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**MODEL 350
PRINTSTATIONS**

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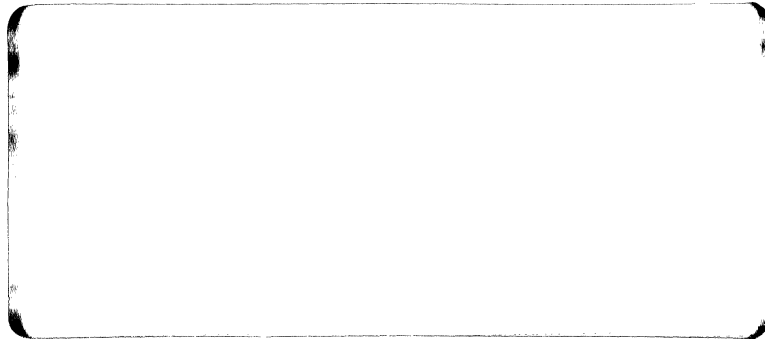
REV C

FEBRUARY 1984

ILLUSTRATED PARTS MANUAL

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SECTION 1

GENERAL INFORMATION

1.1 INTRODUCTION

This manual contains illustrated parts breakdowns to the assembly level (when applicable) and piece part of the mechanical and electrical assemblies in the Series 350 Printstations. The Series 350 Printstations include; the Model 350, the Model 351, the Model 352 and the Model 353.

Section Two, Mechanical Parts Breakdown applies, to all printstations. The Assembly Interconnection and the Base Cover have some differences which are identified by notes at the bottom of the List of Materials.

The electrical parts breakdown are covered in Section Three thru Section Six. Each section is devoted to a different model printer.

Section Seven contains a numerical index of all the mechanical parts of section two. The index contains the part number, description, and cross references each mechanical part to a figure and index number in section two.

Section Eight contains a history of the Print Controller and Format Controller board revisions.

This parts manual used with the specific model technical and users manuals provides complete documentation for each of the Series 350 Printstations.

<u>MANUAL TITLE</u>	<u>PART NUMBER</u>
Users Manual	37403511-9001 (Model 351)
	37403521-9001 (Model 352)
	37403531-9001 (Model 353)
Technical Manuals	37403510-9001 (Model 351)
	37403520-9001 (Model 352)
	37403530-9001 (Model 353)

1.2 MECHANICAL PARTS DEFINITION

The mechanical parts, except those associated with the electronic assemblies, are identified in the mechanical parts breakdown of the mechanical assemblies in Section 2. Each breakdown includes an illustration that details the mechanical assemblies and/or subassemblies down to the assembly level or piece part, and an associated list of materials, which is keyed to the illustration. Each list of materials consists of four columns: ITEM, PART NUMBER, DESCRIPTION and QUANTITY. The function of each column is described in paragraphs 1.2.1 through 1.2.4.

1.2.1 ITEM

This column contains an identification number for each assembly or part illustrated in an associated figure. The index numbers prefixed with an A (i.e., A1, A2, etc.) represent attaching hardware.

1.2.2 PART NUMBER

This column contains part numbers used to identify the parts. The last four digits (dash number) of each part number designates the type of part as described below.

<u>DASH NUMBER</u>	<u>TYPE OF PART</u>
-1XXX	Electrical Piece Part
-2XXX	Mechanical Piece Part
-3XXX	Label, Nameplate, etc.
-4XXX	Electrical Assembly
-5XXX	Mechanical Assembly
-6XXX	Kit
-8XXX	Assembly Diagram
-9XXX	Schematic Diagram

1.2.3 DESCRIPTION

This column provides a brief description of the indexed part.

1.2.4 QUANTITY

This column indicates the number of parts required to build up the assembly or subassembly.

1.3 ELECTRICAL PARTS DEFINITIONS

The parts associated with the electronic assemblies are identified by reference designators in the electrical parts breakdowns in Sections 3 through 6. Each breakdown includes one or more component location diagrams and associated lists of materials. Each list of materials consists of three columns: REFERENCE DESIGNATOR, PART NUMBER and DESCRIPTION. The function of each column is described in paragraphs 1.3.1 through 1.3.3.

1.3.1 REFERENCE DESIGNATOR

Each component in the referenced figure is listed in this column by reference designator. In addition to identifying the location of a part, the reference designator also identifies the type of part as described below.

<u>REFERENCE DESIGNATOR</u>	<u>TYPE OF PART</u>
A	Assembly
C	Capacitor
CR	Diode
DS	Light Emitting Diode (LED)
E	Miscellaneous Electronic Parts (e.g., insulator, terminal standoff, etc.)
F	Fuse
FL	Filter
H	Hardware (common fasteners, etc.)
J	Connector (receptacle)
P	Connector (plug)
Q	Transistor
R	Resistor, Potentiometer
RN or R	Resistor Network
TP	Test Point
U	Microelement (Integrated Circuit)
W	Cable Assembly
X	Fuse Holder, Socket
XME	Socket, Integrated Circuit

In some cases the reference designator may represent more than one part as expressed by a quantity given in parenthesis following the reference designator, e.g., E1 (Qty. 3). This indicates that the part is referenced only once in a typical application in the associated figure.

1.3.2 PART NUMBER

This column contains the part number of the referenced component.

1.3.3 DESCRIPTION

This column contains a brief description of the referenced component.

