MAJOR PARTS LIST

PCB ASSY 1581	C250471-01
LED ASSY 1581	C250793-01
BEZEL 1581	C252281-01
CASE TOP 1581	C252282-01
CASE BOTTOM 1581	C252283-01
FDD BRACKET, 1581	C252287-01
SHIELD, BOTTOM 1581	C252288-01
INSULATION SHEET 1581	C252290-01
DISKETTE DEMO 1581	C252355-01
MANUAL — USERS	C252358-01
DRIVE ASSY (CHIN F-354E)	C312550-01
MANUAL — SERVICE	C314982-01
POWER SUPPLY 1581	C354027-01

COMPONENTS PARTS LIST

PCB ASSEMBLY #250471-01

U1	IC 6502A 2MHZ CPU	C901435-02
U2	IC EPROM	C312558-02
U2 Sub.	IC 23256 32K X 8 ROM	C312558-01
U3	IC 8K X 8 SRAM	310024-02
U4	IC WD1772 FDC	C310651-02
U4 Sub.	IC WD1770 FDC	C310651-01
U5	IC 8520A-1 2MHZ CIA	C318029-02
U6	IC 74LS139	N/A
U7	IC 74LS00	901521-01
U9	IC 74LS14	901521-30
U10	IC 74LS93	901521-07
U13	IC 74LS241	901521-51
U8, U12	IC 7406	901522-06
U11	IC 7407	901522-30
J1 (Use only with WD1770)	JUMPER WIRE	200018-13
J1 Sub. -13	RES. 47 1/4W 5%	901550-56
RP1	RES. PACK 1K-15 PIN	N/A
RP2	RES. PACK 2.7K-7 PIN	N/A
R1, R3, R9, R10, R11	RES. 47 1/4W 5%	901550-56
R13	RES. 150 1/4W 5%	901550-89
R12	RES. 620 1/4W 5%	901550-40
R2, R14	RES. 1K 1/4W 5%	901550-01
R5	RES. 2.7K 1/4W 5%	901550-23
C1-C14	CAP. 0.1μF 16V CER.	252036-02
C18, C22	CAP. 10μF 25V ELECTR.	900100-01
C20	CAP. 47μF 10V −10 +50 ELECTR.	900100-12
C15	CAP. .01μF 50V CER.	251069-20
FB1-6	FERRITE BEAD	903025-04
EMI1-4	EMI FILTER 100PF	251842-02
Y1	CRYSTAL MODULE 16 MHZ	325566-01
CN5	CONN. 3 PIN SIL. .1"	903326-03
CN1 Polarized	CONN. 4 PIN SIL. .1"	325516-04
CN3, CN4	CONN. 6 PIN DIN	252166-01
CN2	CONN. 34 PIN DIL. .1" X .1"	903344-17
CN6	CONN. 5 PIN MINI DIN	250471-01
SW2	SWI. DPDT	252182-01
SW1	SWI. DIP 2 POS.	252144-02
Use on U2 (Item 9)	IC SOCKET 28-PIN	904150-05
CR4	DIODE IN4148	900850-01
CR4 Sub.-01	DIODE IN914	900850-16

C - indicates part is stocked by CBM

8 PROGRAMMABLE BAUD RATE GENERATOR

The 8520 contains a programmable baud rate generator which is used for fast serial transfers. Timer A is used for the baud rate generator. In the output mode data is shifted out on SP at 1/2 the underflow rate of Timer A. The maximum baud rate possible is phi 2 divided by 4, but the maximum usable baud rate will be determined by line loading and the speed at which the receiver responds to the input data. Transmission will start following a write to the Serial Data Register (provided Timer A is running and in continuous mode). The clock derived from Timer A appears on the CNT pin. The Data in the Serial Data Register will be loaded into the shift register then shifted out to the SP pin. After 8 pulses on the CNT pin, a bit in the ICR (interrupt control register) is set and if desired, an interrupt may be generated. All incoming fast bytes generate an interrupt within the Fast Serial Drive. Bytes are shifted out; most significant bit first.

NOTE: When the 8520 is put in output mode the SP pin (data) will go low.

