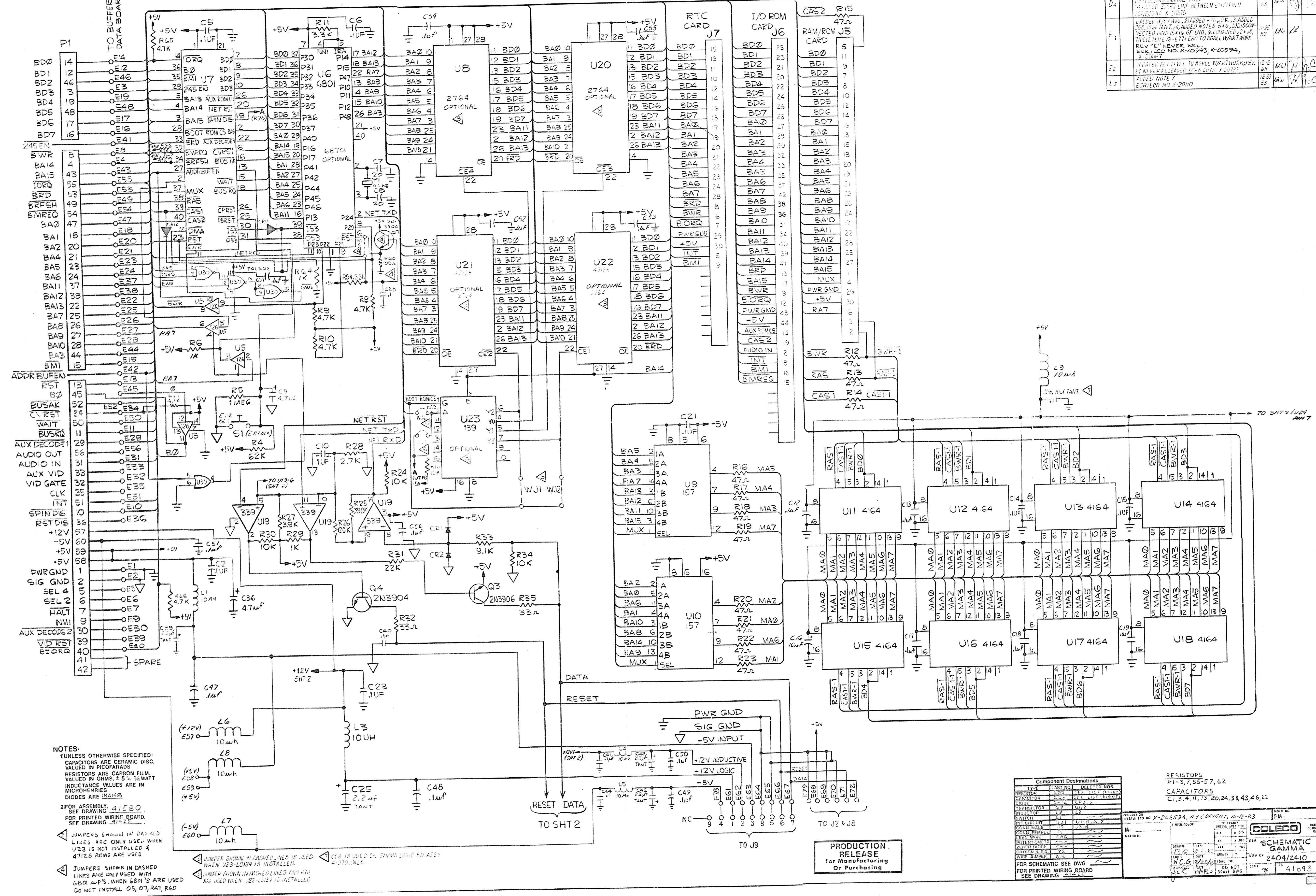


REV.	DATE	BY	CHKD.	APP'D.	REVISIONS
D	10-85	R.T.			REV A THRU C NEVER RELEASED. RELEASED FOR PRODUCTION ECR 100 NO. X-20359 A
D1	11-77				ADDED 4726 FROM U6000, U6012 WAS OPTIONAL ONLY, B12 WAS 10K. ECR 100 NO. X-20005
D4	11-85				NO NEVER RELEASED. IS TOLLING CHANGE ONLY. 4-ADDED 2701 LINE BETWEEN CHIAPI (U) LOGIC IN X-20359
E1	11-85				ADDED 4726 FROM U6000, U6012 WAS OPTIONAL ONLY, B12 WAS 10K. ECR 100 NO. X-20359 A
E2	11-85				ADDED 4726 FROM U6000, U6012 WAS OPTIONAL ONLY, B12 WAS 10K. ECR 100 NO. X-20359 A
E3	11-85				ADDED 4726 FROM U6000, U6012 WAS OPTIONAL ONLY, B12 WAS 10K. ECR 100 NO. X-20359 A



NOTES:
 1. UNLESS OTHERWISE SPECIFIED: CAPACITORS ARE CERAMIC DISC. VALUED IN PICOFARADS. RESISTORS ARE CARBON FILM. VALUED IN OHMS, 1/4 WATT. INDUCTANCE VALUES ARE IN MICROHENRIES. DIODES ARE 1N4148.
 2. FOR ASSEMBLY: 41580. SEE DRAWING FOR PRINTED WIRING BOARD. SEE DRAWING 4148.
 3. JUMPERS SHOWN IN DASHED LINES ARE ONLY USED WHEN U23 IS NOT INSTALLED & 47128 ROMS ARE USED.
 4. JUMPER SHOWN IN DASHED LINES ARE ONLY USED WITH GE01 ROM'S. WHEN 6801'S ARE USED DO NOT INSTALL 05, Q7, R47, R60.
 5. JUMPER SHOWN IN DASHED LINES IS USED WHEN 4726 IS INSTALLED.
 6. JUMPER SHOWN IN DASHED LINES AND 470 ARE USED WHEN 28128 IS INSTALLED.
 7. C48 IS USED ON GAMMA LOGIC ED. ASSY 4-079 ONLY.

