


Hewlett-Packard 9866B Thermal Printer Schematic

Contents		
Section	Assemblies	Page
Title & Notes (this page)	-	1
Control State Machine	92	2
Control Logic	92	3
Data Buffer	91	4
Data Logic, Motor Drive	91, 05	5
Thermal Head Buffer & Multiplexing	06	6
Thermal Power Supply	04	7
Low-Voltage Power Supply	03	8
Connectors, IC Lists	-	9

NOTES

- Printed circuit boards are identified by the Assembly Number printed in the foil of the circuit board. The last two digits of the assembly number distinguish each board type, and correspond to the color coding of the board extraction handles.
- IC locations are identified by a label of the form:
U <assembly-type> – <enumeration>

Most boards have the IC locations in the foil, these are used for the enumeration.
- The symbol  represents a connector pin. The solid black end is the male side, the white-filled end is the female side.
Connector pins are identified by a label of the form:
N <assembly-type> . <pin>
- A small black rectangular marker on the upper half of a gate symbol indicates an open-collector output.
- Capacitance in microfarads unless otherwise noted.
- This schematic is based on a reverse engineering of the 9866B unit with Serial No. 1547A05242. Component date codes in this unit are primarily 1979-1980. See also the schematic portions available in the the 9866 service manual.
- 2014 Dec: Drawn by bhilpert.