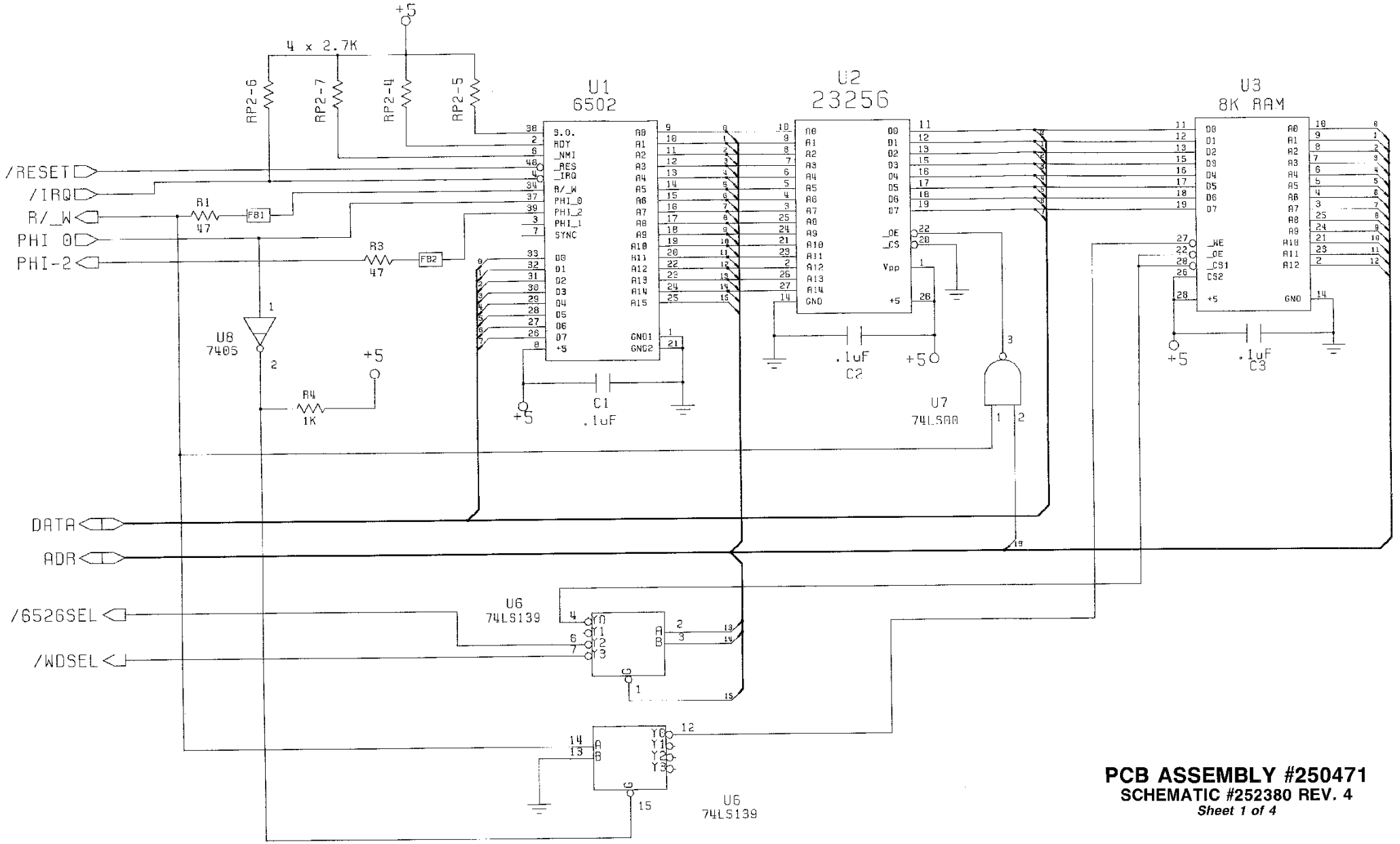
Baud Rate **Phi2 = 2MHz**	**Hi Timer Value**	**Low Timer Value**
166k	00	06
143k	00	07
100k	00	10
50k	00	20
25k	00	40
12.5k	00	80