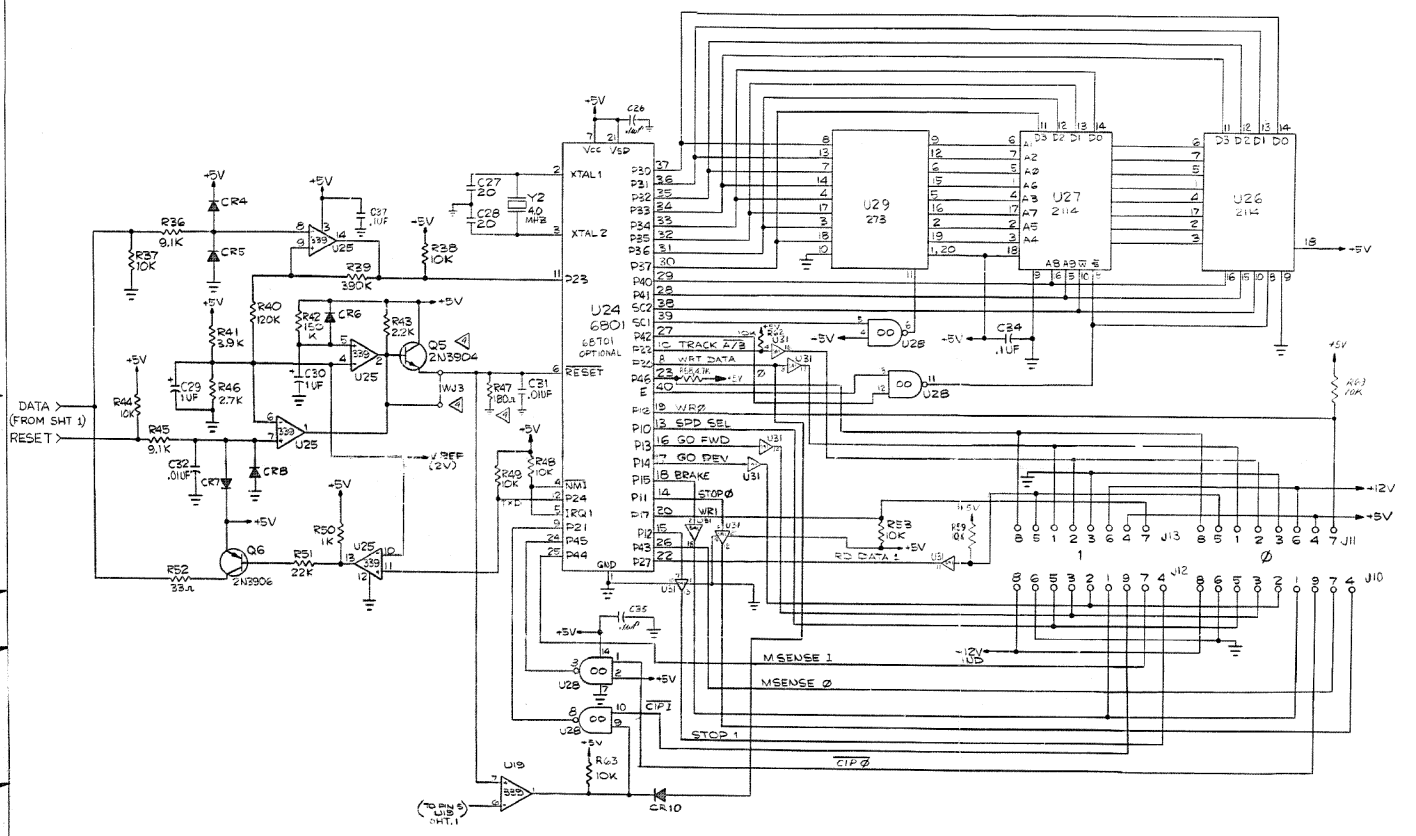
TYPE	LAST NO.	DELETED NOS.
RESISTOR	1-57	611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700
CAPACITOR	1-5	6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100
DIODE	1-1	2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100
TRANSISTOR	1-1	2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100
INDUCTOR	1-1	2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100
SWITCH	1-1	2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100
IC	1-1	2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