1.4 NUMERICAL INDEX DEFINITIONS

Section 7 contains a numerical index that lists all parts contained in the mechanical parts breakdown (Section 2). The parts are listed by part number in numerical order and cross-referenced to one or more figures and index numbers found in Section 2. The numerical index list consists of four columns: PART NUMBER, DESCRIPTION, FIGURE NUMBER and INDEX NUMBER. The function of each column is described in paragraphs 1.4.1 through 1.4.4.

1.4.1 PART NUMBER

This column contains the numerical listing of all part numbers in the mechanical parts breakdown in Section 2.

1.4.2 DESCRIPTION

This column contains a brief description of each part.

1.4.3 FIGURE NUMBER

This column lists one or more figures in Section 2 in which the part is indexed.

1.4.4 INDEX NUMBER

This column provides the index number of the part appearing in the figure given on the same line in the adjacent FIGURE NUMBER column.

1.5 ABBREVIATIONS

The following abbreviations are used in the mechanical and electrical parts breakdowns.

A	Ampere	uF	microfarad
A/R	As Required	V	volt
Assy.	Assembly	W	watts
		WW	wire wound
Bfr.	Buffer		
		XSTR	Transistor
Cer.	Ceramic		
Cont.	Control		
cpi	characters per inch		
Dia	Diameter		
DRVR	Driver		
Elctlt.	Electrolytic		
Hex	Hexagon		
Hd.	Head		
HDR	Header		
HV	High Voltage		
HZ	Hertz		
IC	Integrated Circuit		
ID	Inner Diameter		
in	inch		
LKG	Locking		
Lg.	Long		
m	mega		
met.	Metal		
mm	millimeter		
mot.	motor		
MTG	mounting		
NYL	Nylon		
P	Pole		
PC	Printed card		
PCB	Printed Circuit Board		
pF	picofarad		
poly	polyester or polypropolyne		
posn.	position		
RDL	Radial		
SLD	Sliding		
SLTD	slotted		
SQP	Square pins		
SST	Stainless steel		
SW	switch		
TBX	tubular axial		
THK	thick		

SECTION 2

MECHANICAL PARTS BREAKDOWN

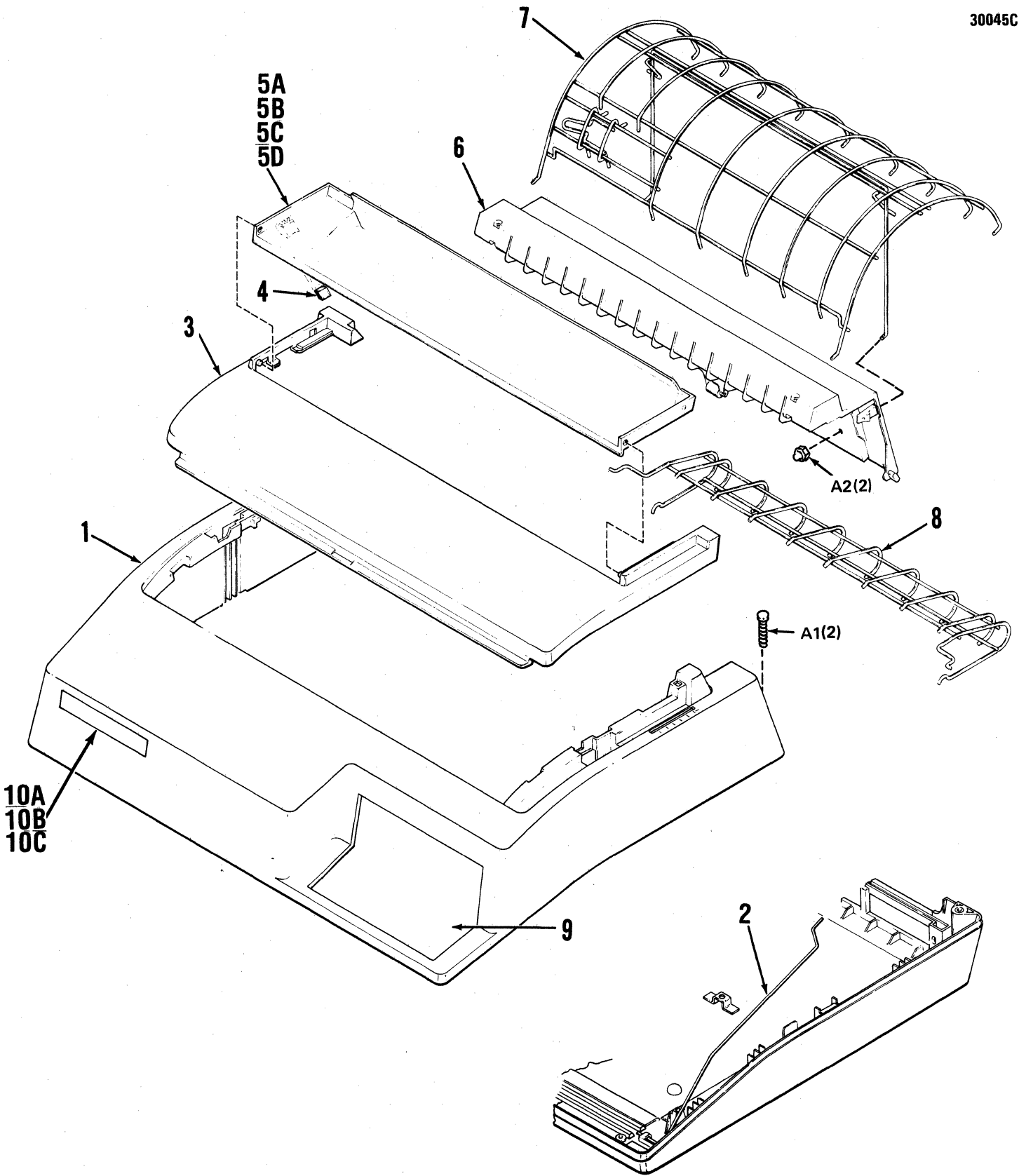


Figure 2-1. COVER AND PAPER RACK ASSEMBLIES

LIST OF MATERIALS
COVER AND PAPER RACK ASSEMBLIES
(Figure 2-1)