HP 9866B Printer

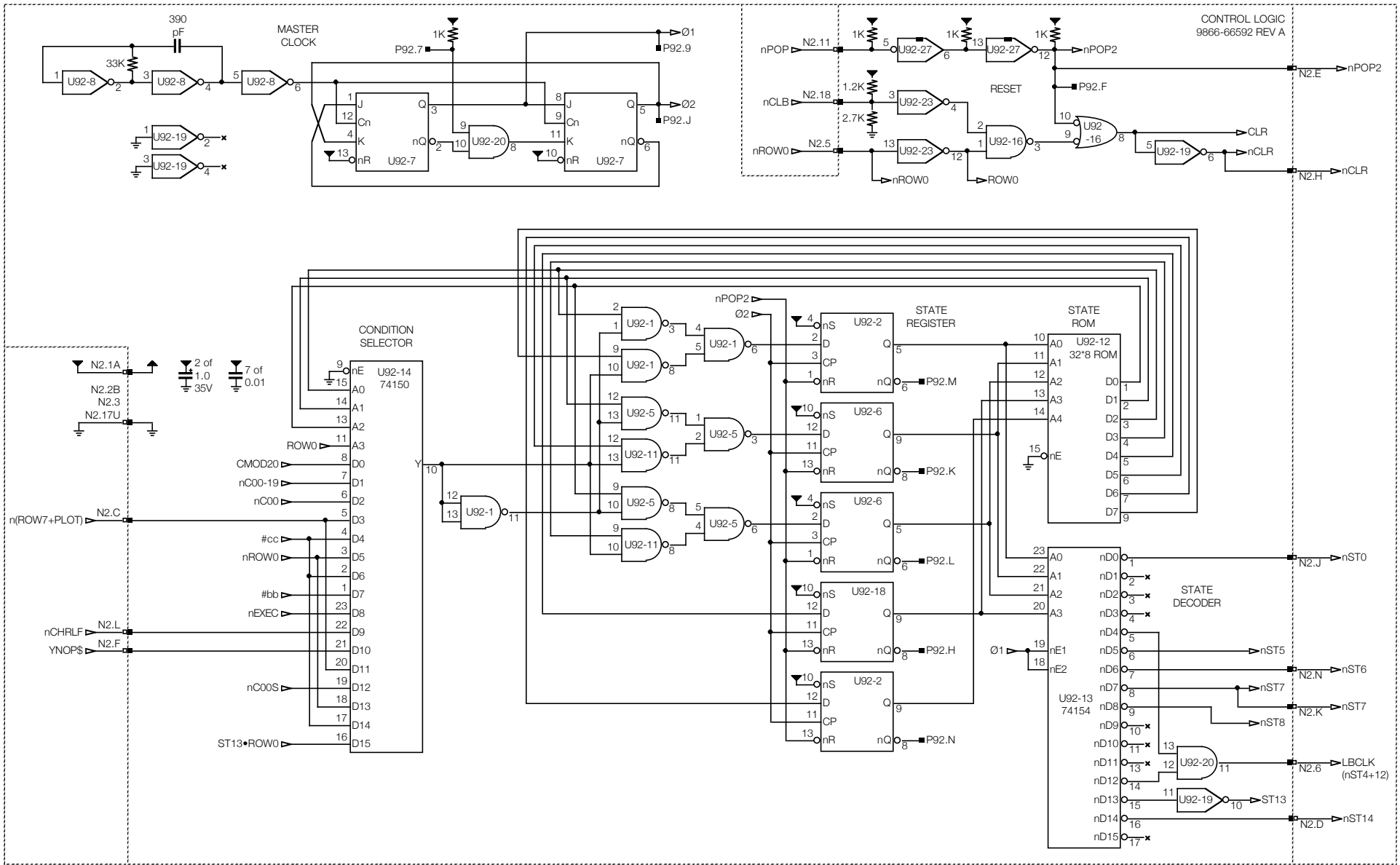
Section: Title & Notes

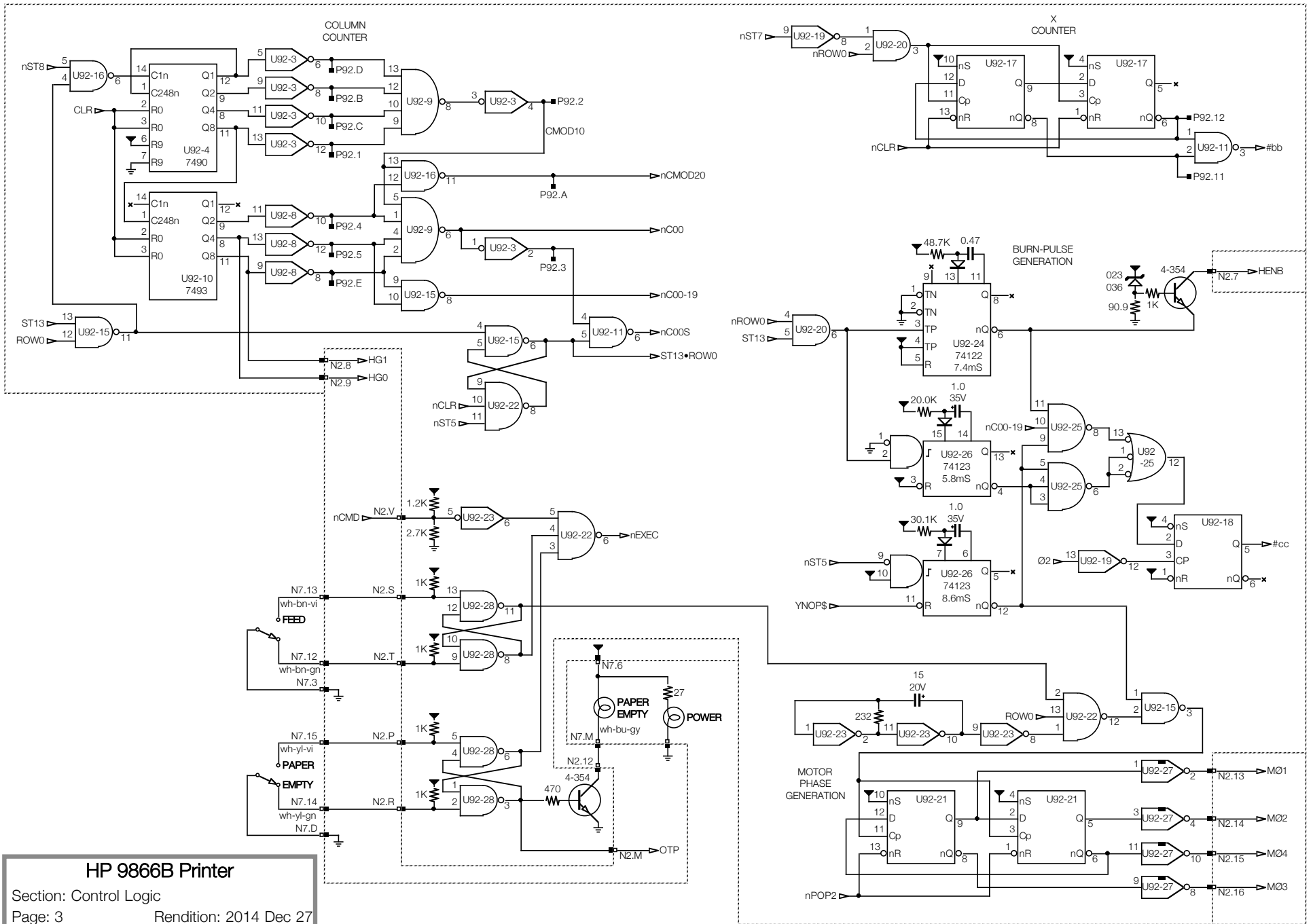