9 SELF TEST DIAGNOSTICS

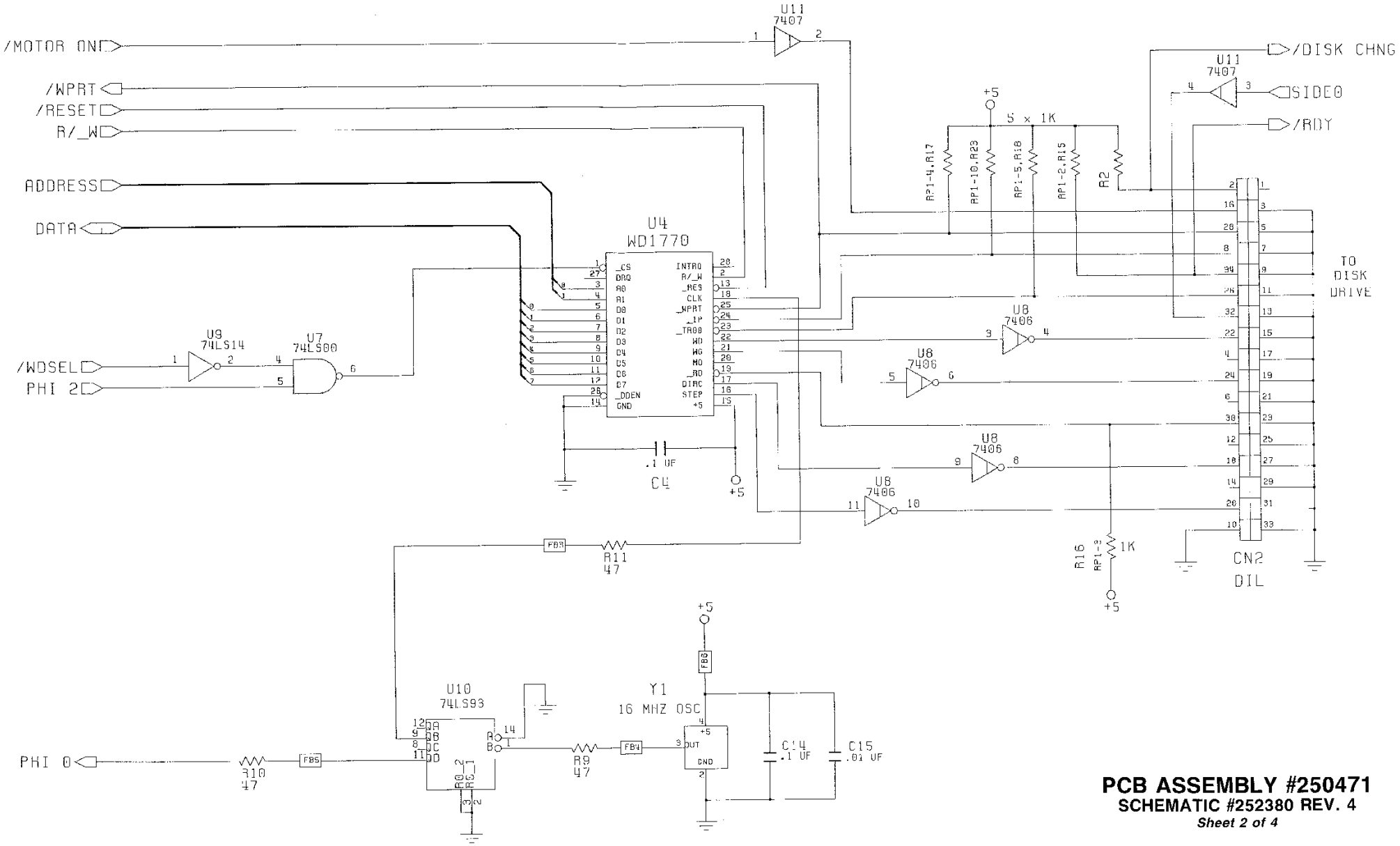
The 1581 performs a self-test of RAM, ROM, and Controller. If an error is detected, the DOS will blink all LED's a specific number of times. The flash code is repeated continuously.

