

Versafloppy II manual rev A to rev B
Herb Johnson June 2013
thanks to John Monahan for rev A manual

The Rev A manual supports the VF II with a PPL and trimmer capacitor adjustment for data separator.
The Rev B and later manuals support a VCO and opamp and trim potentiometer adjustment for data separator.

Rev A page 6 2-13 output port 63

5. Bit 7 - Wait State Enable

Rev B page 6 2-13 output port 63

5. Bit 7 - Wait State Enable, /INUSE STB

The /INUSE STB when set low during drive select activation or deactivation will lock or unlock the drive door if that option is incorporated on the drive. this function can be disabled by cutting the etch between E11 and E12.

Rev A page 6-7,

2-18 Data Separator, Phase Locked Loop

The Data Separator circuit divides the composite FM and MFM Read Data into separated Data and Clock signals required by the FD1791B-1 controller chip. The data separator uses the NE564 phase locked loop circuit to reconstruct the clock from the raw data stream.

2-19 Oscillator

The Oscillator circuit provides a crystal controlled squarewave (16MHZ) used by the Data Separator and FD1791B-1.

Rev B page 6-7,

2-18 Data Separator

The Data Separator circuit divides the composite FM and MFM Read Data into separated Data and Clock signals required by the FD1791B-1 controller chip. The data separator uses the 74LS124 VCO coupled with a LM301 OpAmp to dynamically reconstruct the clock from the input raw data stream.

2-19 Oscillator

The Oscillator circuit provides a crystal controlled squarewave (16MHZ) divided down to provide the proper clock frequency to the FD1791B-1 for 8" or 5-14" operation.

Rev A does not have sub-section 3-7 Format Routine.

The Rev A manual I have, does not have section IV - Construction, or Section V - Interrupt Options. Note there are parts differences

between Rev A's board and Rev B's.

Rev A has a section 7-6 for PPL adjustment as follows below. Rev B's board has section 4-4 for PPL adjustment of trimpot R-19.

7-6 PHASE LOCKED LOOP FINAL ADJUSTMENT

IN order to fine-tune the data separator for best performance, the following procedure should be followed.

- 1) Execute the read test using VDFIAG (Section VIII) on a previously formatted diskette. Use double density Read and Format type codes.
- 2) While listening to the step rate of the Drive, adjust C3 slightly clockwise until hesitation again occurs.
- 3) set C3 adjustment in the middle of the range in step 2.
- 4) Allow test to run one full sweep through diskette. If hesitation occurs make very slight adjustments to minimize the hesitation.
- 5) After above adjustments the test should run with no error printouts.

Rev A manual I have has this Addendum:

Sept 11 1979 Addendum Versaloppy II Operations Manual

The following changes must be noted when assembling

- 1) R12 is a 100K ohm resistor
- 2) add a 330pf cap to ground from pin 38 end of R12.
- 3) add a 47K ohm resistor to ground from pin 1 of U10.

Note: if your board in your kit is REV C, the following changes must also be made.

- 4) Cut the etch between pins 3 and 4 of IC U3.
 - 5) Add jumpers between the pins 14, 3, 7 and 10.
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September 11, 1979

ADDENDUM VERSAFLOPPY II
OPERATIONS MANUAL

The following changes must be noted when assembling the Versafloppy II Kit.

- 1) R 12 is a 100 K OHM resistor.
- 2) You must add a 330 pf. cap to GND from pin 38 end of R12.
- 3) You must add a 47K OHM resistor to ground from pin 1 of U10.

Note: If the board in your kit is REV. C (see the silk screen on the board) the following changes must also be made.

- 4) Cut the etch between pins 3 and 4 of IC U3.
- 5) Add jumpers between pins 14, 3, 7 and 10.



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ADDENDUM VERSAFLOPPY II
OPERATIONS MANUAL

Page 1, 1-1

The second paragraph should be followed by:

The versafloppy II is designed for operation with the Z-80 CPU and is not recommended for operation with other processors.

