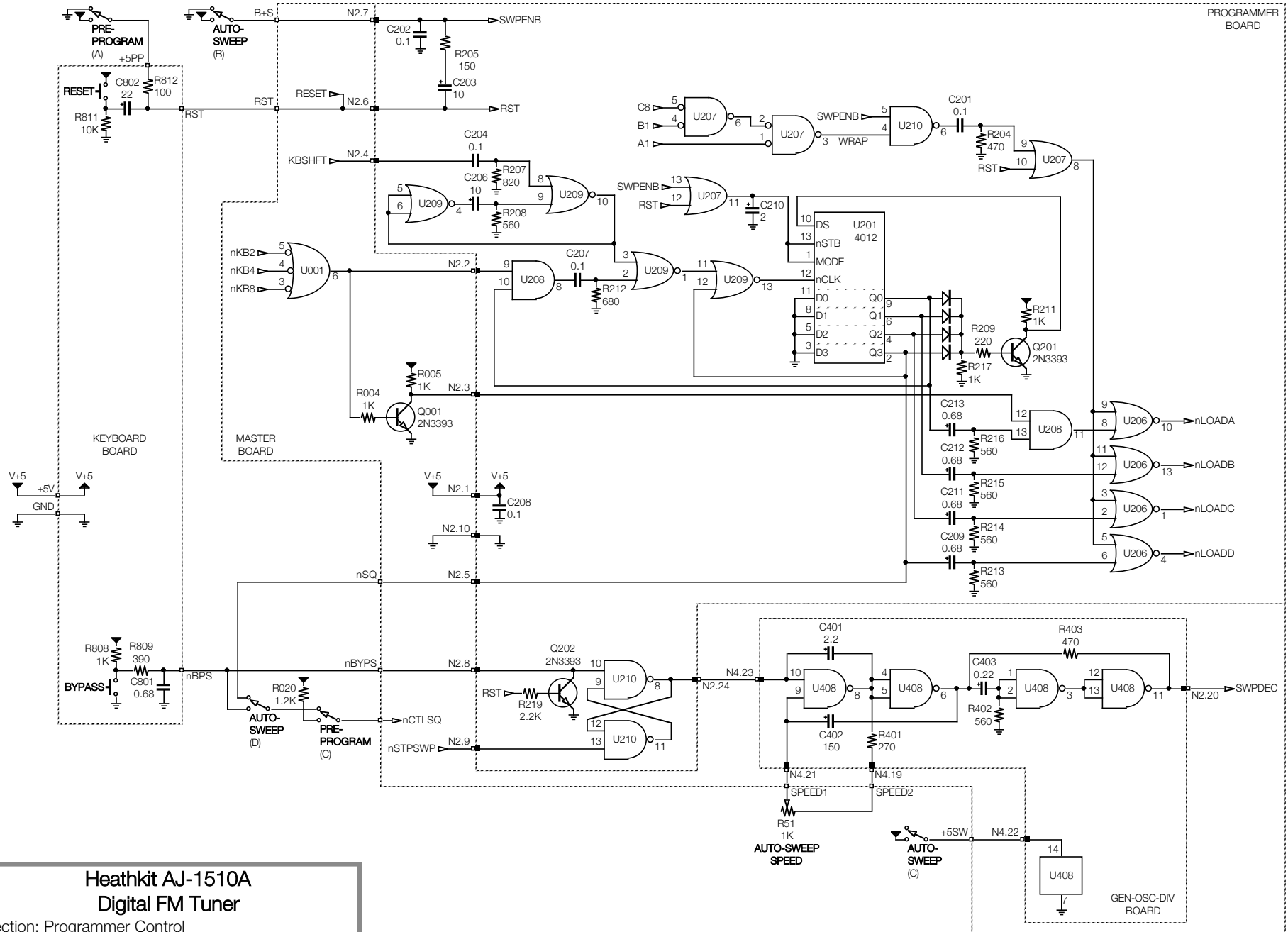
Rendition: 2016 May 16



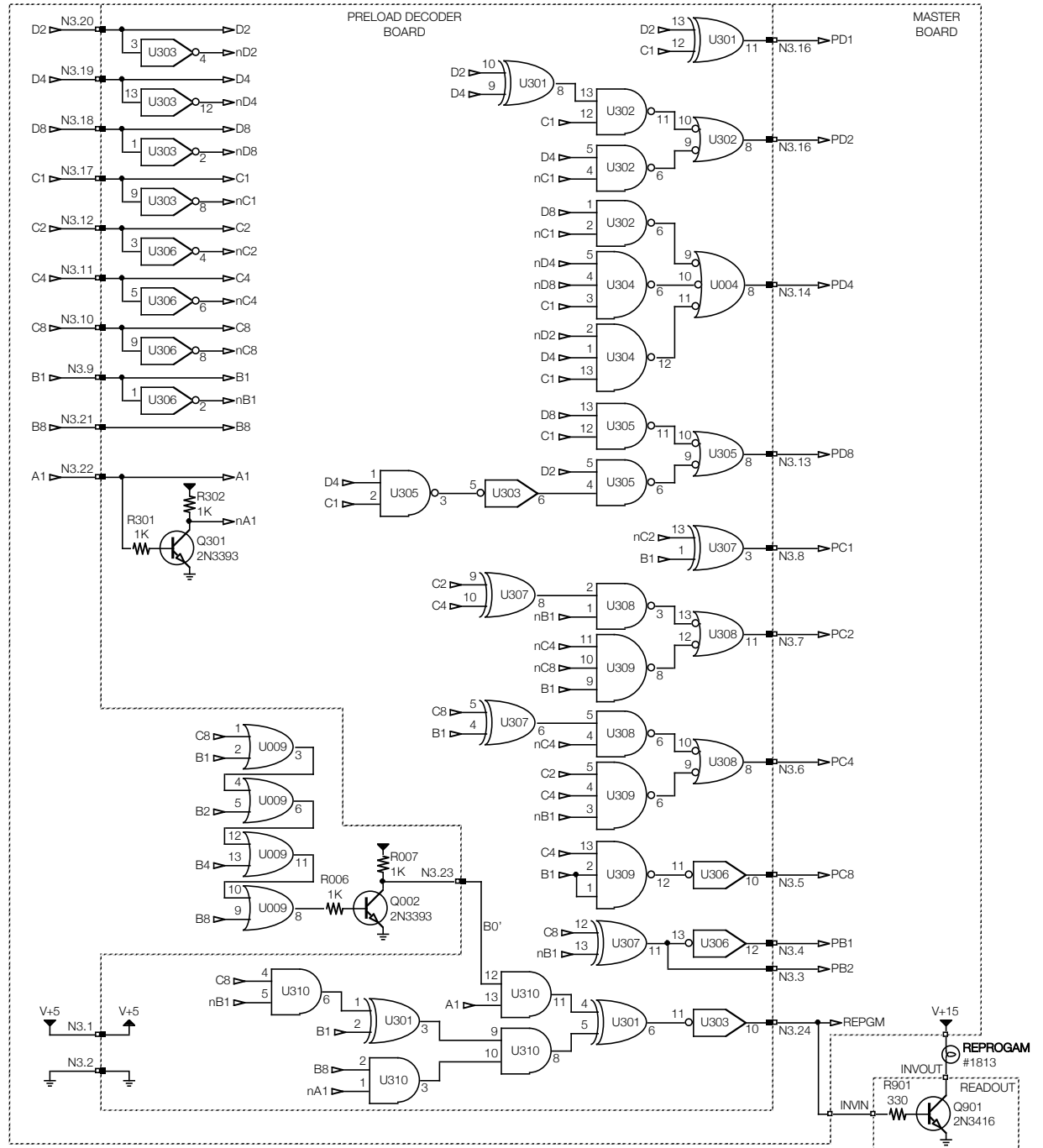
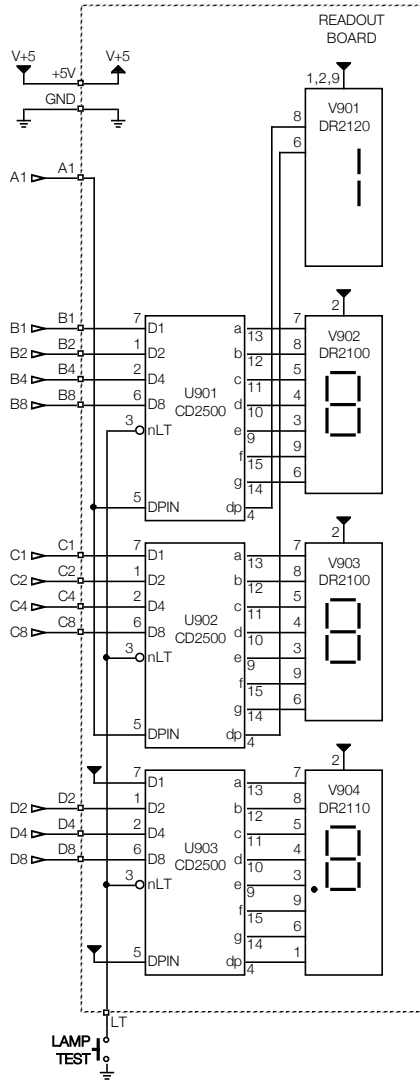