Page: 1 Rendition: 2014 Dec 27

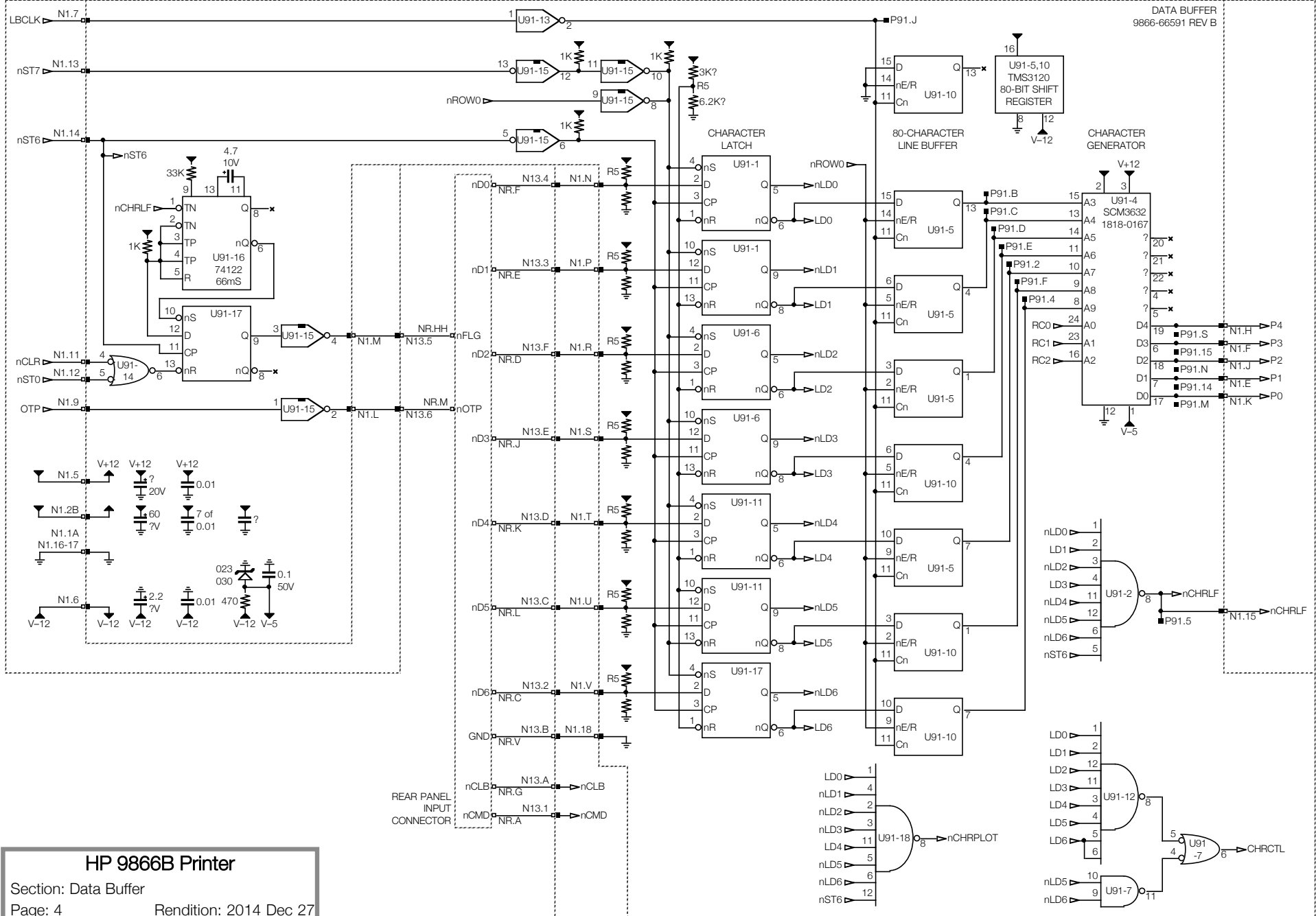
NOTE

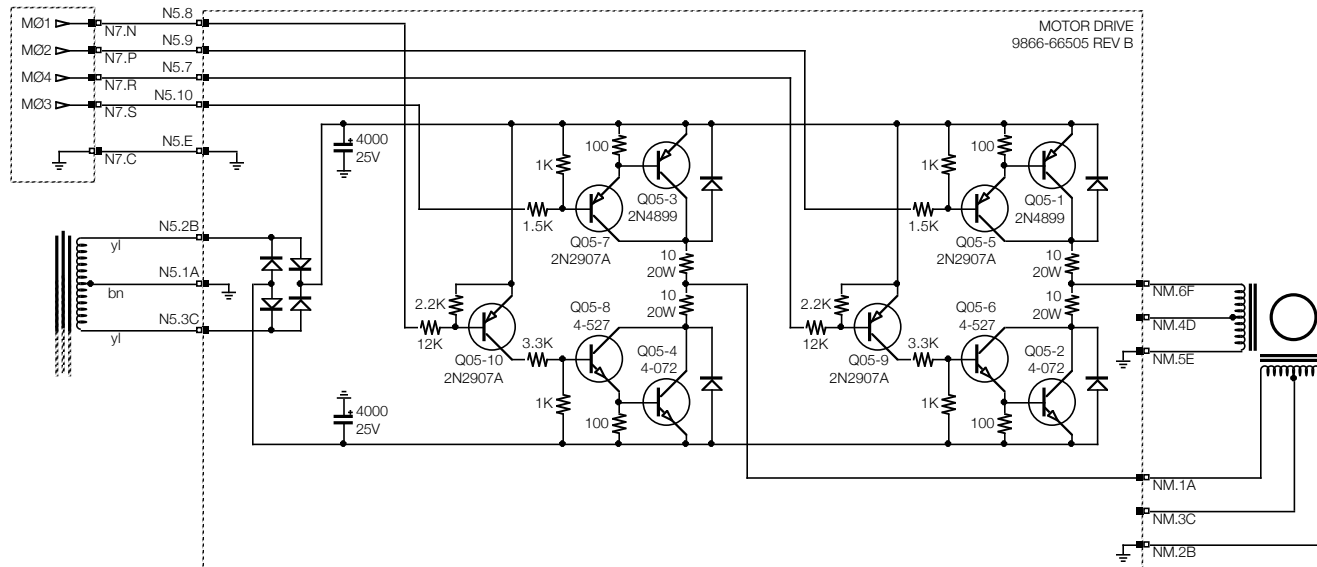
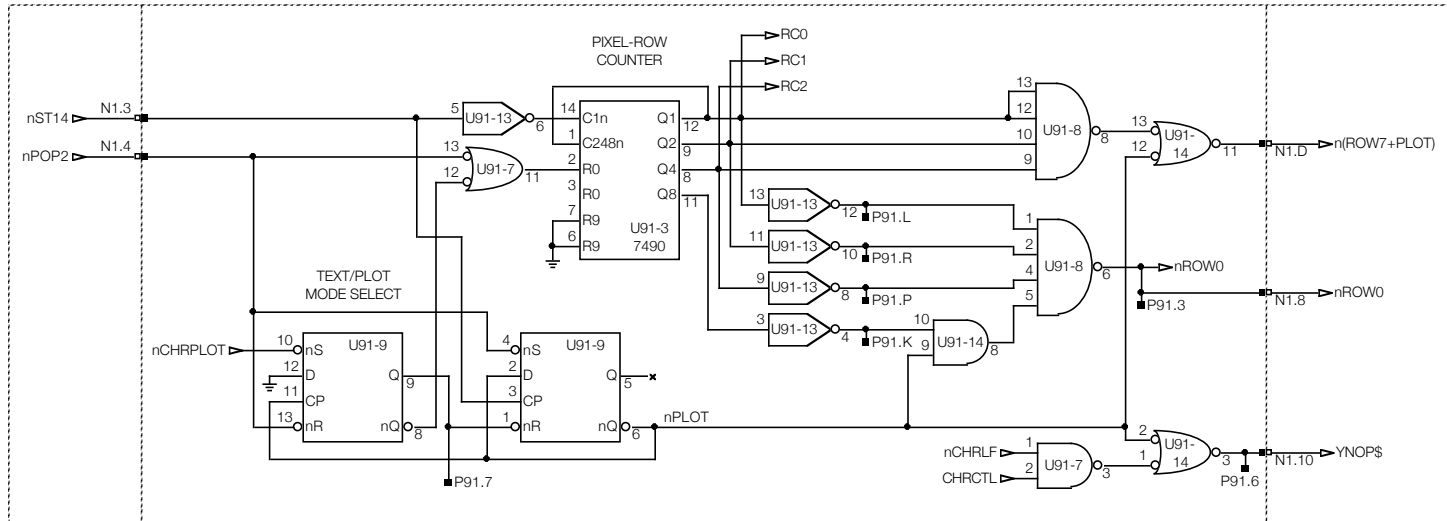
This schematic has been derived through examination of the equipment. This is not the manufacturer's schematic.