<u>Item</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty.</u>
1	U20008001	Body Cover	1
2	U20181000	Mechanism Support Rod	1
3	U20011001	Top Cover	1
4	U20241001	Interlock Magnet	1
5A	U20113001	Clear Cover (w/o magnet)	1
5B	U21023001	Clear Cover (w/magnet)	1
5C	64000819-2001	Demand Document Window (Option)	1
5D	64002057-5001	Clear Cover (for Sheet Feeder)	
6	U20014001	Rear Cover Unit	1
7	63180330-5001	Paper Rack Outlet Assembly	1
8	63180331-2001	Paper Rack Inlet	1
9A	64000128-5001	Bezel Assembly - 351	1
9B	64000128-5002	Bezel Assembly - 352	1
9C	63180348-5001	Bezel Assembly - 353	1
10A	63180323-3001	Label, 351 Printstation	
10B	63180323-3002	Label, 352 Printstation	
10C	63180323-3003	Label, 353 Printstation	
----- ATTACHING HARDWARE -----			
A1	U20018001	Screw	2
A2	34000119-2001	Thumb nut - Slotted	2

01219B

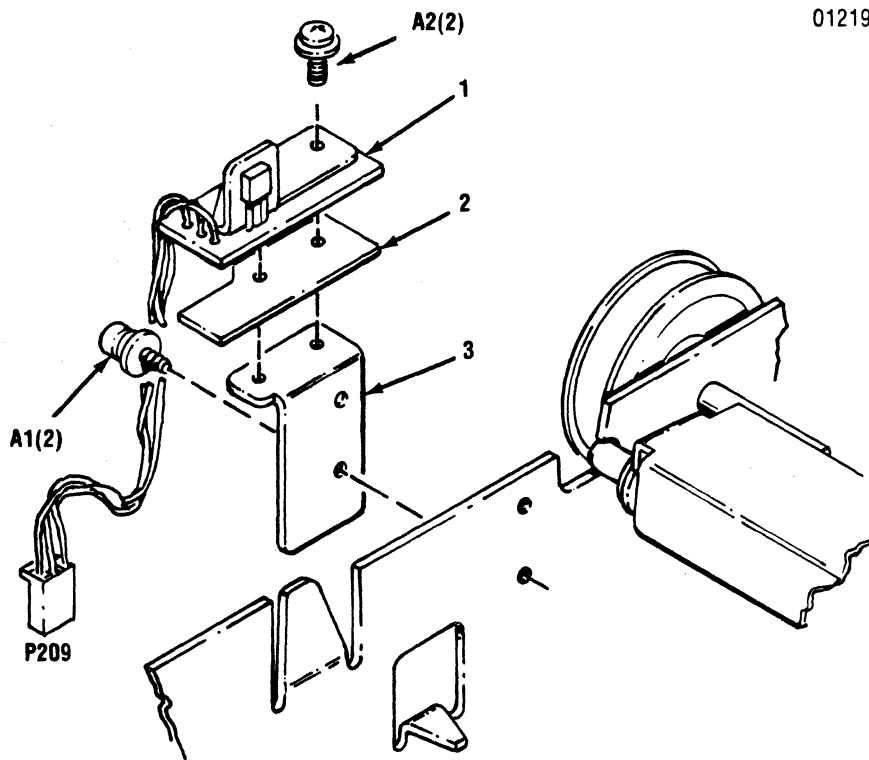


Figure 2-2. COVER INTERLOCK ASSEMBLY

LIST OF MATERIALS
COVER INTERLOCK ASSEMBLY
(Figure 2-2)

<u>Item</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty.</u>
1	U20242001	Interlock Switch Unit (w/cable)	1
2	U20246000	Insulating Sheet	1
3	U20247001	Switch Holder	1
----- ATTACHING HARDWARE -----			
A1	215081001	Screw	2
A2	533591001	Screw	2