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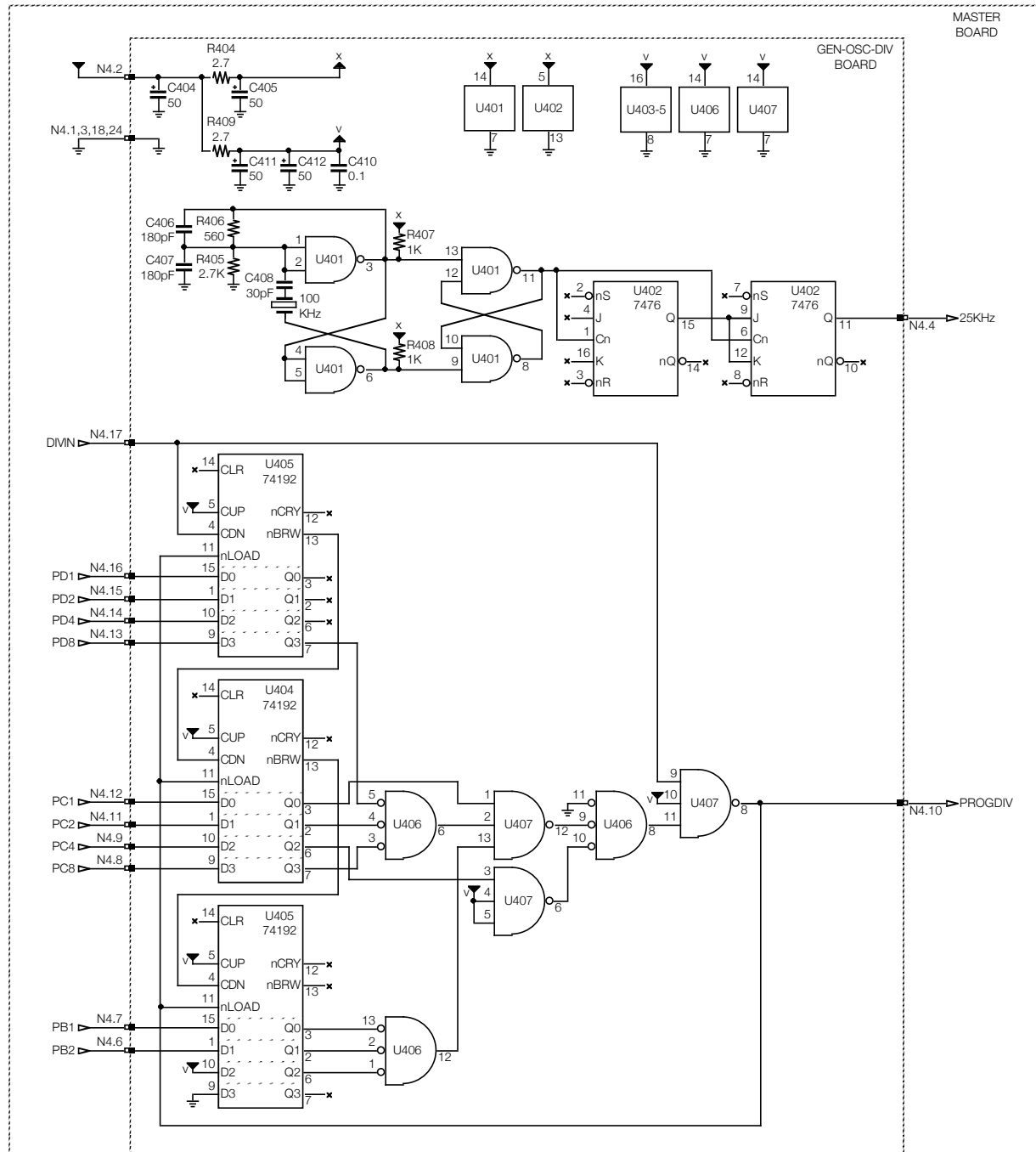