bhilpert / 2014







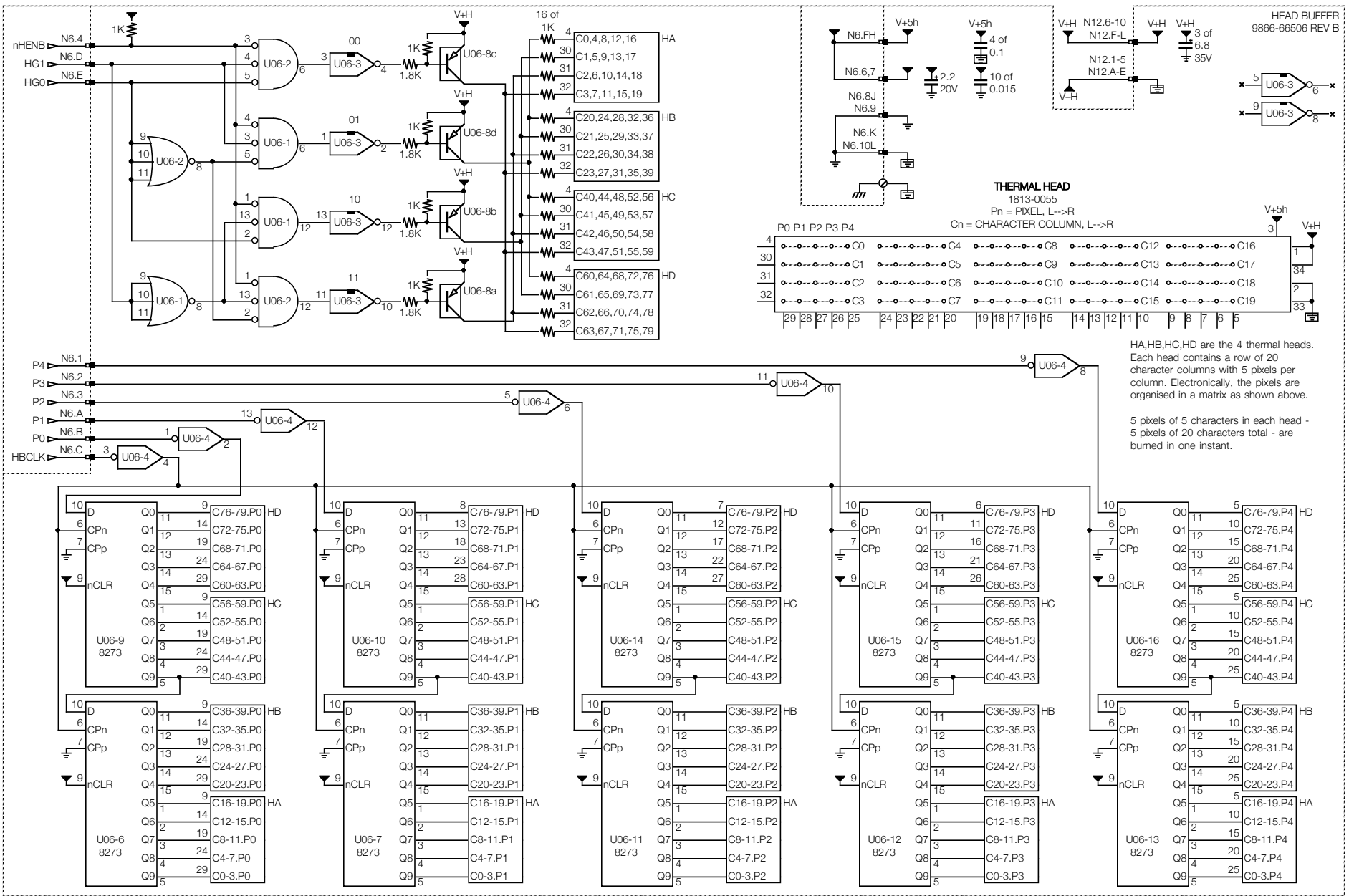


HP 9866B Printer

Section: Data Logic, Motor Drive

Page: 5

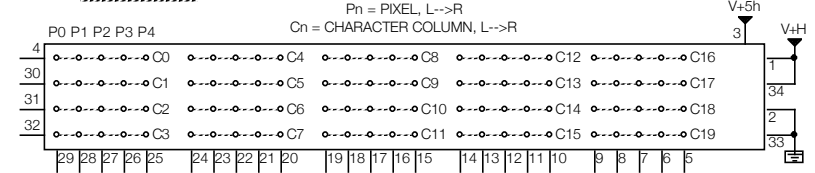
Rendition: 2014 Dec 27



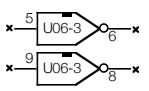
HA,HB,HC,HD are the 4 thermal heads. Each head contains a row of 20 character columns with 5 pixels per column. Electronically, the pixels are organised in a matrix as shown above.