# OF FLASHES	RESOURCE	COMPONENT
1	Zero Page	8K x 8 RAM
2	ROM	25256
3	100H-1FFFH	8K x 8 RAM

In addition, the 1581 performs a Controller Test. If a failure is detected, the error channel will contain 76, controller error 00,00. If an extensive test of ROM is required, the 1581 provides a signature analysis via command 'UO>T'. If a failure is detected, the LED's will blink 4 times continuously.



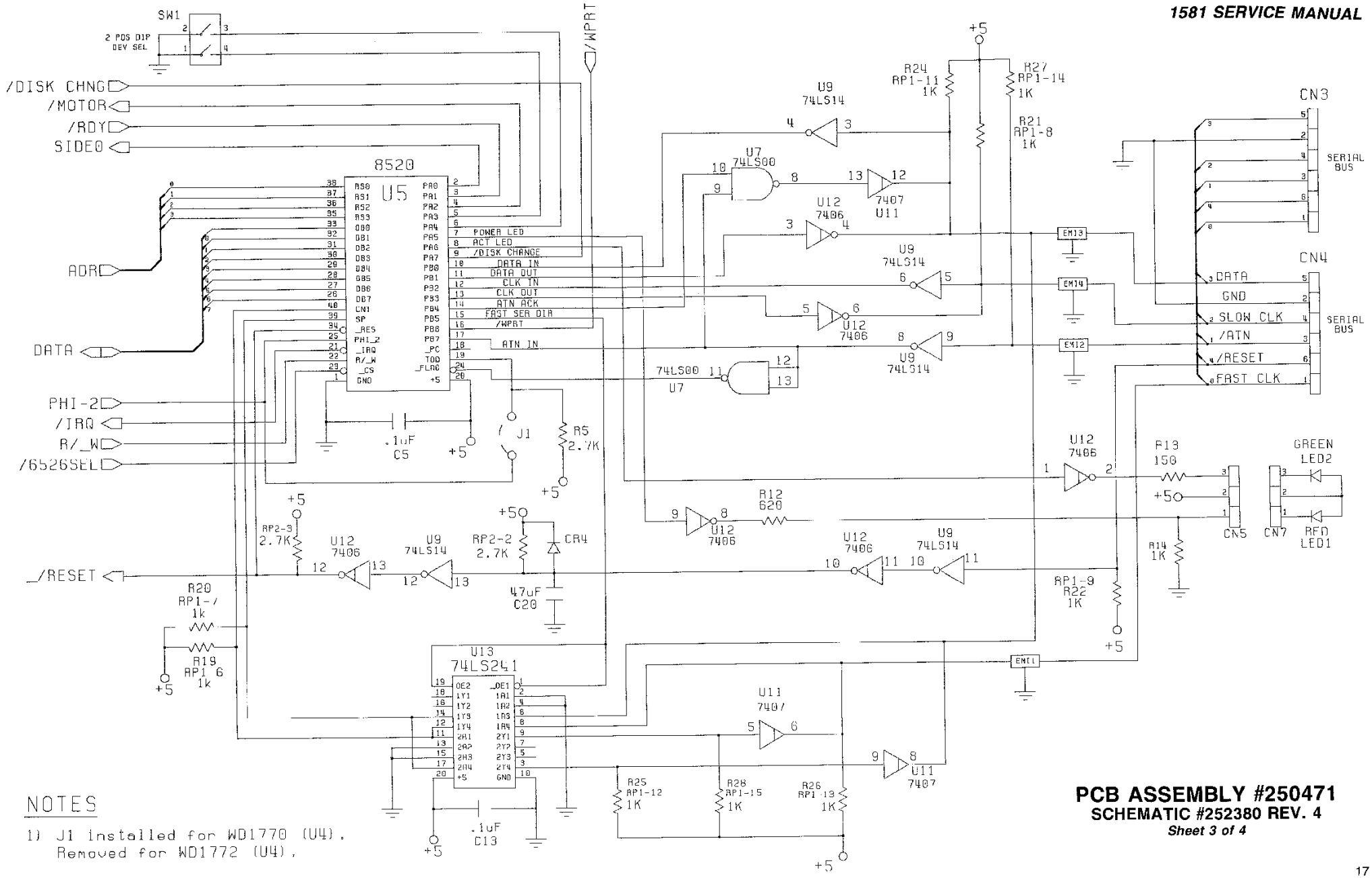
PCB ASSEMBLY #250471
SCHEMATIC #252380 REV. 4
Sheet 1 of 4