RESISTORS
 R1-3, 7, 55-57, 62
CAPACITORS
 C1, 3, 4, 11, 13, 20, 24, 33, 43, 46, 22

PRODUCTION RELEASE
 for Manufacturing
 Or Purchasing

COLECO
 SCHEMATIC GAMMA
 2404/2410
 41893

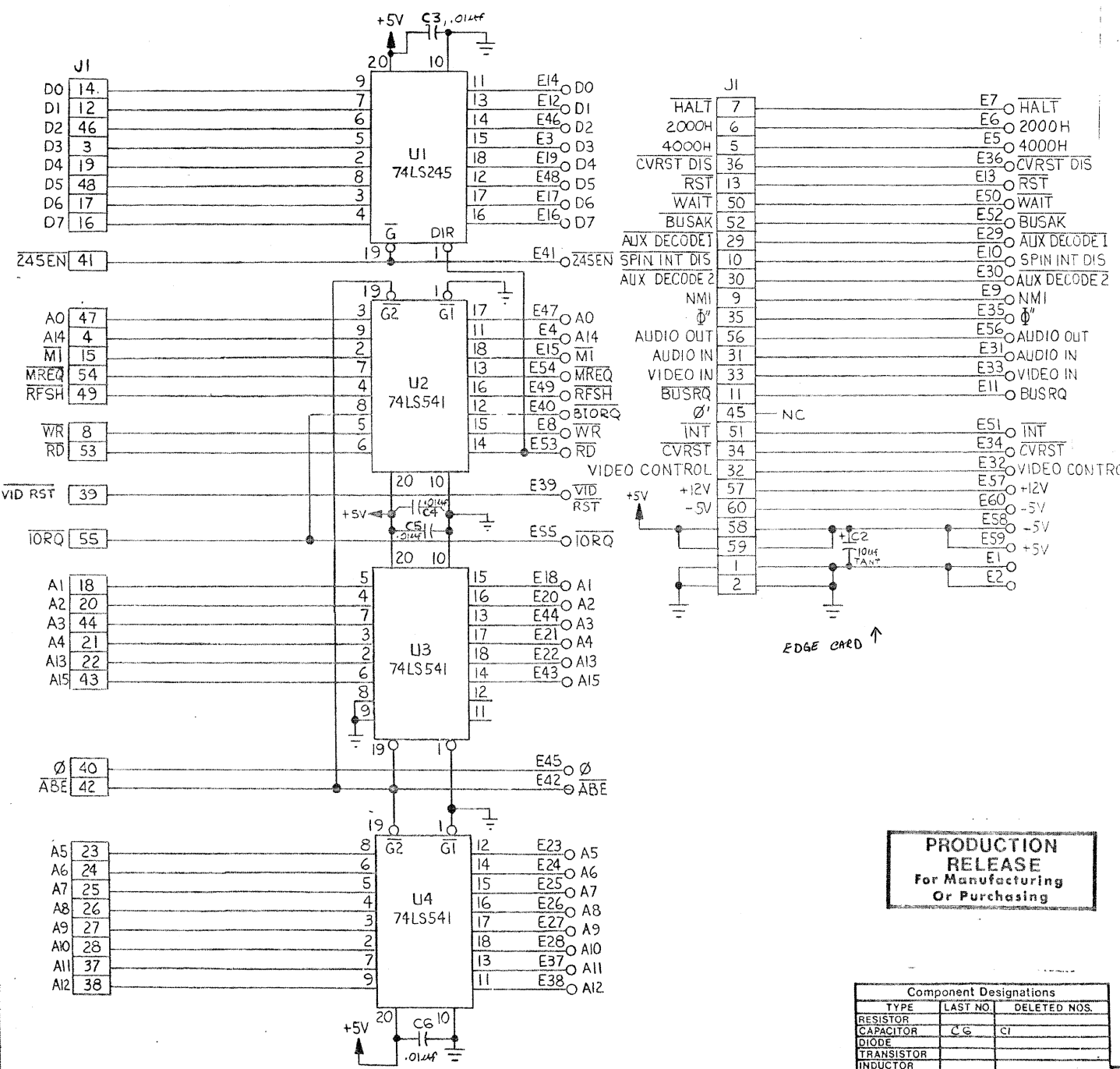
REVISIONS				
NO.	DATE	DESCRIPTION	BY	CHKD.
1		SEE SHT. 1 FOR REVISION		



PRODUCTION
RELEASE
for Manufacturing
O: Purchasing

DRAWING BEING REVISED
FOR FOLLOWING REASON
 DIMENSIONAL CHANGE
 OTHER CHANGE
PER ECR (ECO) NUMBER

DATE	BY	CHKD.	APPR.
2/20/72	J. J. J.	J. J. J.	J. J. J.
COLECO			
SCHEMATIC		GAMMA	
2404/2410		41843	



NOTES:
 1) UNLESS OTHERWISE SPECIFIED:
 CAPACITORS ARE CERAMIC DISC,
 VALUED IN PICOFARADS
 RESISTORS ARE CARBON FILM,
 VALUED IN OHMS, ± 5%, 1/4 WATT
 INDUCTANCE VALUES ARE IN
 MICROHENRIES
 DIODES ARE H

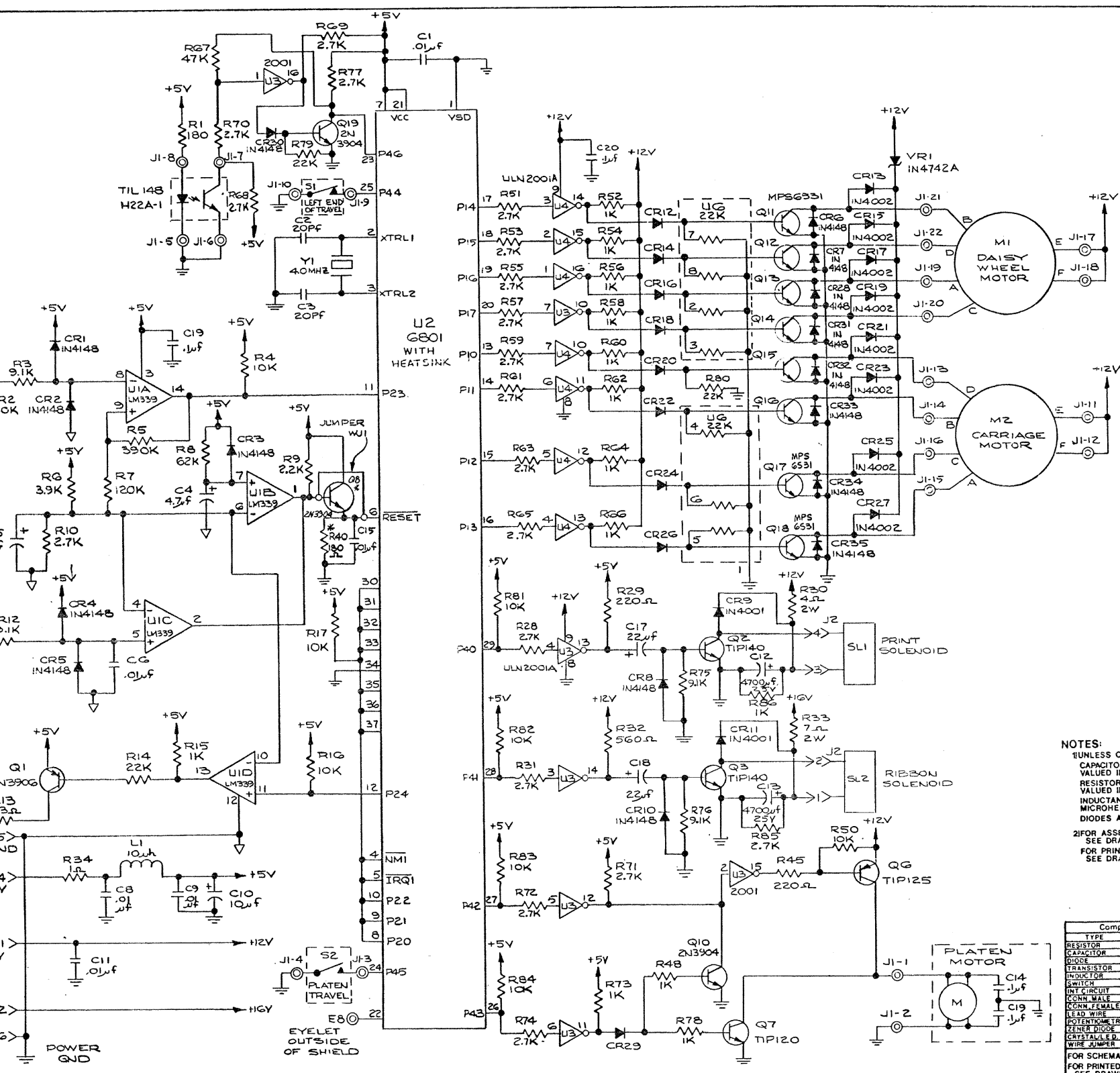
**PRODUCTION
 RELEASE**
 For Manufacturing
 Or Purchasing

