Title:

Technical Manual for FDD 707 Flexible Disc Drive

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Abstract:

This paper contains technical information on the FDD 707 flexible disc drive.

CONTENTS PAGE

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1 INTRODUCTION. 1.

The FDD 707 flexible disc drive is modified YD-174 drive manufactured by YE Data. Thus the technical documentation for the YD-174 Double Sided Discette Storage Drive must be considered as an appendix to this manual.

2. MODIFICATIONS. 2.

a. The PC Board of the YD-174 contains a number of strapping possibilities. The status of the different traces (short/open) is listed in table 2.1.

b. A SN75452 dual NAND-buffer has been mounted in the IC position 2K, and the following connections has been made:

Wire	Description
(1K-14) - (2K-1)	"Motor off" status from POW735
(2J-2) - (2K-2)	"Drive select"
(2K-4) - (2K-8)	OV Reference
(J1-24) - (2K-3)	-, Motor off

The function of this modification is to gate the "Motor off" status from the POW735 power supply with the drive select signal.

c. A mechanical switch has been mounted in the drive and connected to the PCB through edge-connector J2. The switch is-activated by the door and so indicates the door status. The following electrical changes has been made on the PCB:

(J2-B10) - (4F-13)	wire added
(5F-13) - (4F-13)	trace cut

The reason for this modification is to allow the spindle motor to be stopped without changing the drive status.

Trase designator	Description	TRACE Short/0ren	OPTION Enable/dinable
DS1 DS4	Drive address select pins (up to 4 drives)	DS1 S DS2-4 0	E
A, B, X	Radial HEAD LOAD	S,0,S	E
Z	IN USE from DRIVE SELECT	0	D
HL	Stepper power from HEAD LOAD	0	D
R	Option Shunt for READY output	S	E
I	"INDEX"	S	E
C	Alternate input HEAD LOAD	S	E
D	" IN USE	0	D
DC	" DISK CHANGE	S	E
2S	" DISK 2 SENSE	S	E
DS	Stepper power from DRIVE SELECT	S	E
Y	IN USE from HEAD LOAD	S	E
DL	Door lock latch	0	D
RR	Radial READY	S	D
RI	Radial INDEX	S	D
WP	Inhibit write when WRITE PROTECT	S	E
NP	Allow write when WRITE PROTECT	0	D
D1,D2,D4,DDS	Drive address, select pins (up to 8 drives)	0	D
B1 B4	Two, double sided drive select	0	D
S1, S2, S3	Head select option	0,S,0	Standard

Fig. 2.1 Strapping Status.

d. The value of the resistor serial converted to the two index photodiodes (61R) has been changed from 68E1 to 220E. This modification reduces the light intensity, insuring proper operation when thin discette media are utilized.

e. Some drives may be equipped with a 115V spindle motor. On these drives a 220V/115V transformer has been mounted on the drives chassis. The wireing is illustrated in fig. 2.2.