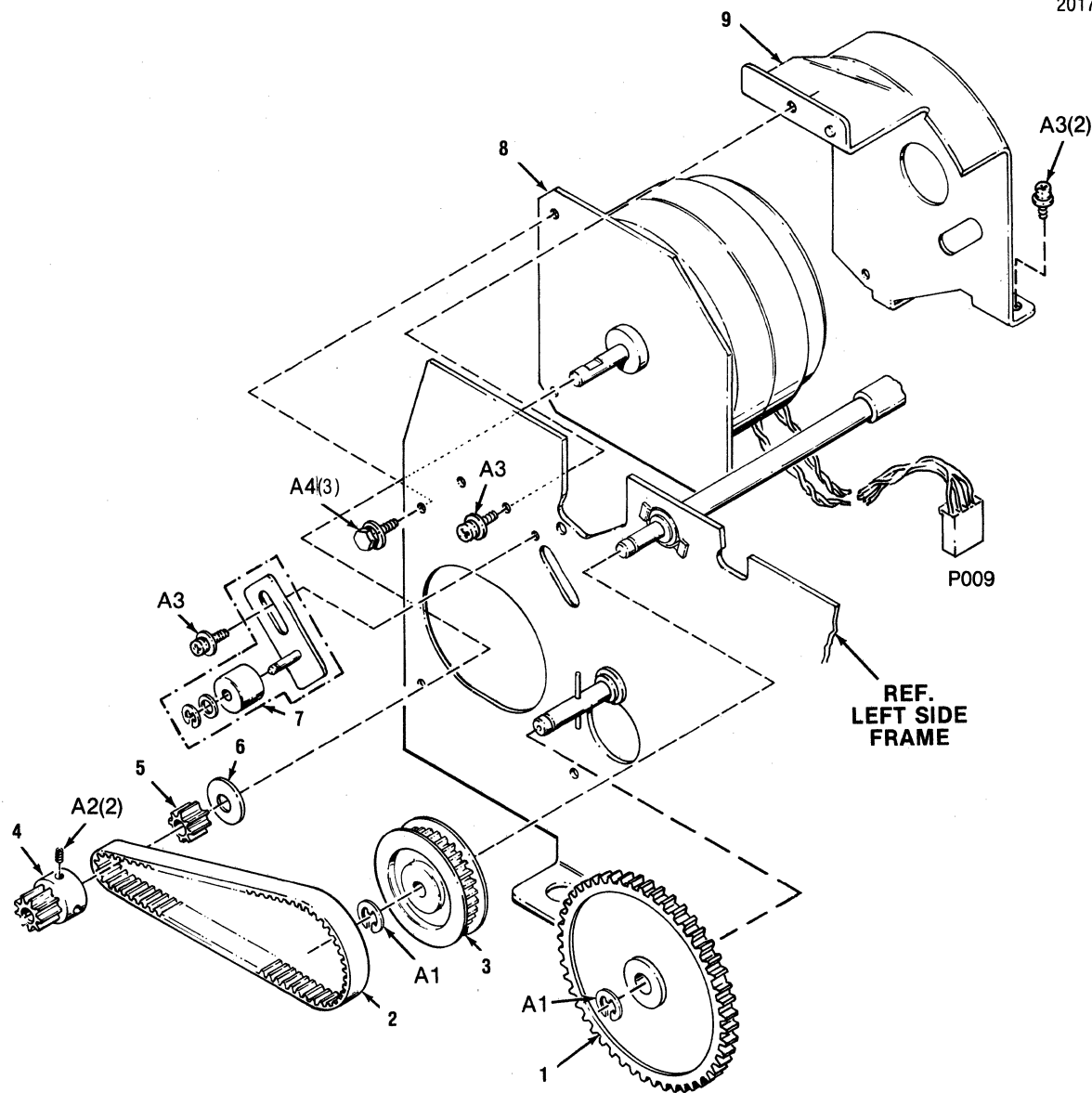


Figure 2-3. PAPER FEED MOTOR

LIST OF MATERIALS
PAPER FEED MOTOR
(Figure 2-3)

<u>Item</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty.</u>
1	U20076000	Tractor Gear	1
2	531335001	Timing Belt 132 - 6.4	1
3	U20030001	Paper Feed Pulley Unit	1
4	U21026001	Paper Feed Motor Gear	1
5	U21025001	Paper Feed Motor Pulley	1
6	U20197001	Paper Feed Motor Pulley Flange	1
7	U20188001	Tension Roller Holder Unit	1
8	564830001	Paper Feed Motor	1
9	U20072001	Paper Feed Motor Cover	1
----- ATTACHING HARDWARE -----			
A1	048050345	Snap Ring	2
A2	014400522	Set Screw	2
A3	215081001	Screw Assembly	4
A4	U20099001	Screw Assembly	3