Component Designations		
TYPE	LAST NO.	DELETED NOS.
RESISTOR		
CAPACITOR	C6	C1
DIODE		
TRANSISTOR		
INDUCTOR		
SWITCH		
INT. CIRCUIT	U4	
CONN. MALE		
CONN. FEMALE		
LEAD WIRE		
POTENTIOMETER		
ZENER DIODE		
CRYSTAL/L.E.D.		
WIRE JUMPER		

FOR SCHEMATIC SEE DWG HL
 FOR PRINTED WIRING BOARD
 SEE DRAWING 4142

PRODUCTION RELEASE ECO NO.		MOLD NO. PM-	
MATERIAL:		FINISH/COLOR	
TOLERANCE UNLESS SPECIFIED		ITEM: SCHEMATIC, INTERCONNECT PC BOARD WITH BUFFERS	
DRAWN: 27	DATE: 6-14-83	XX ± .010	USED ON: 2404
CHK'D: <u>810</u>	DATE: 8-27-83	XXX ± .005	
APPROVED: <u>Yes</u>	DATE: 11/4/83	ANGLES ±	SCALE: <u>2</u>
DO NOT SCALE DWG.		NO 41840	
		REV. F	

DESIGN PRODUCTS CO.



NOTES:
 UNLESS OTHERWISE SPECIFIED:
 CAPACITORS ARE CERAMIC DISC,
 VALUED IN PICOFARADS
 RESISTORS ARE CARBON FILM,
 VALUED IN OHMS, ± 5%, 1/4WATT
 INDUCTANCE VALUES ARE IN
 MICROHENRIES
 DIODES ARE IN4148

* 3. Q8 & R40 ARE REQUIRED
 IS A 68701, REMOVE
 INSTALLING Q8 &

2) FOR ASSEMBLY,
 SEE DRAWING 42406.
 FOR PRINTED WIRING BOARD,
 SEE DRAWING 42407.

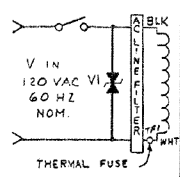
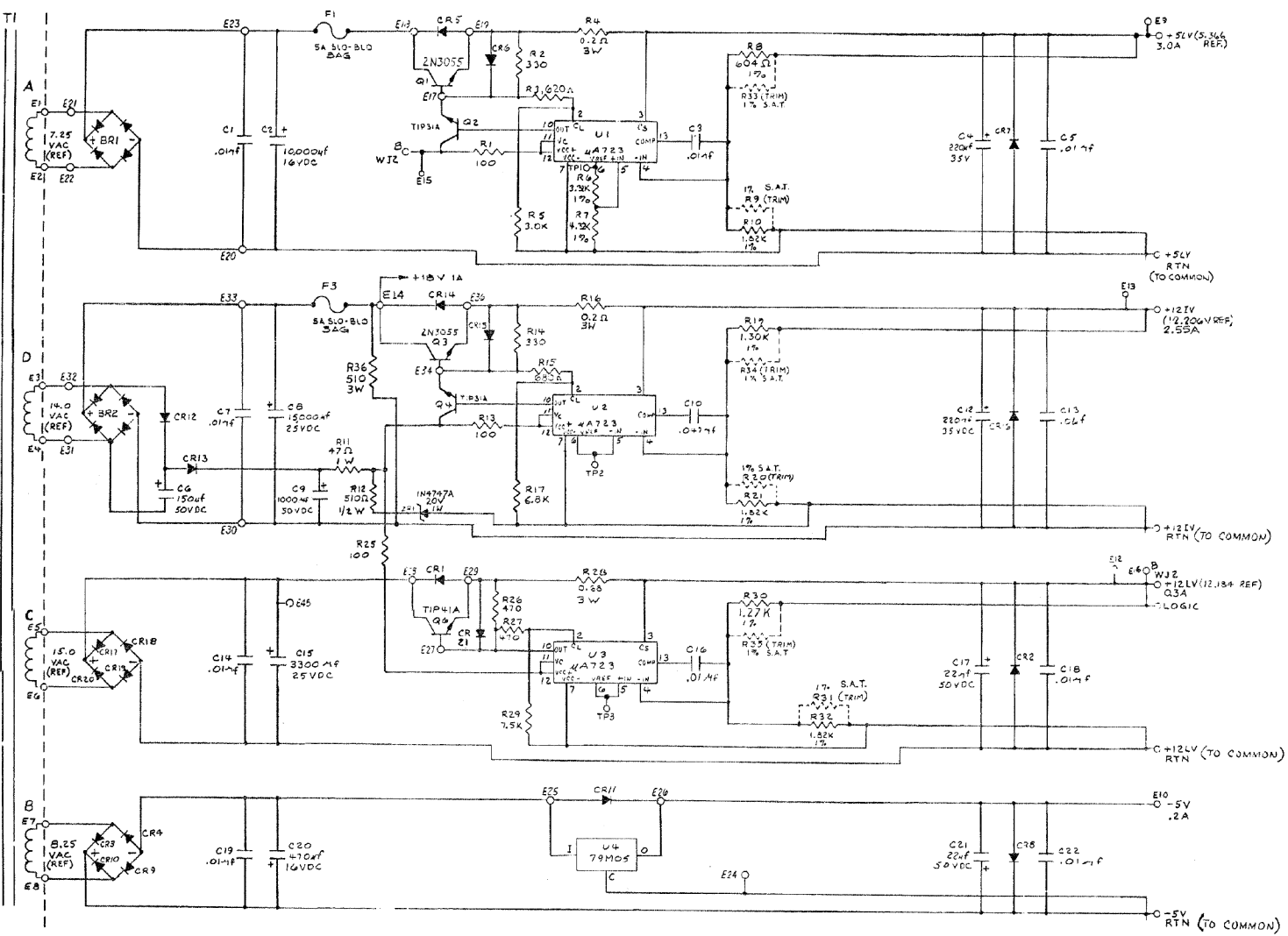
Component Designations		
TYPE	LAST NO.	DELETED NOS.
RESISTOR	R35	SEE LIST AT 8.6.01
CAPACITOR	C20	C7, 4
DIODE	CR32	
TRANSISTOR	Q19	Q4, 2, 9
INDUCTOR	L1	
SWITCH	S2	
INT. CIRCUIT	UG	US
CONN. MALE	J2	
CONN. FEMALE	J3	
LEAD WIRE	5B	
POTENTIOMETER		
ZENER DIODE	VBI	
CRYSTALLED	Y	
WIRE JUMPER	W1	