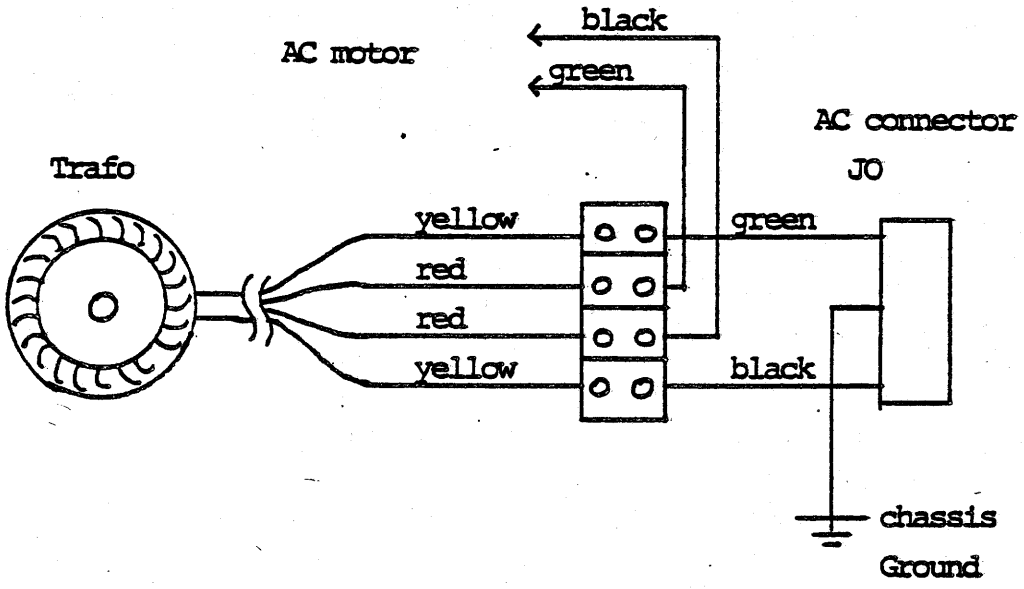


Fig. 2.2 Wireing diagram (115V only)

3. PLUG LIST. 3.

FDD 707 - J1 Signal Edge Connector		
Signal Return	Signal	Description
1	2	-, Low Cur
3	4	NC
5	6	NC
7	8	NC
9	10	-, Two Sided
11	12	-, Disc Change
13	14	-, Side Select
15	16	NC
17	18	-, Head Load
19	20	-, Index
21	22	-, Ready
23	24	-, Motor Off
25	26	-, Drive Select
27	28	NC
29	30	NC
31	32	Motor Off (From POW 735)
33	34	-, Direction Select
35	36	-, Step
37	38	-, Write Data
39	40	-, Write Gate
41	42	-, Track 00
43	44	-, Write Protect
45	46	-, Read Data
47	48	NC
49	50	NC

Fig. 3.1

FDD 707 Edge Connector Signal Allocation

Pin No.	Signal Name
1	+24 V DC
2	+24 V RETURN
3	reserved
4	reserved
5	+5 V DC
6	+5 V GND

Fig 3.2 DC connector pin assignment.