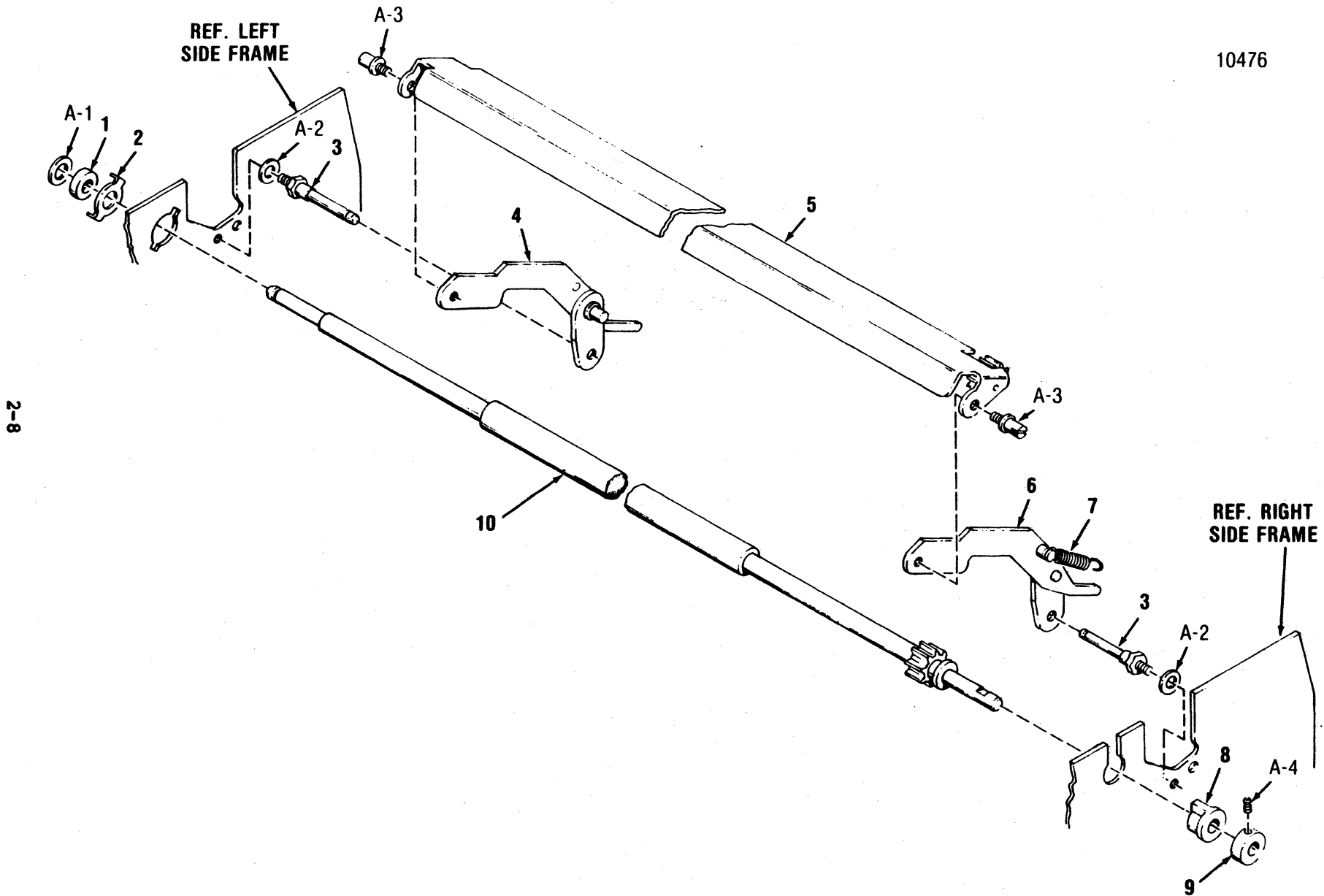


Figure 2-4. PAPER SCALE BAR AND PAPER FEED ROLLER ASSEMBLY

LIST OF MATERIALS
PAPER SCALE BAR AND PAPER FEED ROLLER ASSEMBLY
(Figure 2-4)

<u>Item</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty.</u>
1	072069680	Bearing 696ZZ	1
2	U20029001	Bushing Holder	1
3	U20055001	Shoulder Screw	2
4	U20046001	Paper Cutter Arm, Left Unit	1
5	U20206001	Paper Cutter Unit	1
6	U20041001	Paper Cutter Arm, Right Unit	1
7	U20176001	Spring	2
8	U20033000	Bushing	1
9	U20034001	Collar	1
10	U20025001	Paper Feed Roller A Unit	1
----- Attaching Hardware -----			
A1	025060135	Washer	1
A2	025050135	Washer	2
A3	U20191001	Stud Screw	2
A4	525743001	Set Screw	1