Page 6, 2-18

The letters PPL stand for Phase Locked Loop.

Page 10, 3-2

The last sentence of the first paragraph should read as follows:

"The SEEK and TRINT (section 3-5) subroutines are called to put the read/write head on the requested side and track."

Page 11, 3-3

The last sentence of the second paragraph should read as on page 10 (see above).

Page 16, 4-4

Delete item 4

Page 18, 6-1

This paragraph should read as follows:

The standard software for the Versafloppy II is supplied in listing form (Appendix D) and is also available in 2716 PROM for an additional charge. This software is called DDBIOS (Double Density Basic I/O System) and is assembled to reside at F000H.

Page 20

Add 7-6 to read as follows:

In order to fine tune the Data Separator for best performance the following procedure should be followed.

- 1) Execute the read test using VF DIAG (Section VIII) on a previously formatted diskette. (Using Double Density Read and format type codes)
- 2) While listening to the step rate of the drive, adjust C3 slightly clockwise until hesitation begins to occur. Then adjust counter-clockwise until hesitation again occurs.
- 3) Set C3 adjustment in the middle of the range in Step 2.
- 4) Allow test to run 1 full sweep through diskette. If hesitation occurs make very slight adjustments to minimize the hesitations.
- 5) After above adjustments the test should run with no error printouts.

Page 21, 8-1

The last sentence should read as follows:

The diagnostic uses the DDBIOS and monitor PROMS for disk and con-



sole I/O.

Page 22, 8-2

After the last sentence add the following:

If the Period(.) is entered instead of a command, control will be transferred to the monitor

Page 23, 8-4

Delete the last sentence.

Page 24, 8-8

This paragraph should read as follows:

Test 05 is actually not a diagnostic, but a program which formats a diskette in accordance with drive and density type. This must be done to all diskettes before further use. Note that on the distributed SDOS diskette there is a program which formats a diskette. This program has the filename "FORMAT.COM" and may be run by entering "FORMAT (CR)". BE SURE TO USE A SCRATCH OR UNFORMATTED DISKETTE

WHEN FORMATTING A DISKETTE BECAUSE ANY PREVIOUSLY WRITTEN DATA WILL BE LOST.

Page 25, Table 8-1

Delete lines 5 & 7. Line 8 changed.

TABLE 8-1

DISK CONTROLLER COMMAND CODES

MINI DISK CMD CODE	FULL SIZE CMD CODE	DESCRIPTION
0B 000 1011	09 000 1001	Restore Drive TRK 00
13 000 0001	19 000 1001	Track Seek with No Verify
F4 000 0100	F4 000 0100	Format Track
88 100 0100	80 100 0100	Read Sector
A8 100 0100	A0 100 0100	Write Sector
C4 100 0100	C0 1100 0000	Read Track Address

Please see the revised pages attached.