Pin No.	Signal Name
1	AC INPUT
2	FRAME GROUND
3	AC INPUT

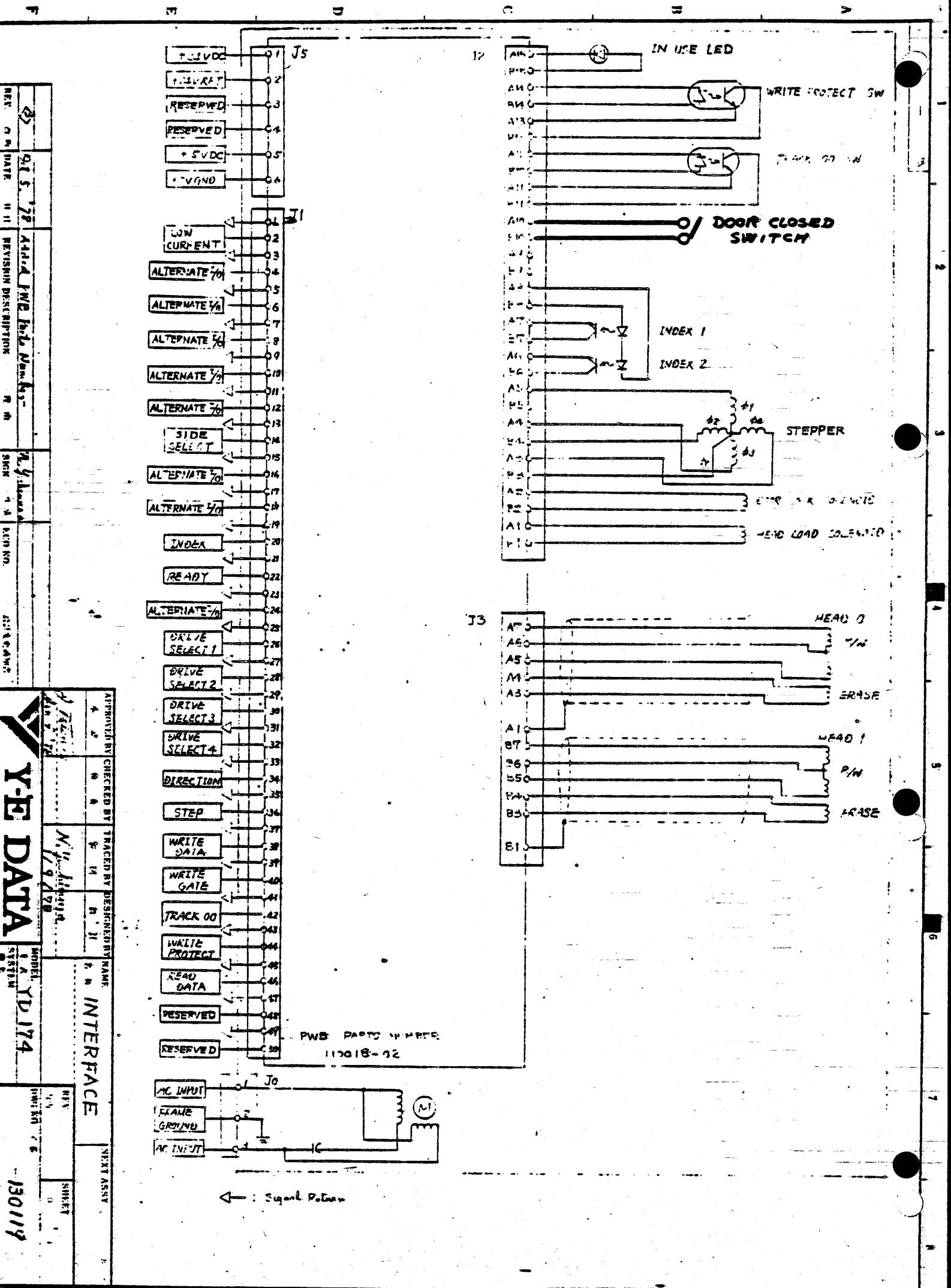
Fig 3.3 AC connector pin assignment.

4. LOGIC DIAGRAMS. 4.

The following pages contains typical logic diagrams for YD-174 flexible disk drive.

The diagrams illustrates the modifications made, but they should not be used for faultfinding purposes. Due to different revision levels small differences may exist between the diagrams and the actual implementation.

When two drives are multiplexed on the same bus, the pull-up resistors for the shared lines must be removed from the first drive on the bus. This is carried out by removing the two terminating resistor packs 1TM and 2TM, cutting pin 10, 11 and 12 of 2TM and reinsert this package.



REV	DATE	REVISION DESCRIPTION	BY	APPROVED
3	9.15.78	Added PWB Parts Number	R.J.	