DELETED R' NOS.	
R18-27, 35-39, 41-44, 40, 47, 49	

PRODUCTION RELEASE ECO NO.		FINISH/COLOR		TOLERANCE UNLESS SPECIFIED	
MATERIAL				R/A	± %
				XX	± 0.01
				XXX	± 0.001
				ANGLES	±
				CONC. TH	
				DO NOT SCALE DWG	

DRAWN	DATE
JAS	1-25-84
CHECKED	DATE
V. [Signature]	2/9/84
APPROVED	DATE
[Signature]	2-21-86

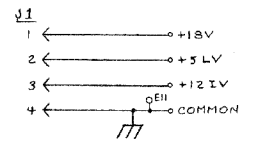
FOR SCHEMATIC SEE DWG
 FOR PRINTED WIRING BOARD
 SEE DRAWING 42407



NOTES:
 UNLESS OTHERWISE SPECIFIED:
 CAPACITORS ARE CERAMIC DISC,
 VALUED IN PICOPARAFS
 RESISTORS ARE CARBON FILM,
 VALUED IN OHMS, 2.5%, 1/4 WATT
 INDUCTANCE VALUES ARE IN
 MICROHENRIES
 DIODES ARE 1N4002

2IFOR ASSEMBLY,
 SEE DRAWING #J240
 FOR PRINTED WIRING BOARD,
 SEE DRAWING #J240

3)R9 20, 31, 33, 34 & 35 ARE OPTIONAL RESISTORS
 TO BE SELECT AT TEST IF NEEDED.

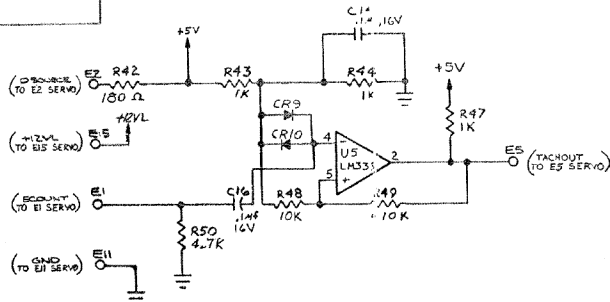
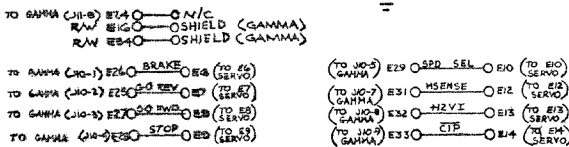
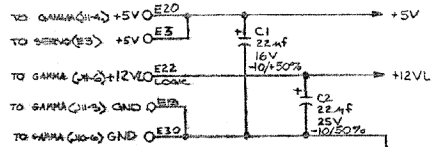
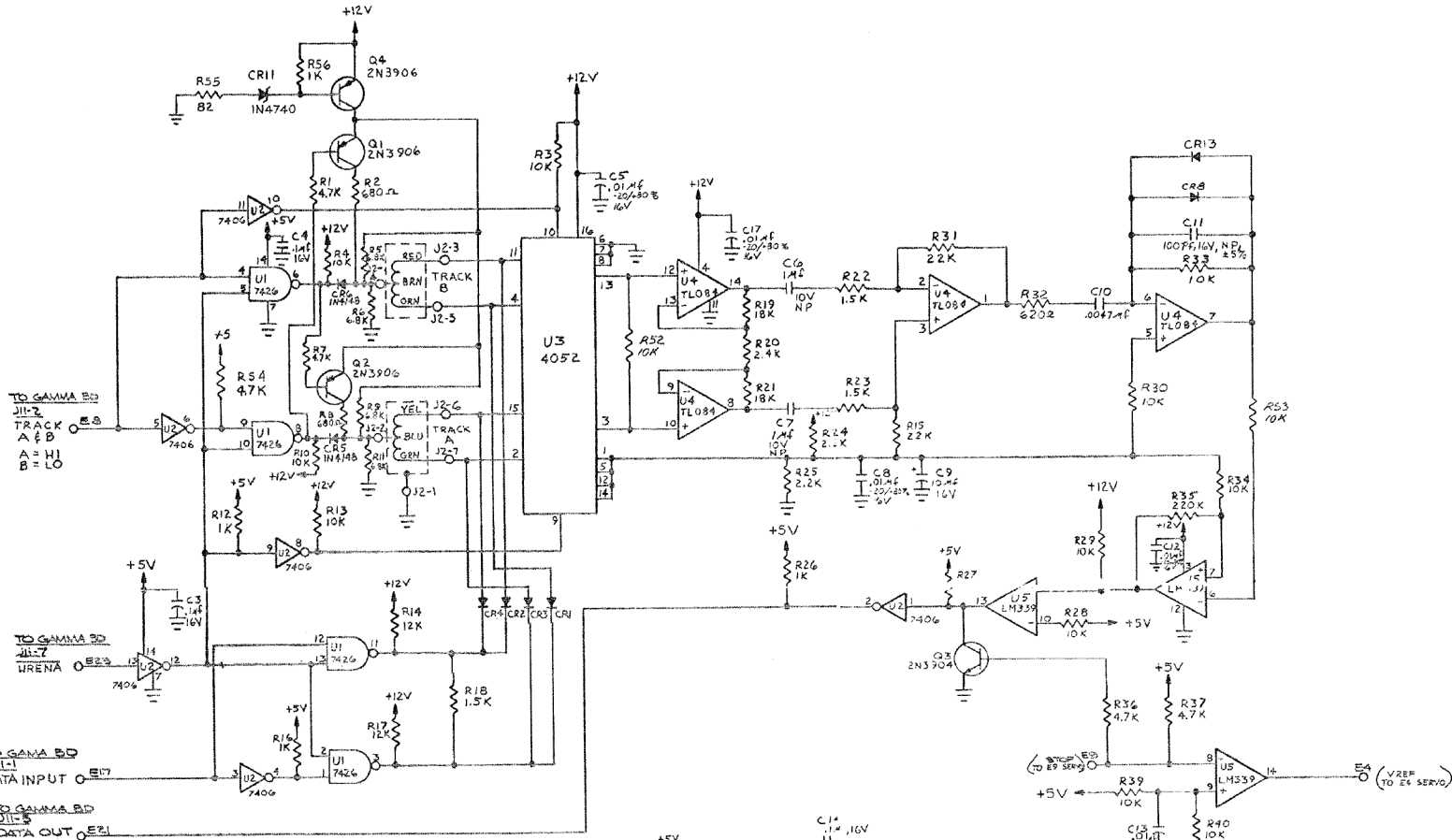