U2
DATA DELAY
000-1-2400
1001

9M
52-1134-11
TP1 TP2 TP3 TP4 TP5
U3 U4 U5 U6 U7 U8 U9 U10 U11 U12
U13 U14 U15 U16 U17 U18 U19 U20 U21 U22

ASSY 0100150

REV C

VERSAFLOPPY II
SD SYSTEMS

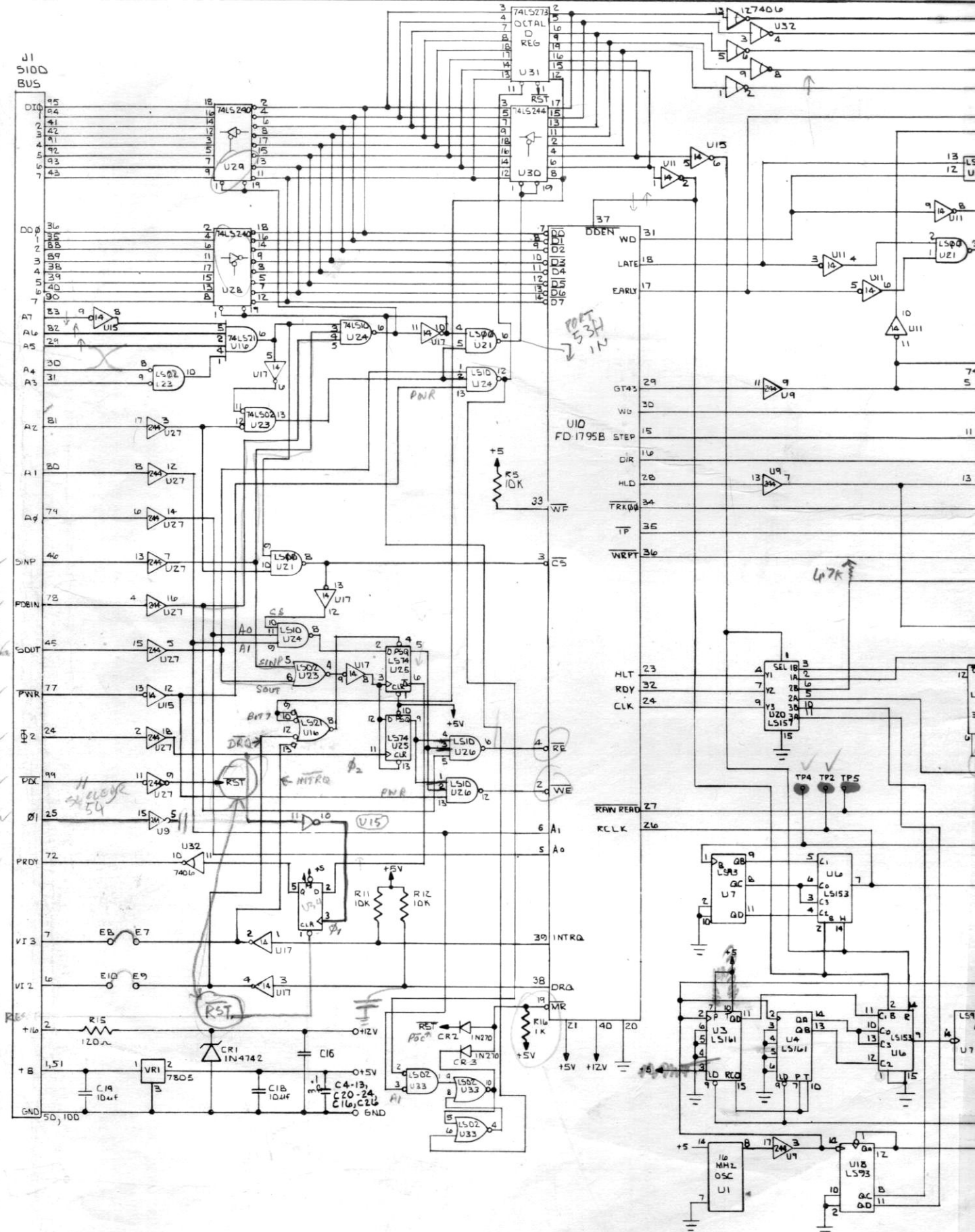
© 1978 50

TP1
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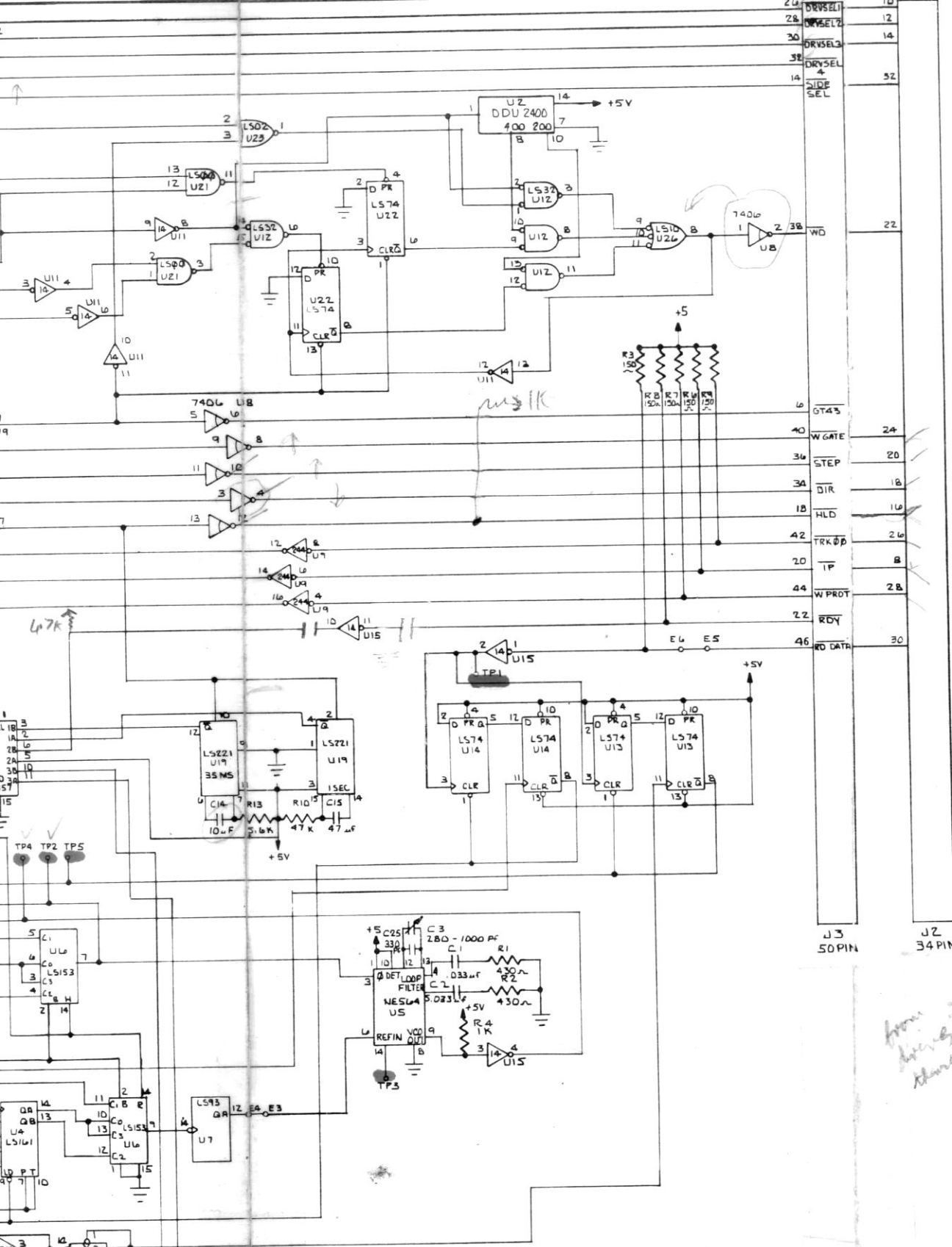
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U400



- 3 ALL RESISTORS ARE 1/4W 5%
- 2 ALL LS PARTS ARE 74 SERIES
- 1. ALL 14'S AND 244'S ARE LS

NOTES:



24	DRVSEL1	12
28	DRVSEL2	12
30	DRVSEL3	14
38	DRVSEL4	14
14	SLIP SEL	52
22	WD	22
6	ST45	
40	W GATE	24
36	STEP	20
34	DIR	18
18	HLD	16
42	TRK DP	26
20	TP	8
44	W PROT	28
22	RDY	
46	RD DATA	30
	J3	50 PIN
	J2	34 PIN

from
discuss
show

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			PROJ ENGR
			APPROVED
NEXT ASSY	USED ON		
APPLICATION			