20185D

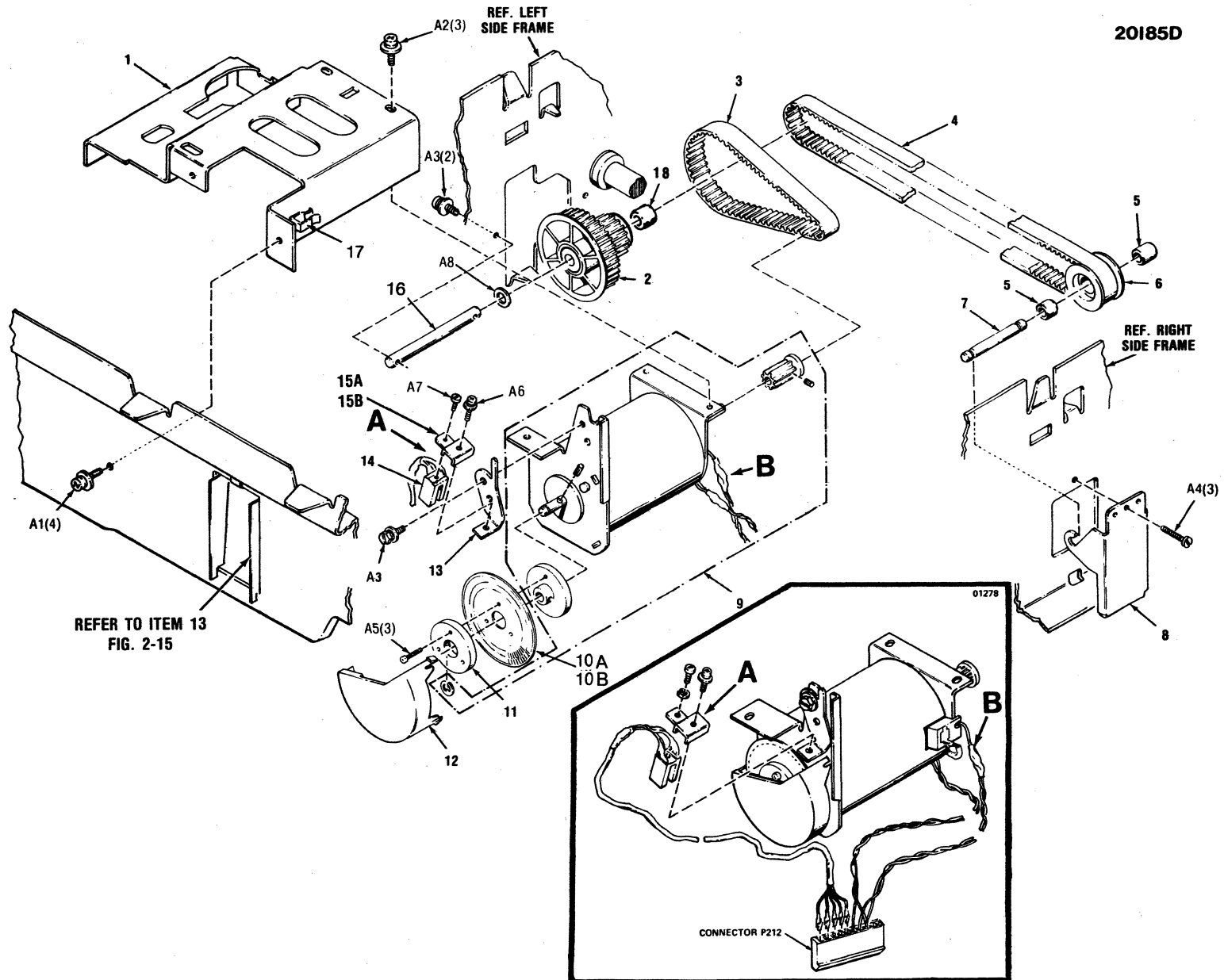


Figure 2-5. CARRIAGE MOTOR, DRIVE BELTS AND ENCODER/TIMING DISC

LIST OF MATERIALS
CARRIAGE MOTOR, DRIVE BELTS AND ENCODER/TIMING DISC
(Figure 2-5)

<u>Item</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty.</u>
1	U20138001	Motor Holder	1
2	U21151001	C Drive Pulley	1
3	U20139001	Timing Belt 144-12.7	1
4	U20143001	Timing Belt 515-9.5	1
5	530728001	Collar	2
6	U20144001	Idle Pulley A Unit	1
7	U20275001	Idle Pulley Shaft	1
8	U20274001	Idle Pulley Holder	1
9	U20187001	Carriage Motor Pulley Unit Assembly	1
10A	U20157000	Encoder/Timing Disc. (Std.)	1
10B	64001132-2001	Encoder/Timing Disc.	1
11	U20156000	Collar	1
12	U20158001	Encoder Cover	1
13	U20255001	Copula Holder A	1
14	39099012-1001	Optic Sensor (w/cable and Connector)	1
15A	U20256001	Copula Holder B	1
15B	64001121-2001	Optics Holder	1
16	64003186-2001	Shield, Mech Inlet	1
17	U21155001	C Drive Pulley Shaft	1
18	U20193000	Clip	1
19	U20298001	Spacer	1
-----Attaching Hardware-----			
A1	215081001	Screw	4
A2	U21011001	Screw	3
A3	U20099001	Screw	3
A4	007401615	Screw	3
A5	037260812	Screw	3
A6	535772001	Screw	1
A7	34000775-2003	Screw Assembly, Optic Sensor Mounting	1
A8	533834001	Washer	1

NOTES: 1. Item 10B used with Print Controller 64000920-4XXX and 64001037-4003.

2. Item 15B used with Item 10B.

2-12

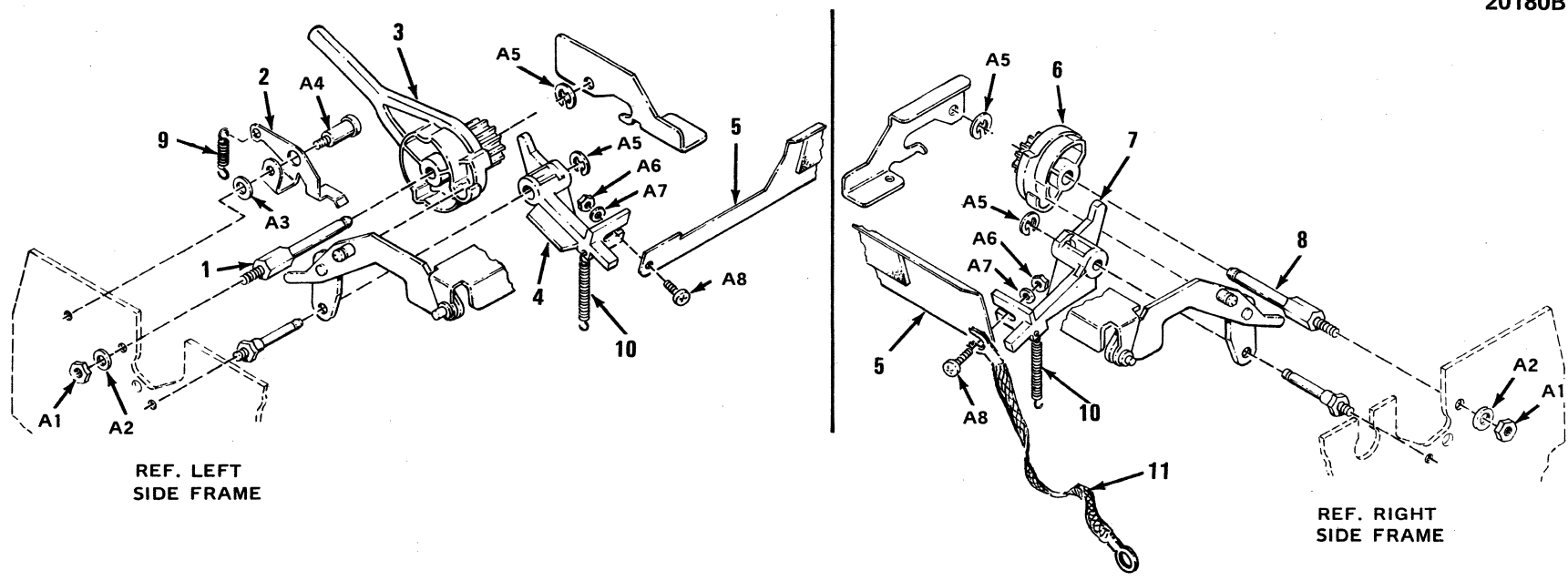


Figure 2-6. DRIVING CAM ASSEMBLY, LEFT/RIGHT

LIST OF MATERIALS
DRIVING CAM ASSEMBLY, LEFT/RIGHT
(Figure 2-6)