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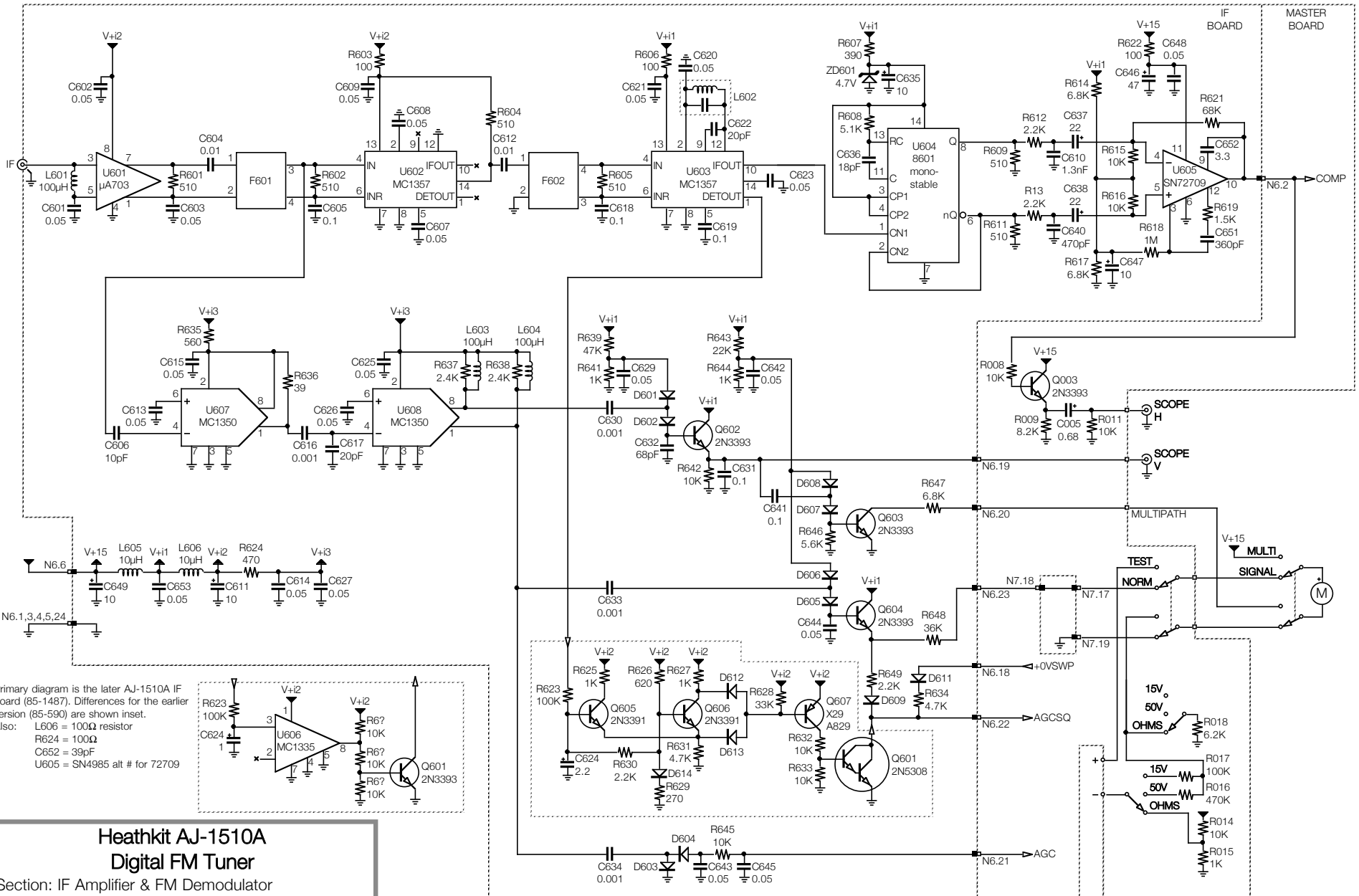
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