CONFIDENTIAL

PRODUCTION RELEASE
 For Manufacturing
 Or Purchasing

Component Designations		
TYPE	LIST NO.	DELETED NOS.
DIODE	CR5	CR12, CR14
CAPACITOR	C 2, 8, 9	C 1, 10, 11, 12
RESISTOR	R 2, 3, 21	R 1, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35
TRANSISTOR	Q 1, 2, 3, 4	Q 1, 2, 3, 4
IC	U 1, 2, 3, 4	U 1, 2, 3, 4
SWITCH	S 1	S 1
RELAY	Y 1	Y 1
CONN. PANEL	U 2	U 2
CONN. FEMALE	F 1	F 1
LEAD WIRE	L 1	L 1
POTENTIOMETER	P 1	P 1
WIRE RUMPER	W 1, 2	W 1, 2

PRODUCTION RELEASE NO.		REV. NO. P.M.	
MATERIAL		REVISION	
DATE	BY	DATE	BY
6/12/54	WLB	6/12/54	WLB
DRAWN G.D.		SCALE 1:1	
DATE 7/6/54		TOTAL SCHEMATIC	
REV. 1		LINEAR POWER SUPPLY	
CNC. NO.		WTR. NO.	
83-101		83-101	
SCALE 1:1		SCALE 1:1	
41234		41234	

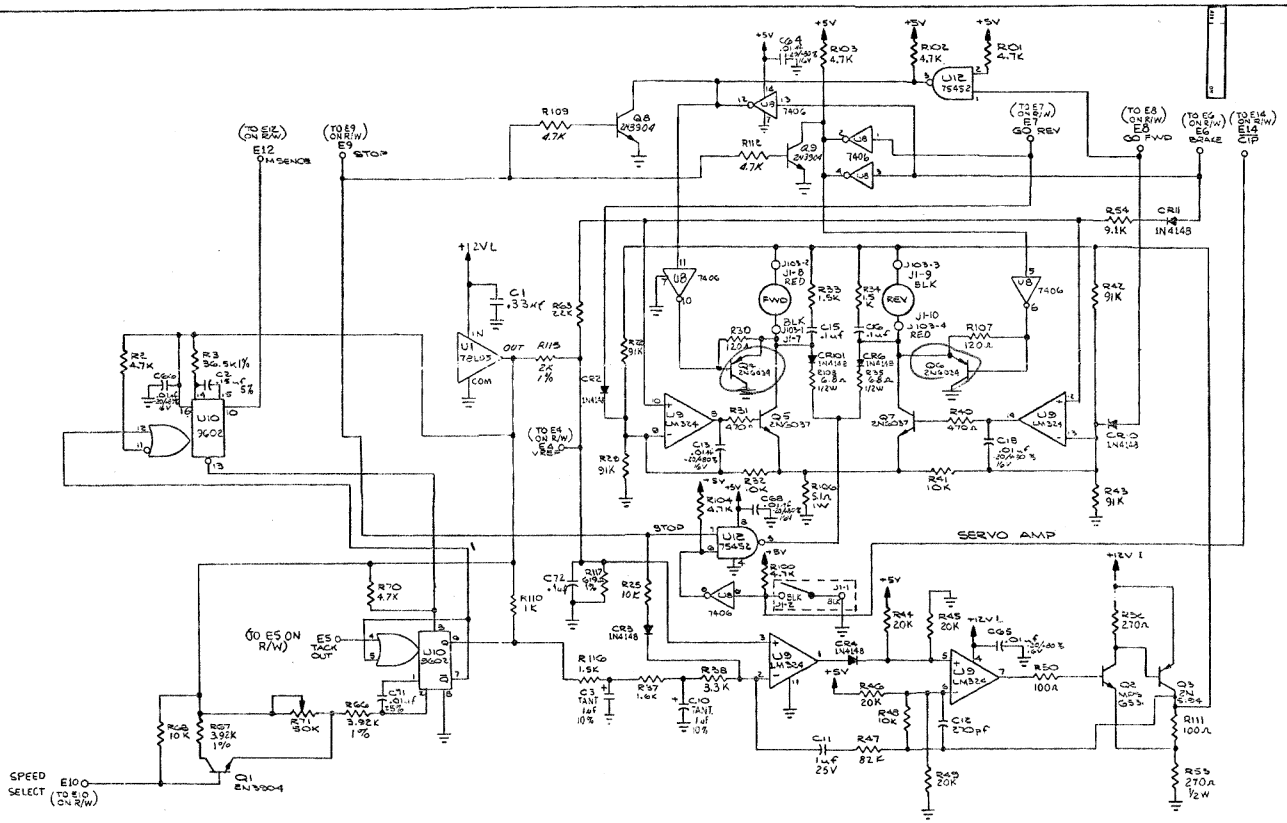


NOTES:
 UNLESS OTHERWISE SPECIFIED:
 CAPACITORS ARE CERAMIC DISC
 VALUES IN MICROFARADS
 RESISTORS ARE CARBON FILM,
 VALUED IN OHMS, $\pm 5\%$, 1/4 WATT
 INDUCTANCE VALUES ARE IN
 MICROHENRIES
 DIODES ARE 1N4148
 2IFOR ASSEMBLY
 SEE DRAWING 41780
 FOR PRINTED WIRING BOARD,
 SEE DRAWING 41780

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PRODUCTION
 RELEASE
 For Manufacturing
 Or Purchasing