<u>Item</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty.</u>
1	U20061001	Cam Pin, Left	1
2	U20131001	Cam Push Link	1
3	U20060001	Drive Cam, Left	1
4	U21169000	Guide Link, Left	1
5	U21170001	Paper Set Plate Unit	1
6	U20062001	Drive Cam Right	1
7	U20054000	Guide Link, Right	1
8	U20063001	Cam Pin, Right	1
9	512462001	Spring	1
10	542632001	Spring	2
11	64003525-4001	Ground Strap	

-----Attaching Hardware-----

A1	021500105	Nut	2
A2	028050243	Washer, Spring	2
A3	025040235	Washer, Flat	1
A4	541157001	Stud Screw	1
A5	048030345	Snap Ring	4
A6	021300105	Nut	2
A7	403370001	Washer, Flat	2
A8	008300814	Screw	2

20184B

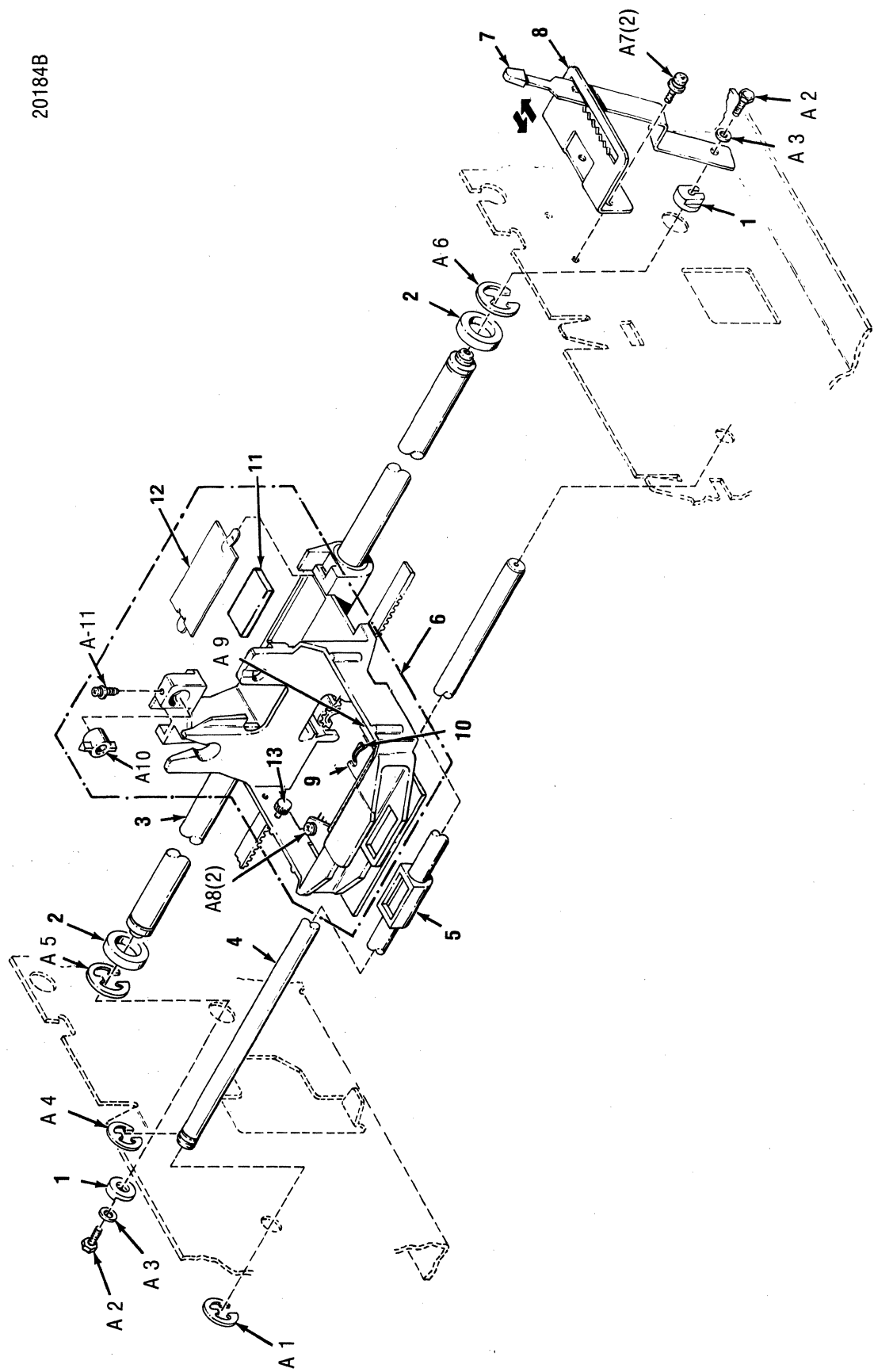


Figure 2-7. CARRIAGE GUIDE BARS, HEAD ADJUST ASSEMBLY

LIST OF MATERIALS
CARRIAGE GUIDE BARS, HEAD ADJUST ASSEMBLY
(Figure 2-7)