PCB ASSEMBLY #250471

SCHEMATIC #252380 REV. 4

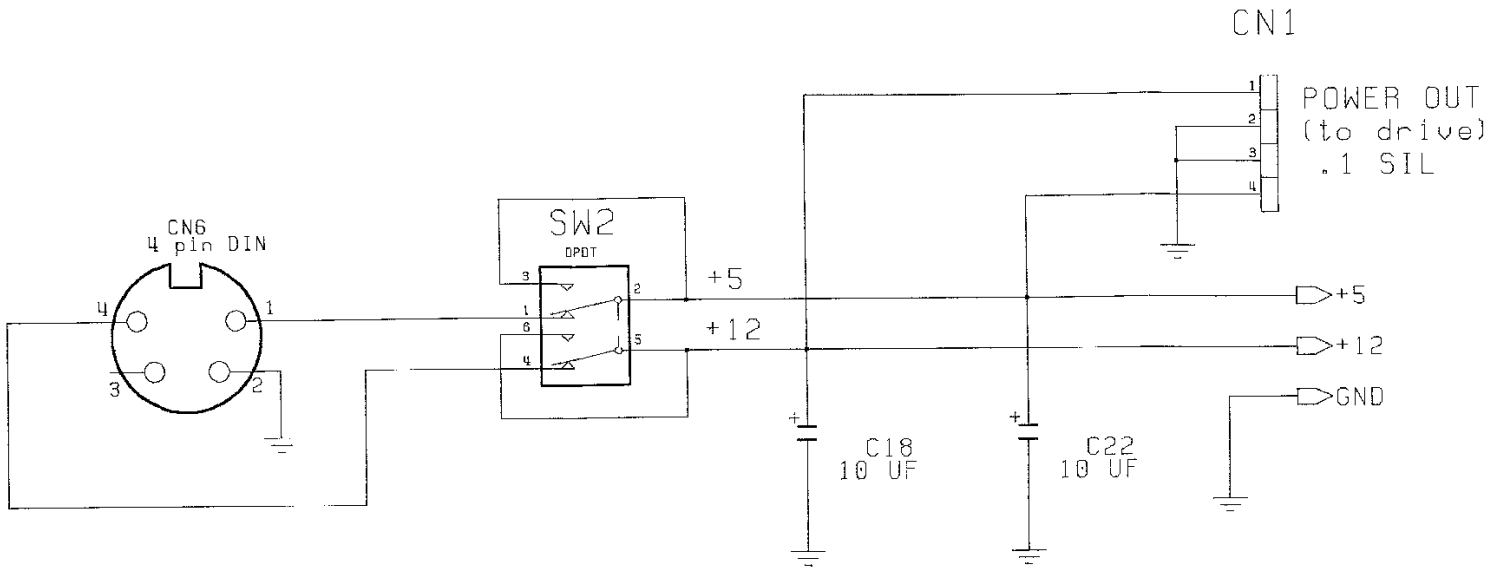
Sheet 2 of 4

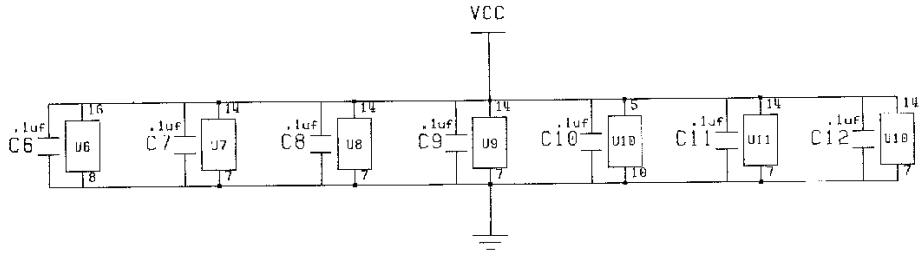


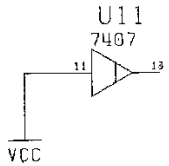
NOTES

1) J1 installed for WD1770 (U4).
   Removed for WD1772 (U4).