Y-E DATA

DRAWN BY	CHECKED BY	TRACED BY	DESIGNED BY	NAME
				INTERFACE

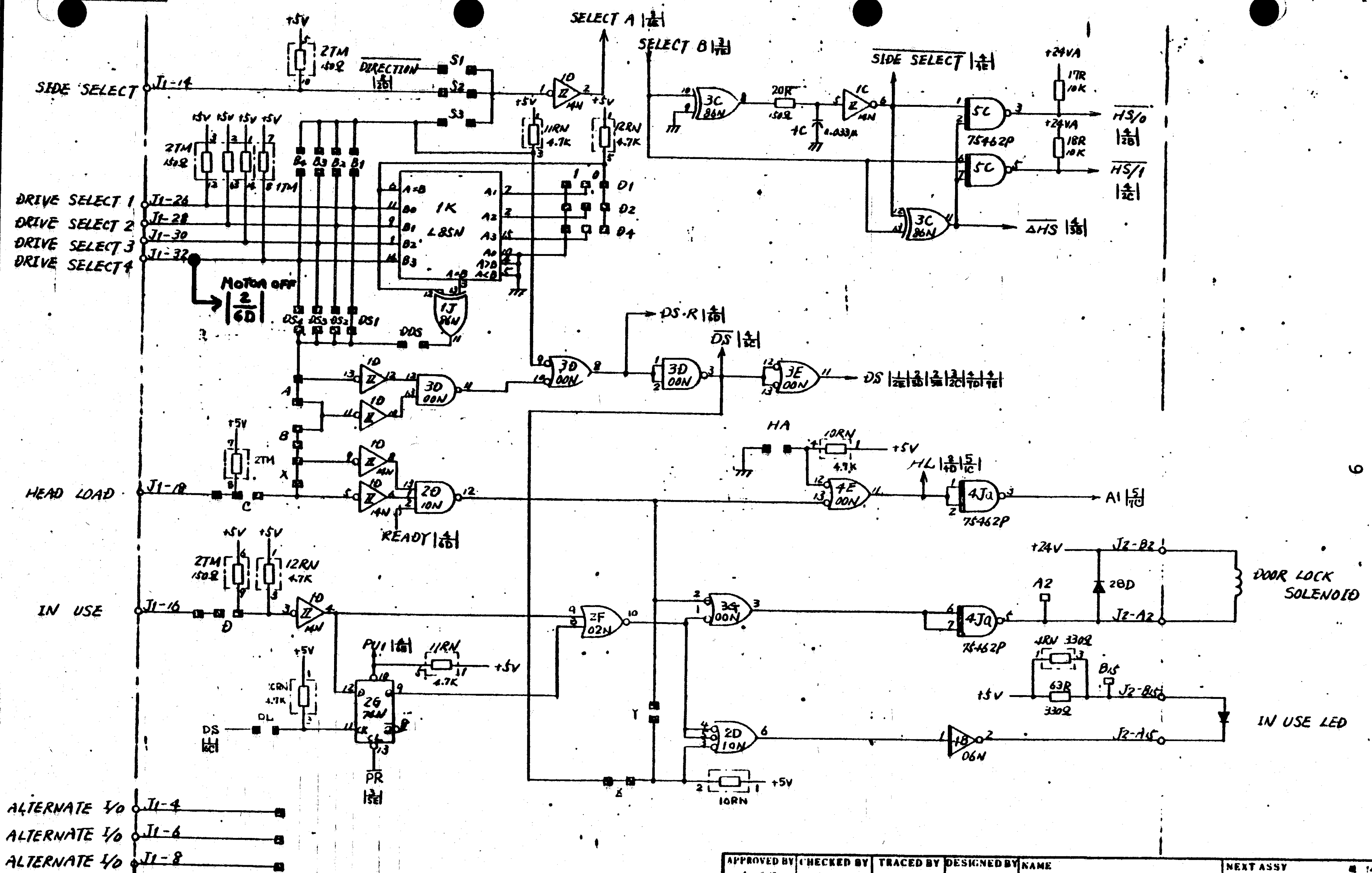
MODEL SYSTEM: YD 174

REV

SHEET

NEXT ASSY

130114



APPROVED BY	CHECKED BY	TRACED BY	DESIGNED BY	NAME	NEXT ASSY
Y. Takai		N. Yoshimura Mar. 8. '78		FLOPPY DISK DRIVE SELECT HEAD LOAD	