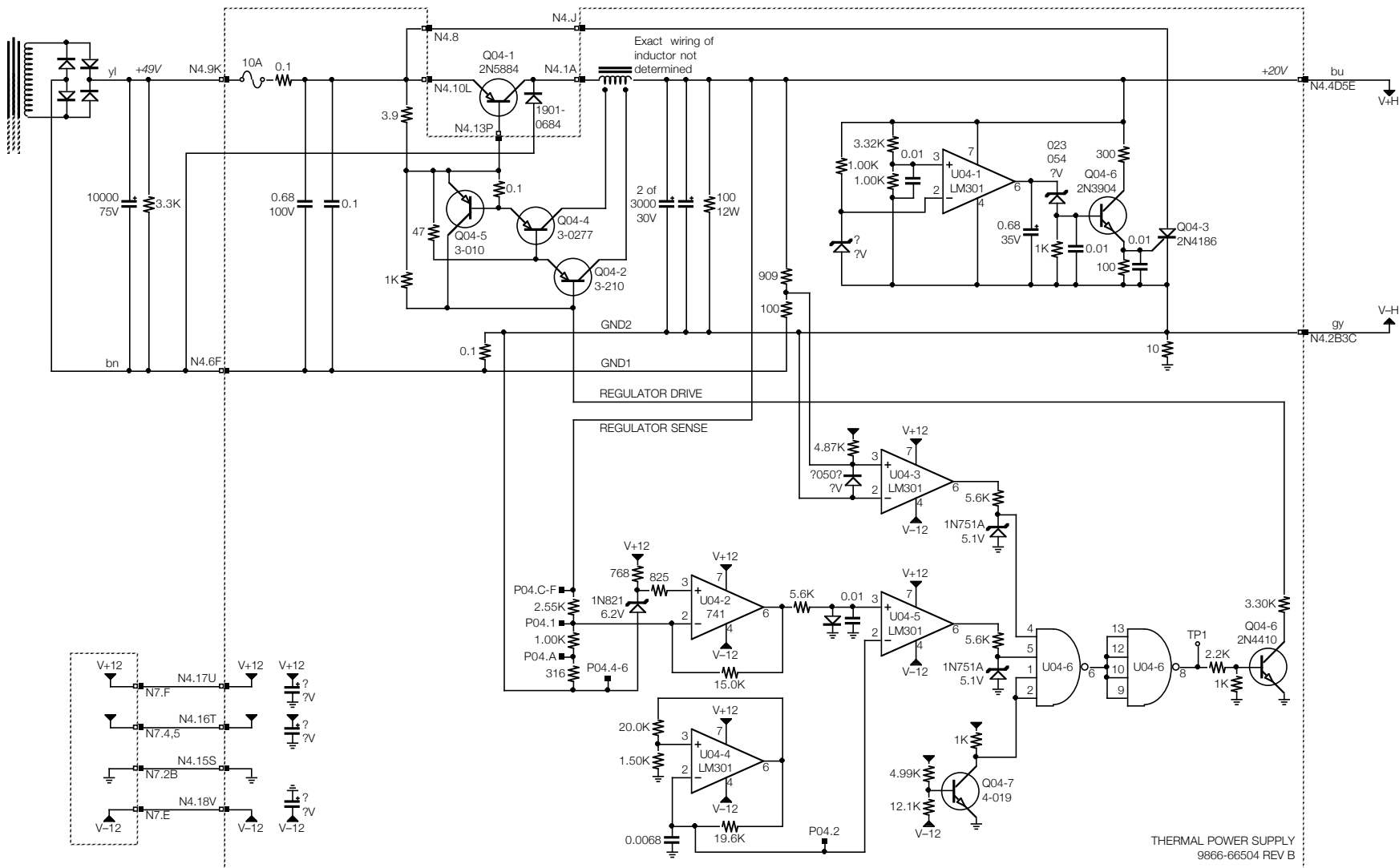
5 pixels of 5 characters in each head - 5 pixels of 20 characters total - are burned in one instant.