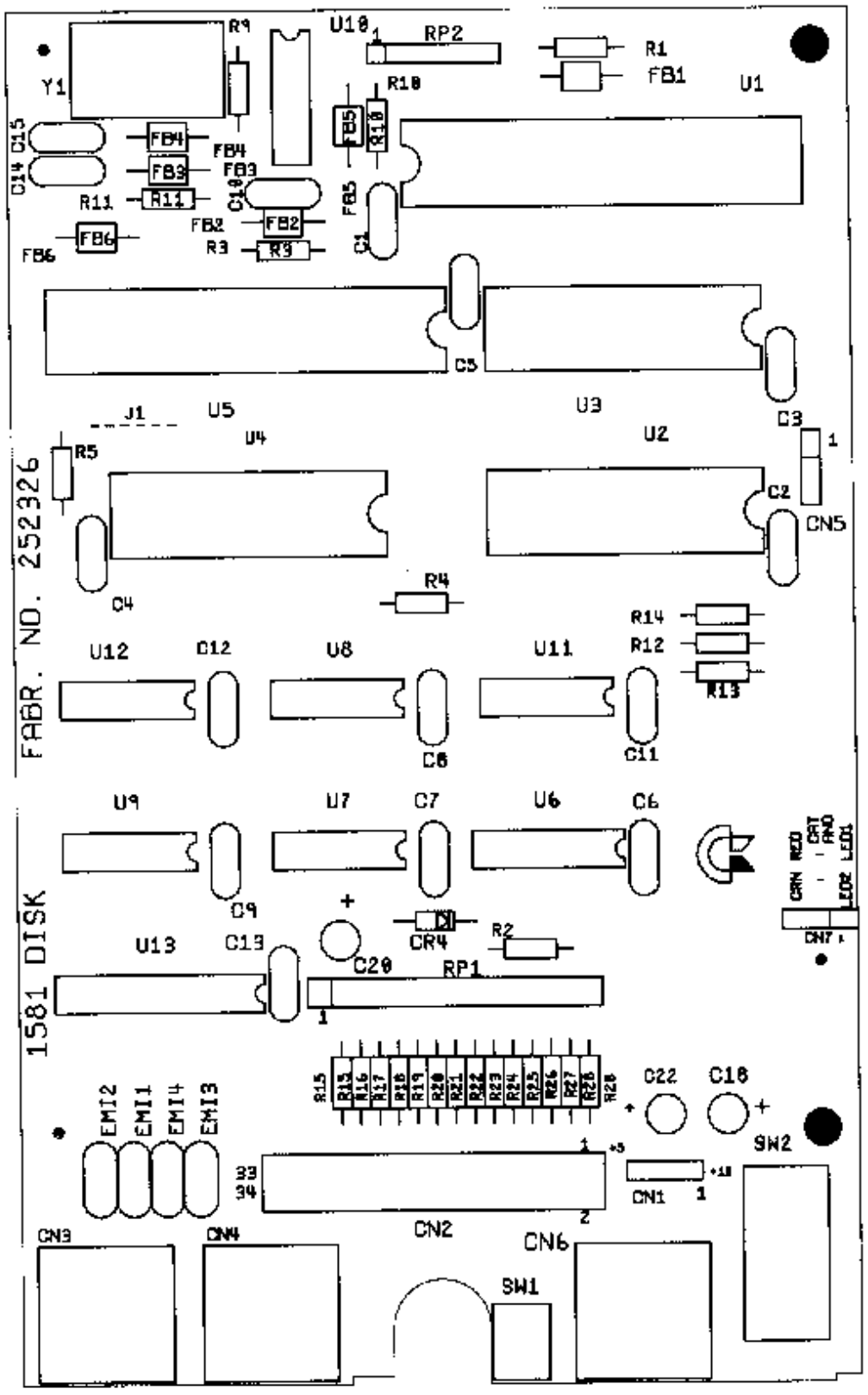
PCB ASSEMBLY #250471
SCHEMATIC #252380 REV. 4
Sheet 3 of 4