REV. C3 — SHEET 1/5

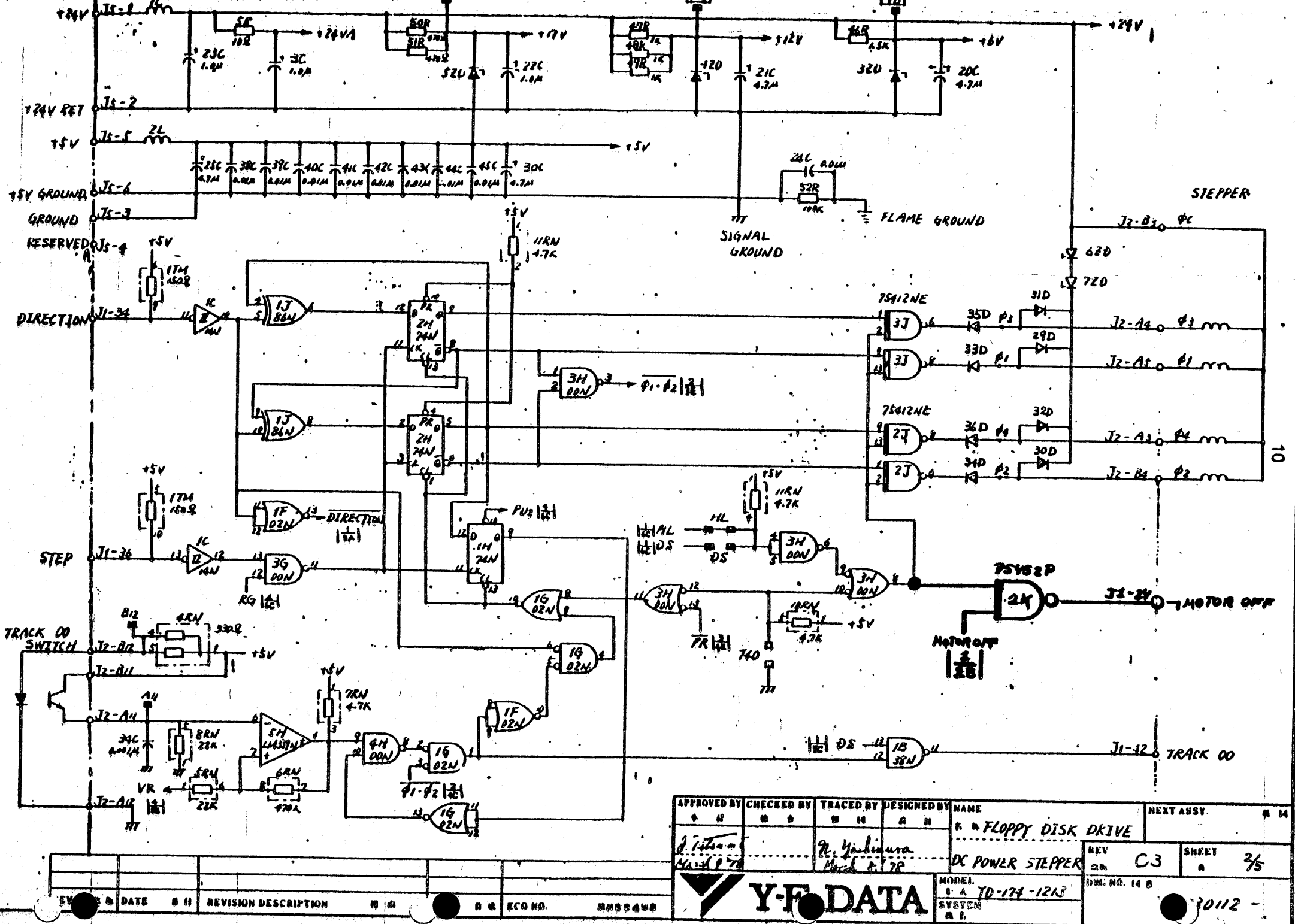
MODEL YD-174-1213

SYSTEM

DWG NO. -130112 -

REV.	DATE	REVISION DESCRIPTION	SIGN	ECO NO
C3	53.11.10	10R (330Ω) 追加	吉村	

Y-E DATA



APPROVED BY	CHECKED BY	TRACED BY	DESIGNED BY
J. Tatsuno		N. Yoshimura	
March 8 '78		March 8 '78	

NAME	NEXT ASSY.
FLOPPY DISK DRIVE	
DC POWER STEPPER	REV C3
MODEL YD-174-1213	SHEET 2/5
SYSTEM	DWG. NO. 30112 -

Y-E DATA

REV.	DATE	REVISION DESCRIPTION	ECO NO.