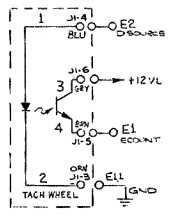
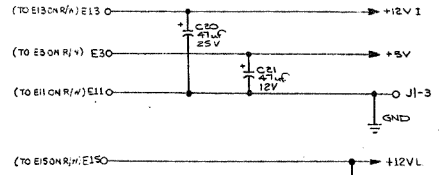
Component Designations		
TYPE	LAST NO.	DELETED NOS.
RESISTOR	22.2K	
DIODE	CR13	CR12
TRANSISTOR	Q1, Q2	
SWITCH	U5	
INDUCTOR		
CONNECTOR	J2	
LEAD WIRE		
RESISTOR	R33	
DIODE	CR11	
TRANSISTOR	Q3	
RESISTOR	R39	
DIODE	CR13	
TRANSISTOR	Q3	
RESISTOR	R47	
DIODE	CR11	
TRANSISTOR	Q1, Q2	
RESISTOR	R48	
DIODE	CR13	
TRANSISTOR	Q3	
RESISTOR	R47	
DIODE	CR11	
TRANSISTOR	Q1, Q2	
RESISTOR	R48	
DIODE	CR13	
TRANSISTOR	Q3	
RESISTOR	R47	
DIODE	CR11	
TRANSISTOR	Q1, Q2	
RESISTOR	R48	
DIODE	CR13	
TRANSISTOR	Q3	
RESISTOR	R47	
DIODE	CR11	
TRANSISTOR	Q1, Q2	
RESISTOR	R48	
DIODE	CR13	
TRANSISTOR	Q3	
RESISTOR	R47	
DIODE	CR11	
TRANSISTOR	Q1, Q2	
RESISTOR	R48	
DIODE	CR13	
TRANSISTOR	Q3	
RESISTOR	R47	
DIODE	CR11	
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DIODE	CR13	
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RESISTOR	R47	
DIODE	CR11	
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DIODE	CR11	
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RESISTOR	R47	
DIODE	CR11	
TRANSISTOR	Q1, Q2	
RESISTOR	R48	
DIODE	CR13	
TRANSISTOR	Q3	
RESISTOR	R47	
DIODE	CR11	
TRANSISTOR	Q1, Q2	
RESISTOR	R48	
DIODE	CR13	
TRANSISTOR	Q3	
RESISTOR	R47	
DIODE	CR11	
TRANSISTOR	Q1, Q2	
RESISTOR	R48	
DIODE	CR13	
TRANSISTOR	Q3	
RESISTOR	R47	
DIODE	CR11	
TRANSISTOR	Q1, Q2	
RESISTOR	R48	
DIODE	CR13	
TRANSISTOR	Q3	
RESISTOR	R47	
DIODE	CR11	
TRANSISTOR	Q1, Q2	
RESISTOR	R48	
DIODE	CR13	
TRANSISTOR	Q3	
RESISTOR	R47	
DIODE	CR11	
TRANSISTOR	Q1, Q2	
RESISTOR	R48	
DIODE	CR13	
TRANSISTOR	Q3	
RESISTOR	R47	
DIODE	CR11	
TRANSISTOR	Q1, Q2	
RESISTOR	R48	
DIODE	CR13	
TRANSISTOR	Q3	
RESISTOR	R47	
DIODE	CR11	
TRANSISTOR	Q1, Q2	
RESISTOR	R48	
DIODE	CR13	
TRANSISTOR	Q3	
RESISTOR	R47	
DIODE	CR11	
TRANSISTOR	Q1, Q2	
RESISTOR	R48	
DIODE	CR13	
TRANSISTOR	Q3	
RESISTOR	R47	
DIODE	CR11	
TRANSISTOR	Q1, Q2	
RESISTOR	R48	
DIODE	CR13	
TRANSISTOR	Q3	
RESISTOR	R47	
DIODE	CR11	
TRANSISTOR	Q1, Q2	
RESISTOR	R48	
DIODE	CR13	
TRANSISTOR	Q3	
RESISTOR	R47	
DIODE	CR11	
TRANSISTOR	Q1, Q2	
RESISTOR	R48	
DIODE	CR13	
TRANSISTOR	Q3	
RESISTOR	R47	
DIODE	CR11	
TRANSISTOR	Q1, Q2	
RESISTOR	R48	
DIODE	CR13	
TRANSISTOR	Q3	
RESISTOR	R47	
DIODE	CR11	
TRANSISTOR	Q1, Q2	
RESISTOR	R48	
DIODE	CR13	
TRANSISTOR	Q3	
RESISTOR	R47	
DIODE	CR11	
TRANSISTOR	Q1, Q2	
RESISTOR	R48	
DIODE	CR13	
TRANSISTOR	Q3	
RESISTOR	R47	
DIODE	CR11	
TRANSISTOR	Q1, Q2	
RESISTOR	R48	



- NOTES:
1. DECOUPLING CAPACITORS ARE .01 μF
 2. U.O.B. ALL RESISTORS ARE 1/4W, 5%
 3. TRANSISTORS Q3 THRU Q7 ARE HEATSINK
 4. DELETED REFERENCE DESIGNATIONS:
RESISTORS: R14, 24, 26, 27, 34, 39, 51, 55-62, 64, 65, 69, 72-99, 105, 113, 114
CAPACITORS: C4-9, 14, 17, 19, 22-63, 67, 69, 70

UNLESS OTHERWISE SPECIFIED:
CAPACITORS ARE CERAMIC DISC,
VALUES IN PICOFARADS
RESISTORS ARE CARBON FILM,
VALUES IN OHMS, 1/4W, 5%
INDUCTANCE VALUES ARE IN
MICROHENRIES
DIODES ARE 1N4148