THERMAL HEAD
 1813-0055
 Pn = PIXEL, L->R
 Cn = CHARACTER COLUMN, L->R

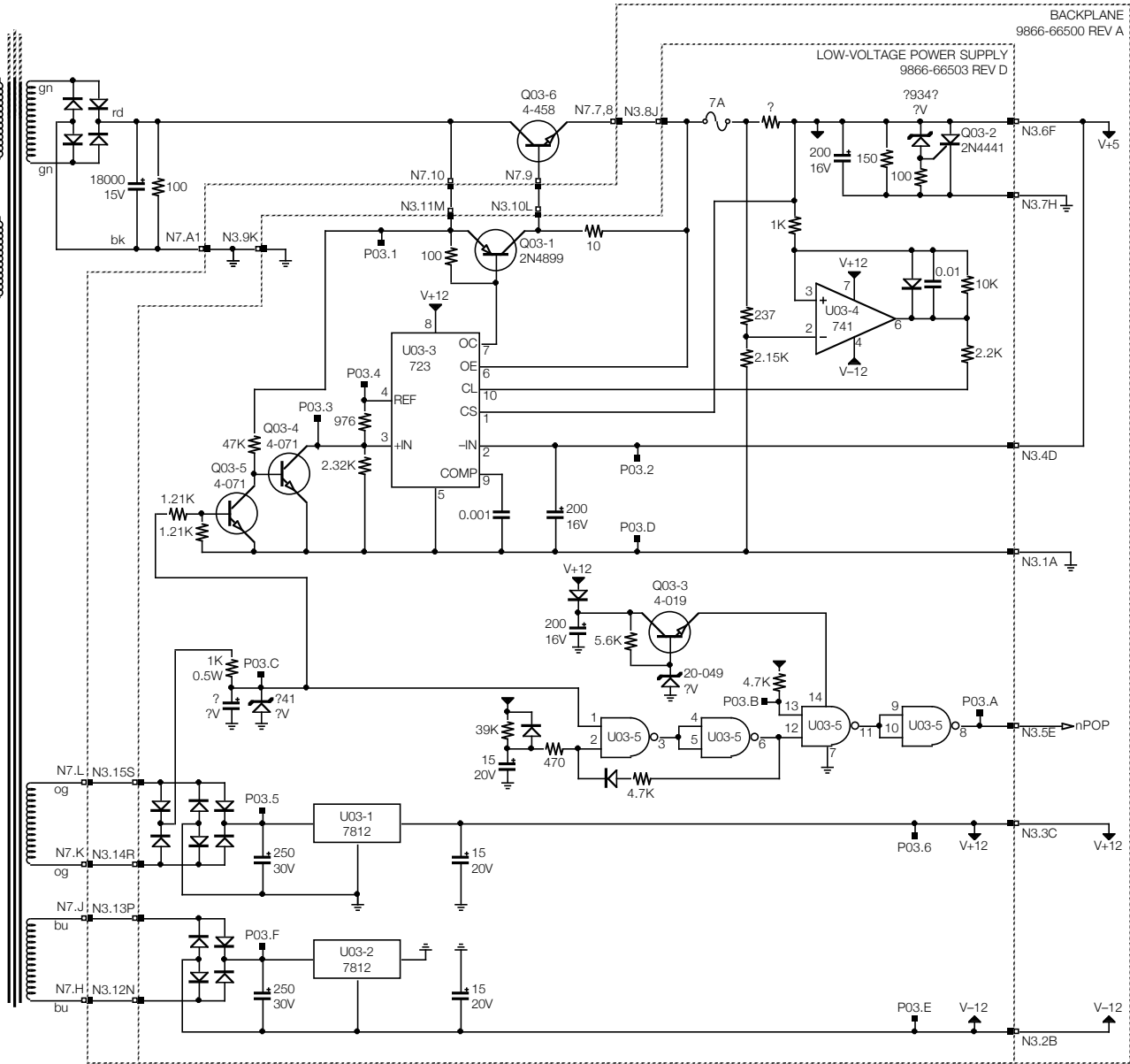
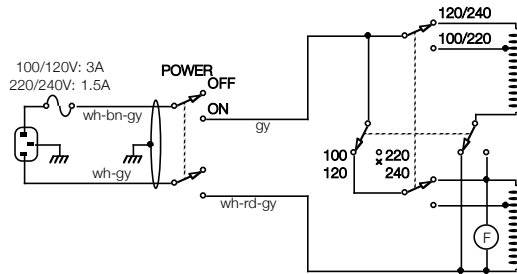


HEAD BUFFER
 9866-66506 REV B





HP 9866B Printer



DATA BOARD / 91

N1			
GND	1	A	GND
V+5	2	B	V+5
nST14	3	C	-
nPOP2	4	D	n(ROW7+PLOT)
V+12	5	E	P1
V-12	6	F	P3
LBCLK	7	H	P4
nROW0	8	J	P2
OTP	9	K	P0
YNOP\$	10	L	nOTP
nCLR	11	M	nFLG
nST0	12	N	nD0
nST7	13	P	nD1
nST6	14	R	nD2
nCHRLF	15	S	nD3
GND	16	T	nD4
GND	17	U	nD5
GND INP	18	V	nD6

CONTROL BOARD / 92

N2			
V+5	1	A	V+5
GND	2	B	GND
GND	3	C	n(ROW7+PLOT)
-	4	D	nST14
nROW0	5	E	nPOP2
LBCLK	6	F	YNOP\$
HENB	7	H	nCLR
HG1	8	J	nST0
HG0	9	K	nST7
HBCLK	10	L	nCHRLF
nPOP	11	M	OTP
nPLAMP	12	N	nST6
MØ1	13	P	nPAPER
MØ2	14	R	PAPER
MØ3	15	S	nFEED
MØ4	16	T	FEED
GND	17	U	GND
nCLB	18	V	nCMD

HEAD BUFFER BOARD / 06

N6			
P4	1	A	P1
P3	2	B	P0
P2	3	C	HBCLK
HENB	4	D	HG1
-	5	E	HG0
V+5	6	F	V+5 HEAD
V+5	7	H	V+5 HEAD
GND	8	J	GND
GND	9	K	GND HEAD
GND HEAD	10	L	GND HEAD

LOW VOLTAGE POWER SUPPLY / 03

N3		
GND	1	A
V-12	2	B
V+12	3	C
V+5 SENSE	4	D
nPOP	5	E
V+5	6	F
GND	7	H
Q03-6.E	8	J
GND	9	K
Q03-6.B	10	L
Q03-6.C	11	M
VAC-12	12	N
VAC-12	13	P
VAC+12	14	R
VAC+12	15	S