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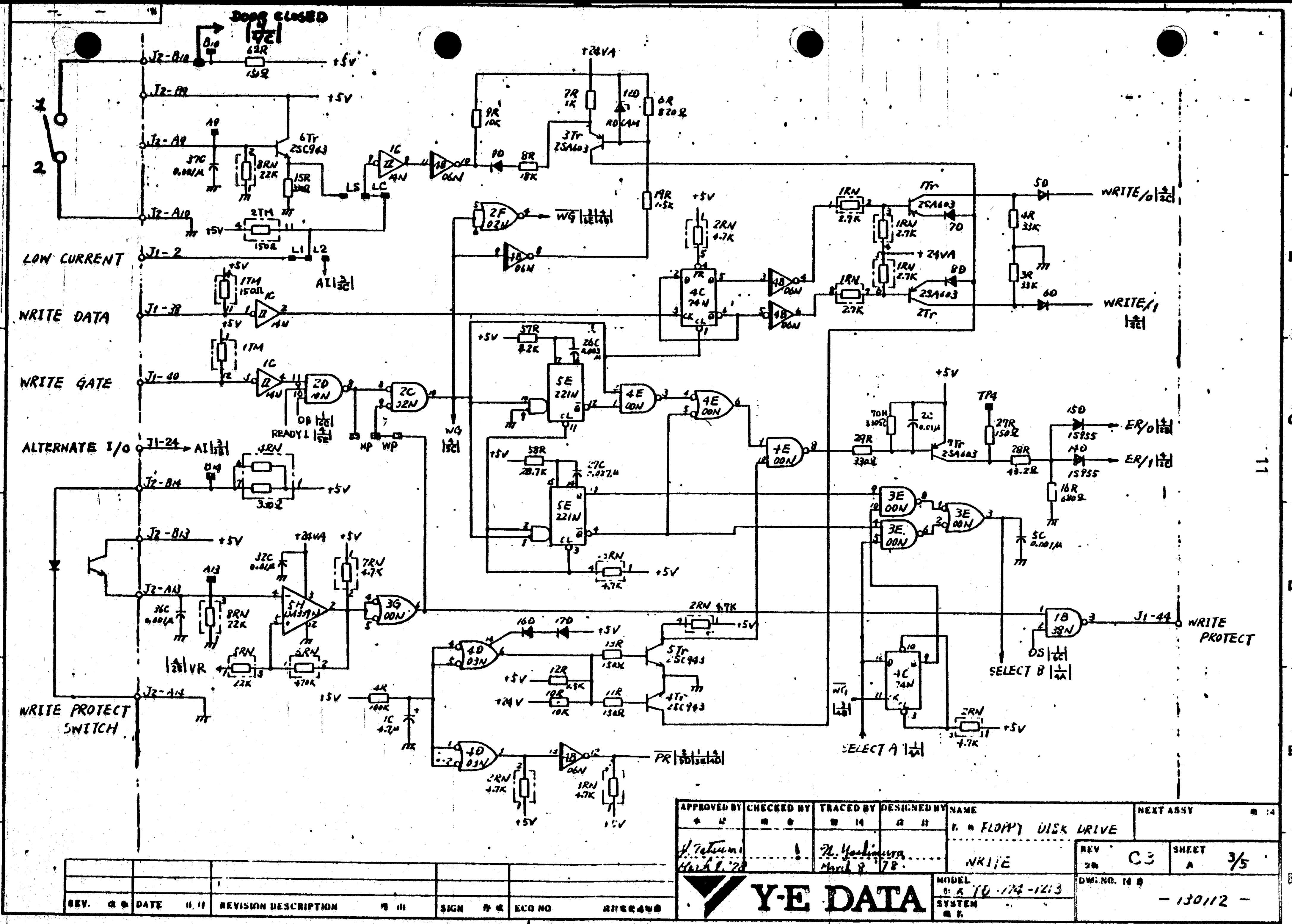
DOOR CLOSED
LOW CURRENT
WRITE DATA
WRITE GATE
ALTERNATE I/O
WRITE PROTECT SWITCH
WRITE/0
WRITE/1
ER/0
ER/1
WRITE PROTECT
SELECT A
SELECT B
APPROVED BY
CHECKED BY
TRACED BY
DESIGNED BY
NAME
FLOPPY DISK DRIVE
WRITE
NEXT ASSY
REV
C3
SHEET
3/5
MODEL
YD-174-1213
DWG. NO.