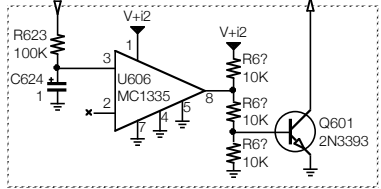


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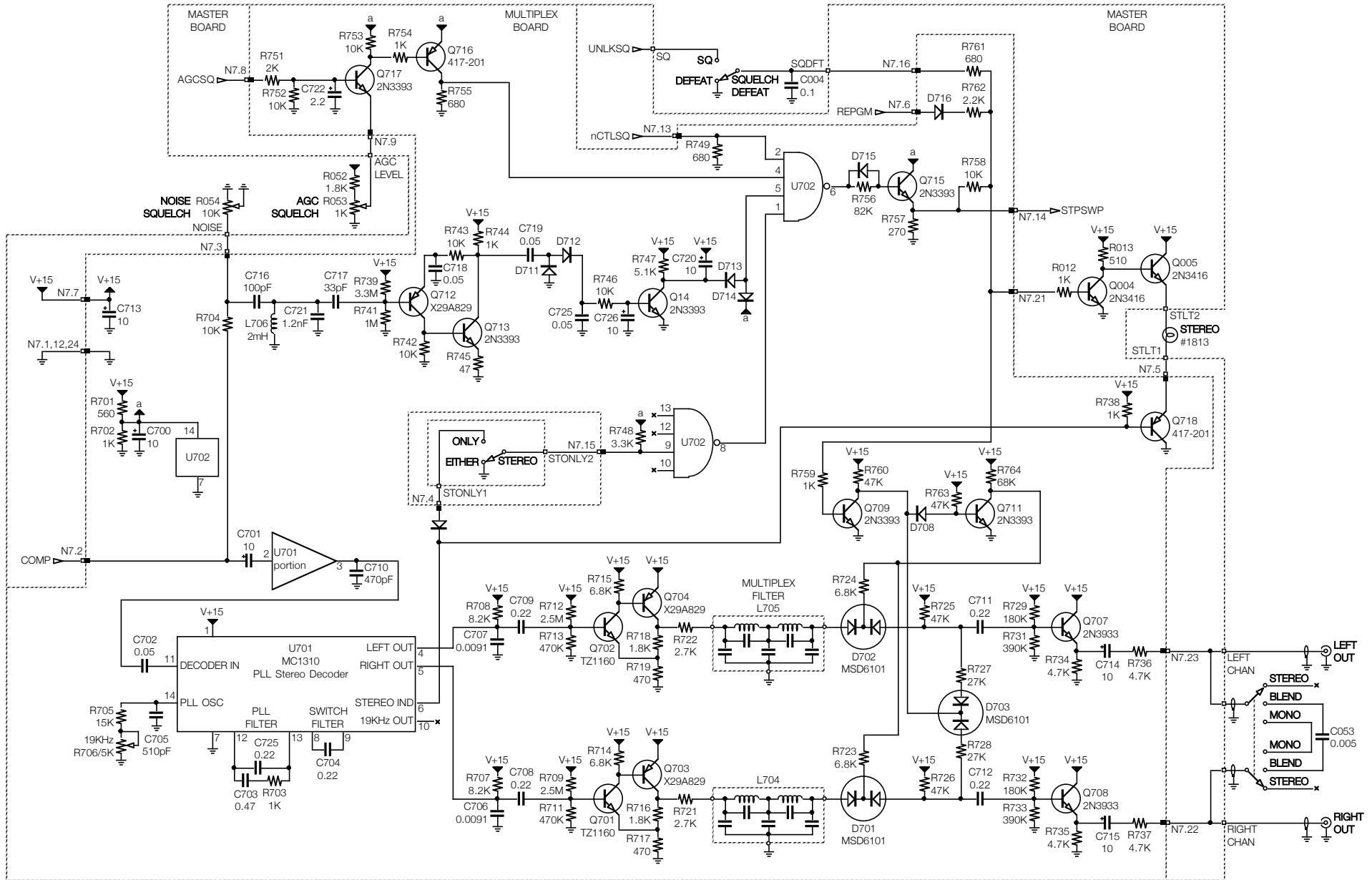
Primary diagram is the later AJ-1510A IF board (85-1487). Differences for the earlier version (85-590) are shown inset.