IC	TYPE	IC	TYPE	IC	TYPE
U91-1	7474	U92-1	7400	U03-1	7812
U91-2	7430	U92-2	7474	U03-2	7812
U91-3	7490	U92-3	7404	U03-3	723
U91-4	SCM3632 *	U92-4	7490	U03-4	UA741
U91-5	TMS3120	U92-5	7400	U03-5	74L00
U91-6	7474	U92-6	7474		
U91-7	7400	U92-7	74107	U04-1	LM301
U91-8	7440	U92-8	7404	U04-2	741
U91-9	7474	U92-9	7420	U04-3	LM301
U91-10	TMS3120	U92-10	7493	U04-4	LM301
U91-11	7474	U92-11	7400	U04-5	LM301
U91-12	7430	U92-12	IM5600 *	U04-6	7420
U91-13	7404	U92-13	74154		
U91-14	7408	U92-14	74150	U06-1	7427
U91-15	7406	U92-15	7400	U06-2	7427
U91-16	74122	U92-16	7400	U06-3	7406
U91-17	7474	U92-17	7474	U06-4	7404
U91-18	7430	U92-18	7474	U06-5	-
		U92-19	7404	U06-6	8273
		U92-20	7408	U06-7	8273
		U92-21	7474	U06-8	1858-0038
		U92-22	7410	U06-9	8273
		U92-23	7404	U06-10	8273
		U92-24	74122	U06-11	8273
		U92-25	7410	U06-12	8273
		U92-26	74123	U06-13	8273
		U92-27	7406	U06-14	8273
		U92-28	7400	U06-15	8273
				U06-16	8273

91 TEST

P91			
GND	1	A	V+5
LB4	2	B	LBO
nROW0	3	C	LB1
LB6	4	D	LB2
nCHRLF	5	E	LB3
YNOP\$	6	F	LB5
U91-9.9	7	H	V-12
-	8	J	nLBCLK
V+12	9	K	nRC3
-	10	L	nRC0
-	11	M	P0
-	12	N	P2
-	13	P	nRC2
P1	14	R	nRC1
P3	15	S	P4

92 TEST

P92			
nCC3	1	A	nCMOD20
CMOD10	2	B	nCC1
nCO0	3	C	nCC2
nCC4	4	D	nCC0
nCC5	5	E	nCC6
-	6	F	nPOP2
nCLKINH	7	H	SR3
GND	8	J	Ø2
Ø1	9	K	SR1
GND	10	L	SR2
XC0	11	M	SR0
XC1	12	N	SR4

INTERCONNECT

N7			
GND	1	A	GND
GND	2	B	GND
GND	3	C	GND
V+5	4	D	GND
V+5	5	E	V-12
V+5	6	F	V+12
Q03-6.E	7	H	VAC-12
Q03-6.E	8	J	VAC-12
Q03-6.B	9	K	VAC+12
Q03-6.C	10	L	VAC+12
-	11	M	nPLAMP
FEED	12	N	MØ1
nFEED	13	P	MØ2
PAPER	14	R	MØ3
nPAPER	15	S	MØ4

THERMAL POWER SUPPLY / 04

N4	
Q04-1.C	1 A
V-H	2 B
V-H	3 C
V-H	4 D
V+H	5 E
V-HH	6 F
-	7 H
-	8 J
V+HH	9 K
Q04-1.E	10 L
-	11 M
-	12 N
Q04-1.B	13 P
-	14 R
GND	15 S
V+5	16 T
V+12	17 U
V-12	18 V

HP	7400	V+5	GND
1820-0054	7400	14	7
	74L00	14	7
1820-0174	7404	14	7
1820-0471	7406	14	7
1820-0511	7408	14	7
1820-0068	7410	14	7
	7420	14	7
1820-0782	7427	14	7
1820-0070	7430	14	7
	7440	14	7
1820-0077	7474	14	7
1820-0055	7490	5	10
1820-0099	7493	5	10
1820-0281	74107	14	7
1820-0704	74122	14	7
	74123	16	8
	74150	24	12
	74154	24	12
	8273	16	8
1816-0186	IM5600 *	16	8
1818-0167	SCM3632 *		
1820-1346	TMS3120		
1820-0203	UA741		
1820-0196	723		
	LM301		
1826-0117	7812		
1858-0038	quad PNP		

INTERFACE

N13			
nCMD	1	A	nCLB
nD6	2	B	GND INP
nD1	3	C	nD5
nD0	4	D	nD4
nFLG	5	E	nD3
nOTP	6	F	nD2

MOTOR CONTROL / 05

N5	
VACCT-M	1 A
VAC-M	2 B
VAC-M	3 C
-	4 D
GND	5 E
-	6 F
MØ4	7 H
MØ1	8 J
MØ2	9 K
MØ3	10 L

Monostable Pulse Time Calculations

IC	Type	C uF	R KOhm	t uS	t mS
U91-16	74122	4.7	43		66
U92-24	74122	0.47	48.7		7.4
U92-26	74123	1	20		5.8
U92-26	"	1	30.1		8.6

HP 9866B Printer

Section: Connectors, IC Lists

Page: 9

Rendition: 2014 Dec 27