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Y-E DATA
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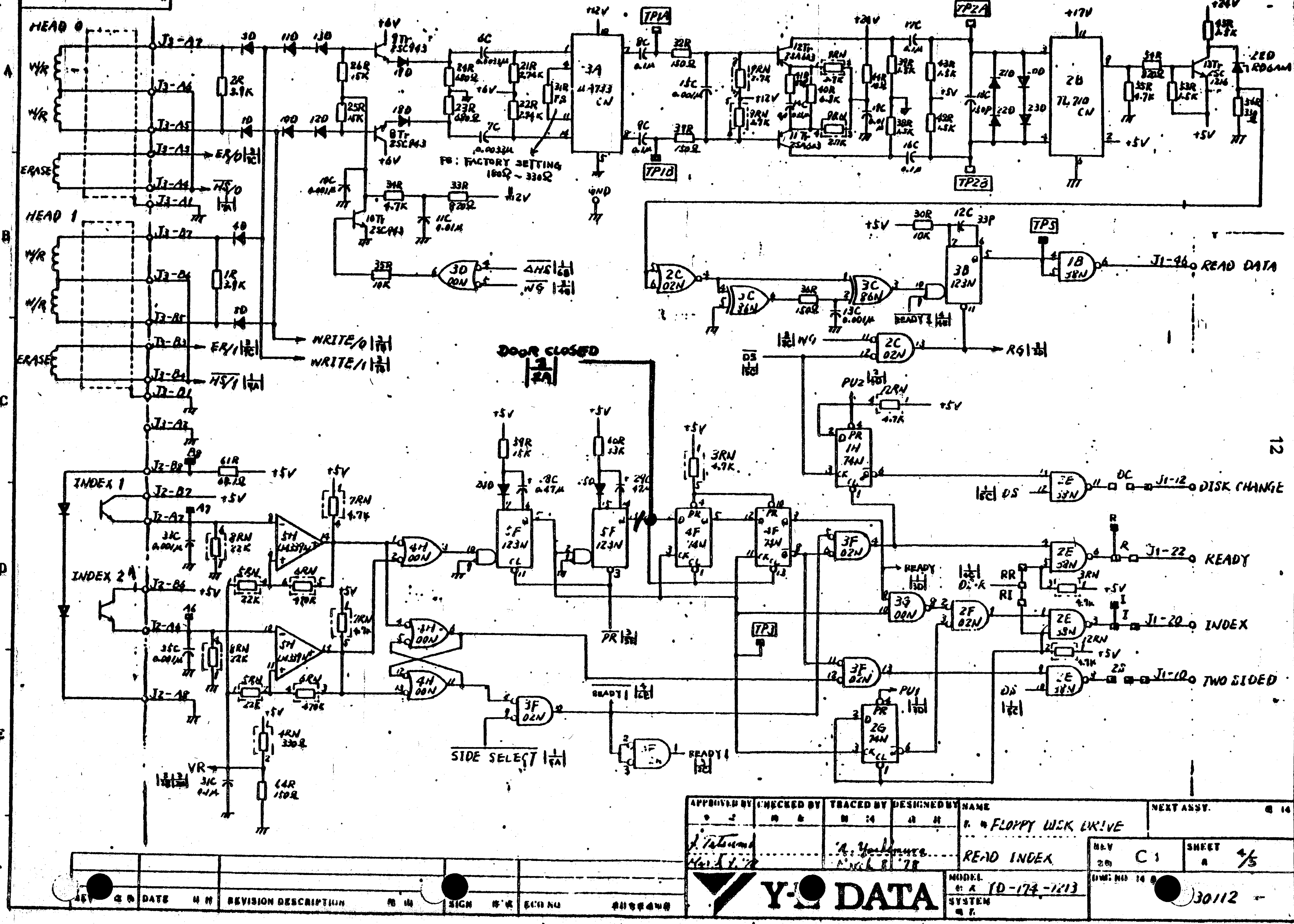
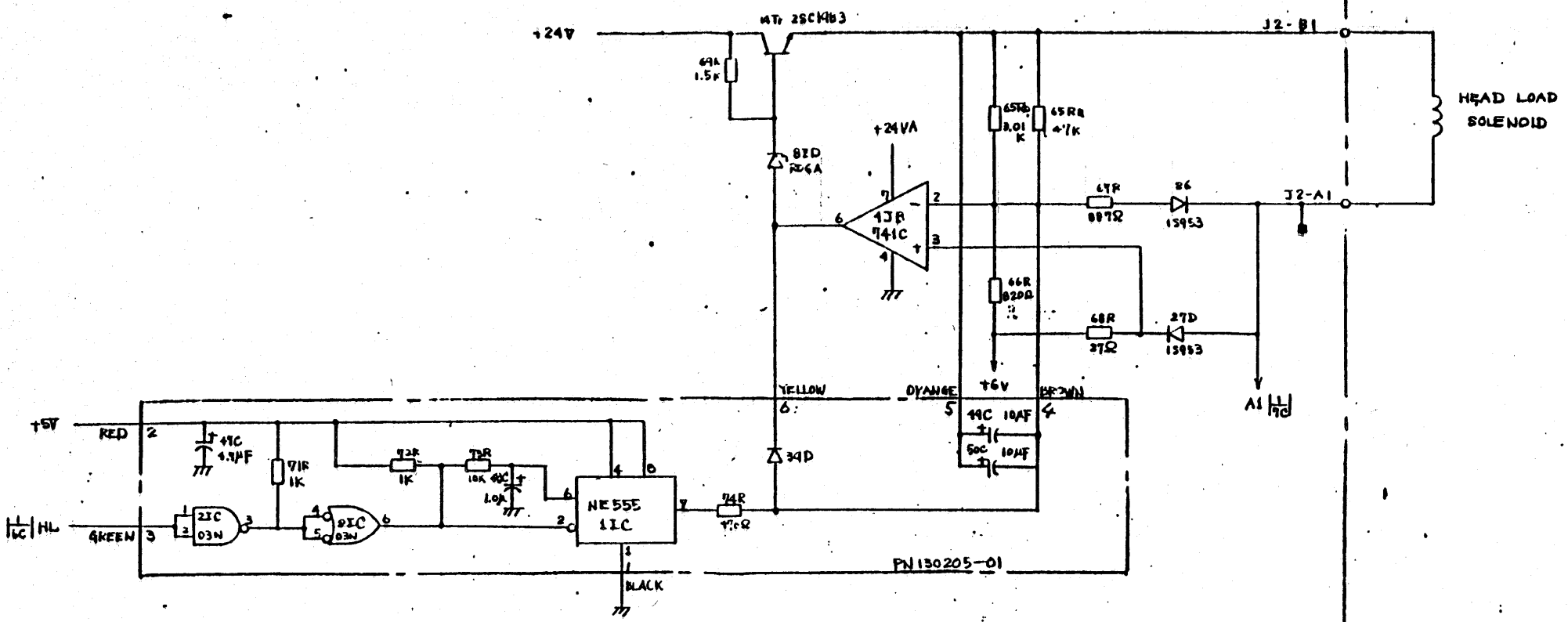

HEAD 0
HEAD 1
ERASE
WRITE/0
WRITE/1
FS : FACTORY SETTING 160Ω ~ 330Ω
DOOR CLOSED
INDEX 1
INDEX 2
SIDE SELECT
READ DATA
DISK CHANGE
READY
INDEX
TWO SIDED
FLOPPY DISK DRIVE
READ INDEX
FD-174-1213
Y-E DATA
30112
APPROVED BY
CHECKED BY
TRACED BY
DESIGNED BY
NAME
NEXT ASSY.
SHEET
4/5
MODEL
SYSTEM
DATE
REVISION DESCRIPTION
SIGN
ECN NO



APPROVED BY	CHECKED BY	TRACED BY	DESIGNED BY	NAME	NEXT ASSY.
		R. Yoshimura			

REV.	DATE	REVISION DESCRIPTION	SIGN	ECO NO.

Y-E DATA

MODEL

SYSTEM

REV. C3

SHEET 5/5

DWG.NO. 14 — 130112 —

M.K. YED-06-A3