Also: L606 = 100Ω resistor
R624 = 100Ω
C652 = 39pF
U605 = SN4985 alt # for 72709



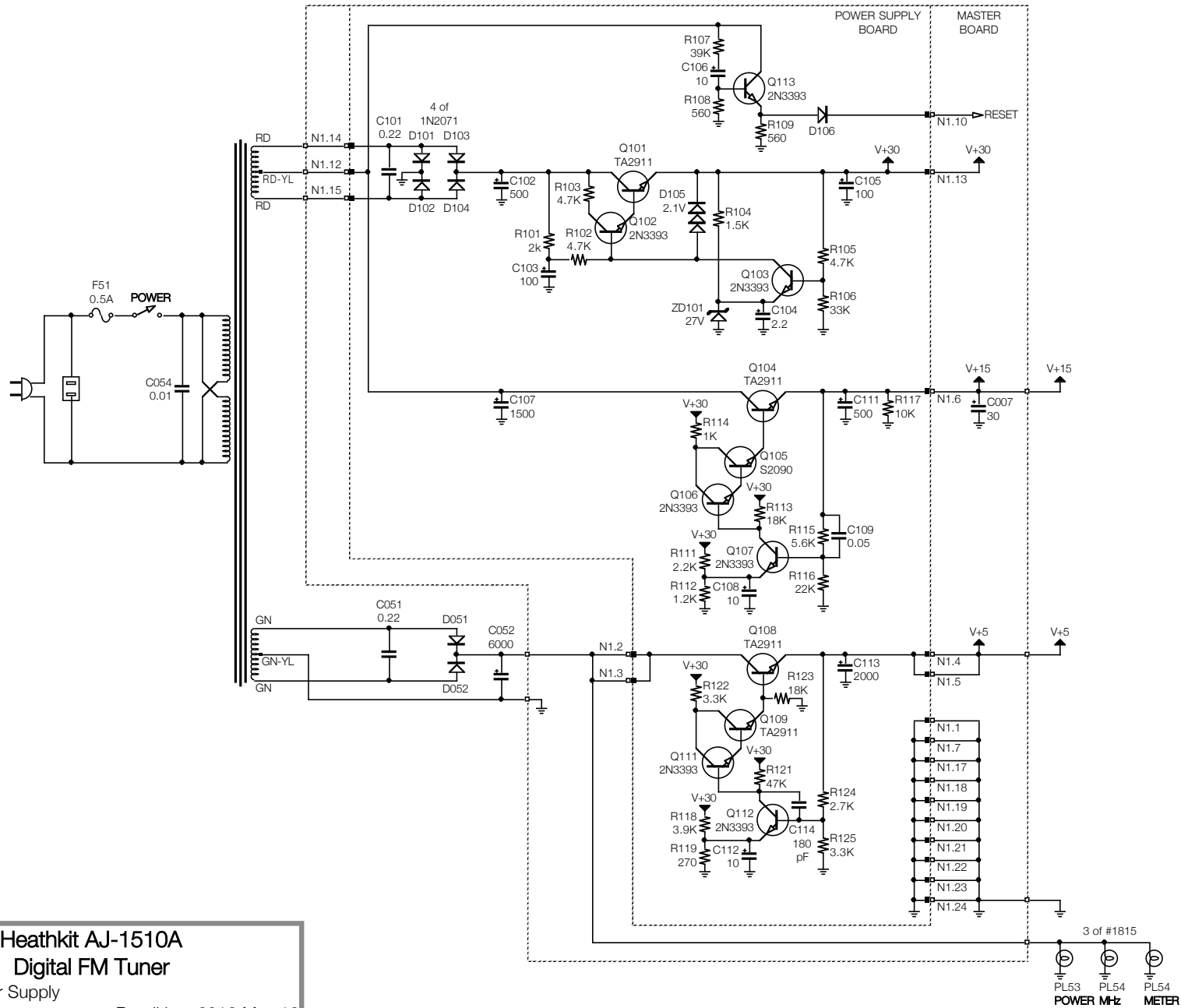
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#1813: 14.4V / 100mA
#1815: 14V / 200mA