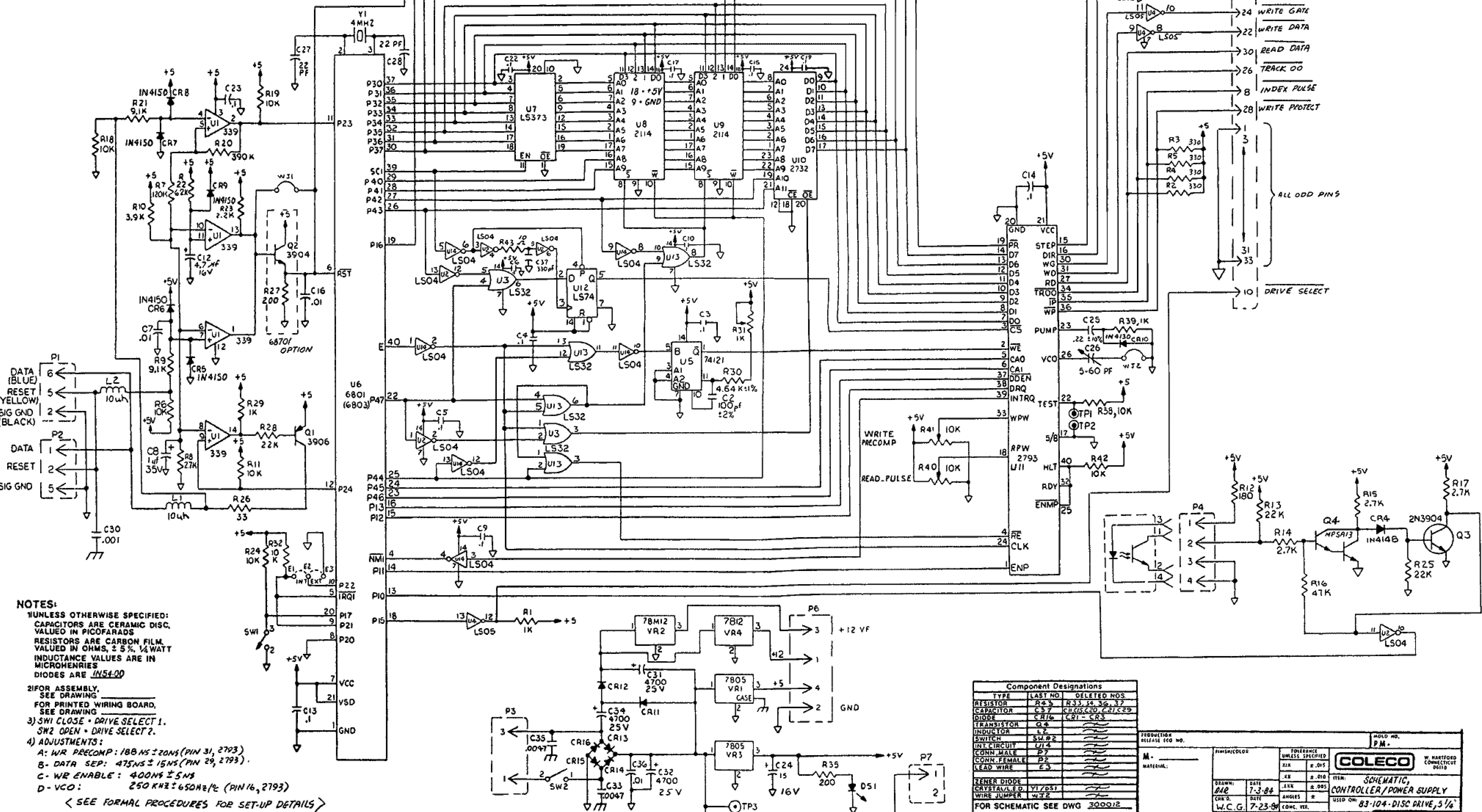
FOR ASSEMBLY
SEE DRAWING 11781
FOR PRINTED WIRING BOARD,
SEE DRAWING 11377



PRODUCTION
RELEASE
For Manufacturing
Or Purchasing

Component Designations		REVISED NOS.	
TYPE	QUANTITY	REVISED NOS.	QUANTITY
RESISTOR	111	270A	1
RESISTOR	112	270A	1
RESISTOR	113	270A	1
RESISTOR	114	270A	1
RESISTOR	115	270A	1
RESISTOR	116	270A	1
RESISTOR	117	270A	1
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RESISTOR	124	270A	1
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RESISTOR	375	270A	1
RESISTOR	376	270A	1
RESISTOR	377	270A	1
RESISTOR	378	270A	1

REVISIONS					
REV.	DATE	DESCRIPTION	BY	CHK'D	APP'D
3	7-27-84	PRELIMINARY RELEASE DRC # 840683	ED		
A	7/27/84	REL. FOR PROD. ECO# EL-11370	J.B.		
A1	9-11-84	1, C30 WAS SHOWN OPTIONAL, 2, R7 WAS 120K ECO NO. EL-11378 + EL-11401 DRC NO. 840807	DAR		
A2	10/30/84	ADDED W11, W12, ADDED R43, 10K; C37, 330PF; REMOVED R71, R13 WAS 2.7K, REVISED NOTE #4 ENCLOSED Q2/R27, ADDED CAPTION BELOW. CHANGED Q4 SYMBOL ECO# EL-11522 DRC NO. 840995			



NOTES:
 1) UNLESS OTHERWISE SPECIFIED:
 CAPACITORS ARE CERAMIC DISC,
 VALUED IN PICOFARADS
 RESISTORS ARE CARBON FILM,
 VALUED IN OHMS, ± 5%, 1/4 WATT
 INDUCTANCE VALUES ARE IN
 MICRohenries
 DIODES ARE 1N5400
 2) FOR ASSEMBLY,
 SEE DRAWING
 FOR PRINTED WIRING BOARD,
 SEE DRAWING
 3) SW1 CLOSE - DRIVE SELECT 1.
 SW2 OPEN - DRIVE SELECT 2.
 4) ADJUSTMENTS:
 A - WR PRECOMP: 188NS ± 20NS (PIN 31, 2793)
 B - DATA SEP: 475NS ± 15NS (PIN 29, 2793)
 C - WR ENABLE: 400NS ± 5NS
 D - VCO: 250 KHz ± 650Hz (PIN 16, 2793)
 < SEE FORMAL PROCEDURES FOR SET-UP DETAILS >

Component Designations		
TYPE	LAST NO.	DELETED NOS.
RESISTOR	R45	R33, 34, 36, 37
CAPACITOR	C37	C16, C20, C21, C29
DIODE	CR16	CR1 - CR5
TRANSISTOR	Q4	
INDUCTOR	L2	
SWITCH	SW #2	
INT. CIRCUIT	U14	
CONN. MALE	P7	
CONN. FEMALE	P2	
LEAD WIRE	E3	

DRAWN: 848		DATE: 7-3-84	SCALE: 1:1	ITEM: SCHEMATIC
W.C.G.		DATE: 7-23-84	SCALE: 1:1	ITEM: CONTROLLER/POWER SUPPLY
APPROVED: 1/1		DATE: 7-27-84	SCALE: 1:1	ITEM: 83-104-DISC DRIVE, 5 1/4"
MATERIAL:		SCALE: 1:1	NO. 300012	REV. A2