PCB ASSEMBLY #250471
SCHEMATIC #252380 REV. 4
Sheet 4 of 4



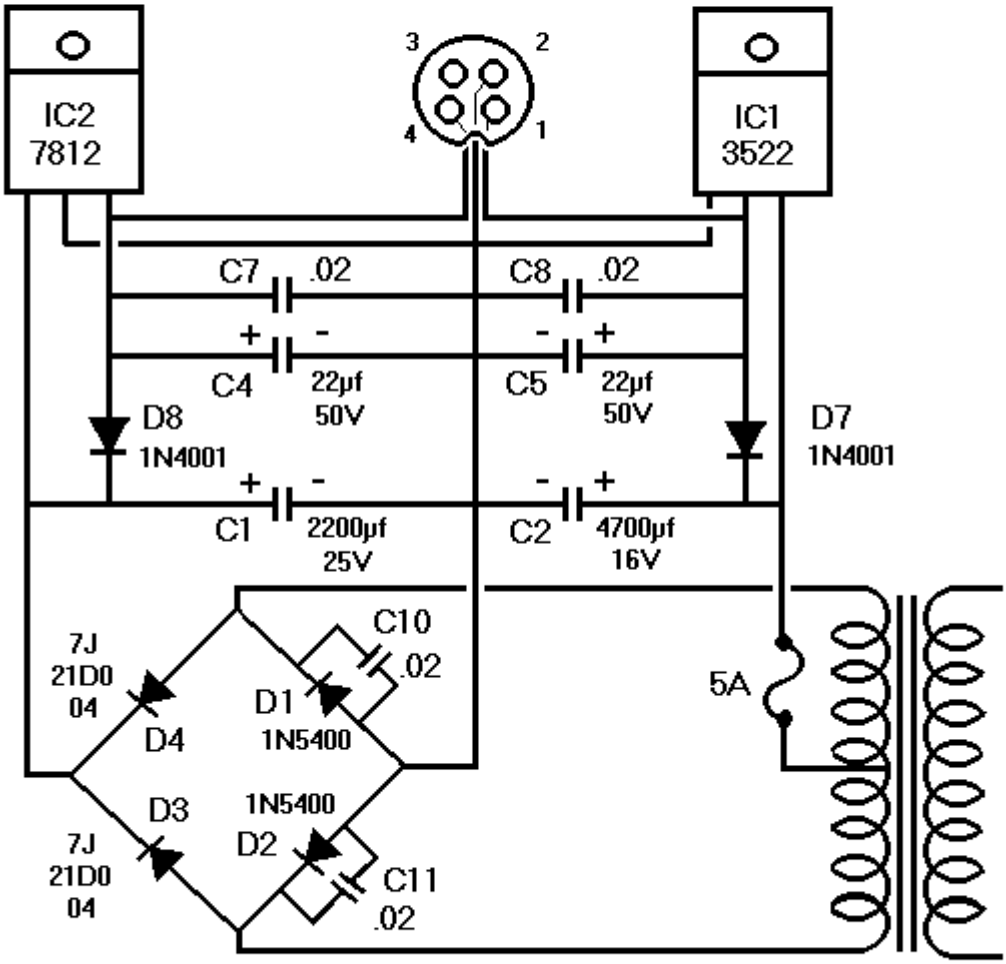
BOARD LAYOUT

PCB ASSEMBLY #250471

commodore 1541-II/1571-II/1581 POWER SUPPLY

P/N 312551-01

OUTPUT: PIN1: +5 VDC 1A
PIN2: GROUND
PIN3: NC
PIN4: +12VDC 0.5A



INPUT: 120V AC 60Hz 0.25A