<u>Item</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty.</u>
1	U20266001	Head Adjusting Cam	2
2	535210001	Carriage Stopper	2
3	U20132001	Guide Bar, Rear	1
4	U20135001	Guide Bar, Front	1
5	U20163001	Carriage Sleeve	1
6	U20117001	Carriage Assembly (complete unit)	1
7	U20289001	Head Adjusting Lever	1
8	U20264001	Head Adjusting Plate	1
9	64000115-2001	Strain Relief	1
10	36350005-2001	O-Ring .924 ID	1
11	U20277000	Felt	1
12	U20164000	Permawick Lid	1
13	64001087-2001	Head Thumb Screw	1
-----Attaching Hardware-----			
A1	U20137001	Snap Ring	1
A2	017501215	Screw	2
A3	028050243	Washer, Spring	2
A4	U20136001	Snap Ring	1
A5	U20133001	Snap Ring	1
A6	U20134001	Snap Ring	1
A7	215081001	Screw Assembly	2
A8	34000775-2044	Screw Assembly	2
A9	34000775-2046	Screw Assembly	1
A10	U20235001	Knob, Head Stopper Unit	
A11	533655001	Screw Assembly	

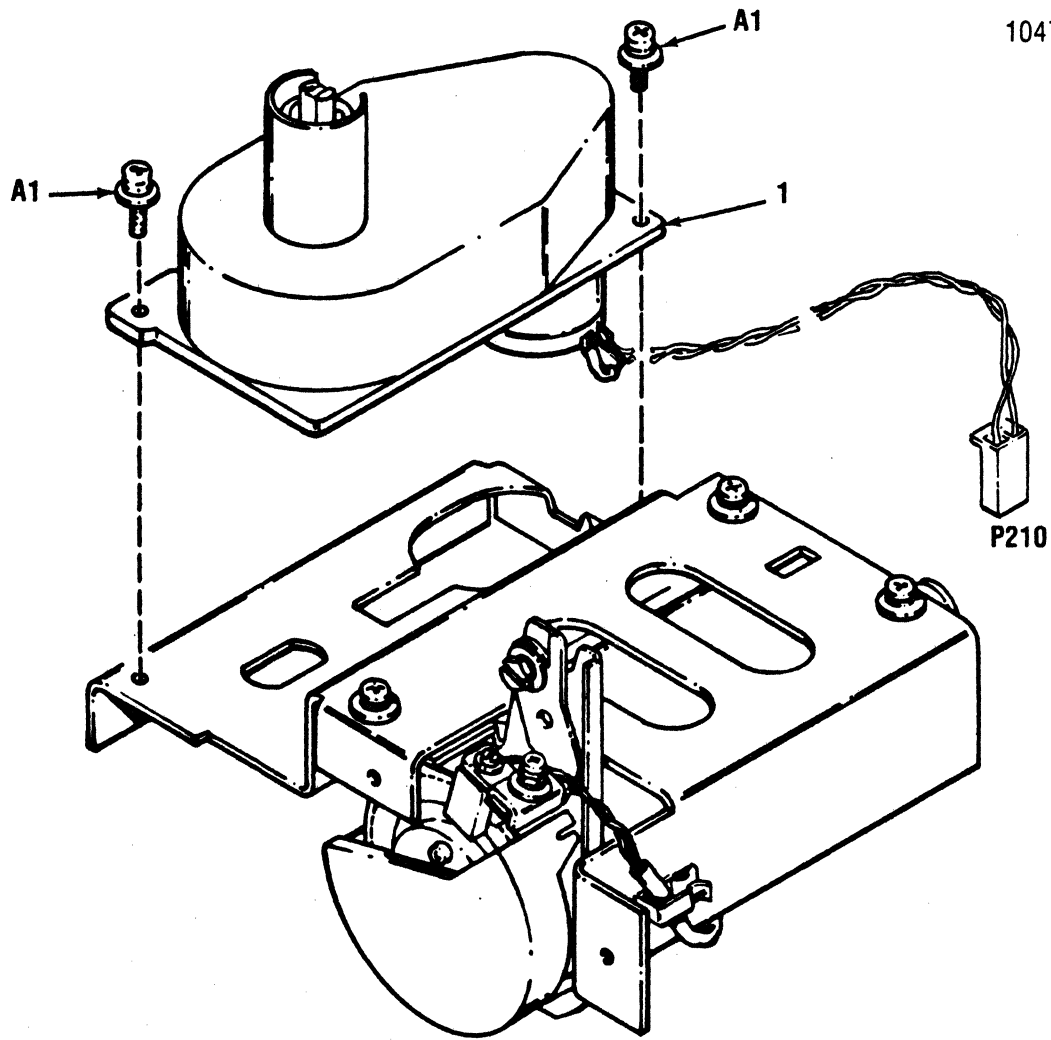


Figure 2-8. RIBBON DRIVE MOTOR

LIST OF MATERIALS
RIBBON DRIVE MOTOR ASSEMBLY
(Figure 2-8)

<u>Item</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty.</u>
1	U20166001	Ribbon Drive Motor Assembly	1

----- Attaching Hardware -----

A1	215081001	Screw	2
----	-----------	-------	---

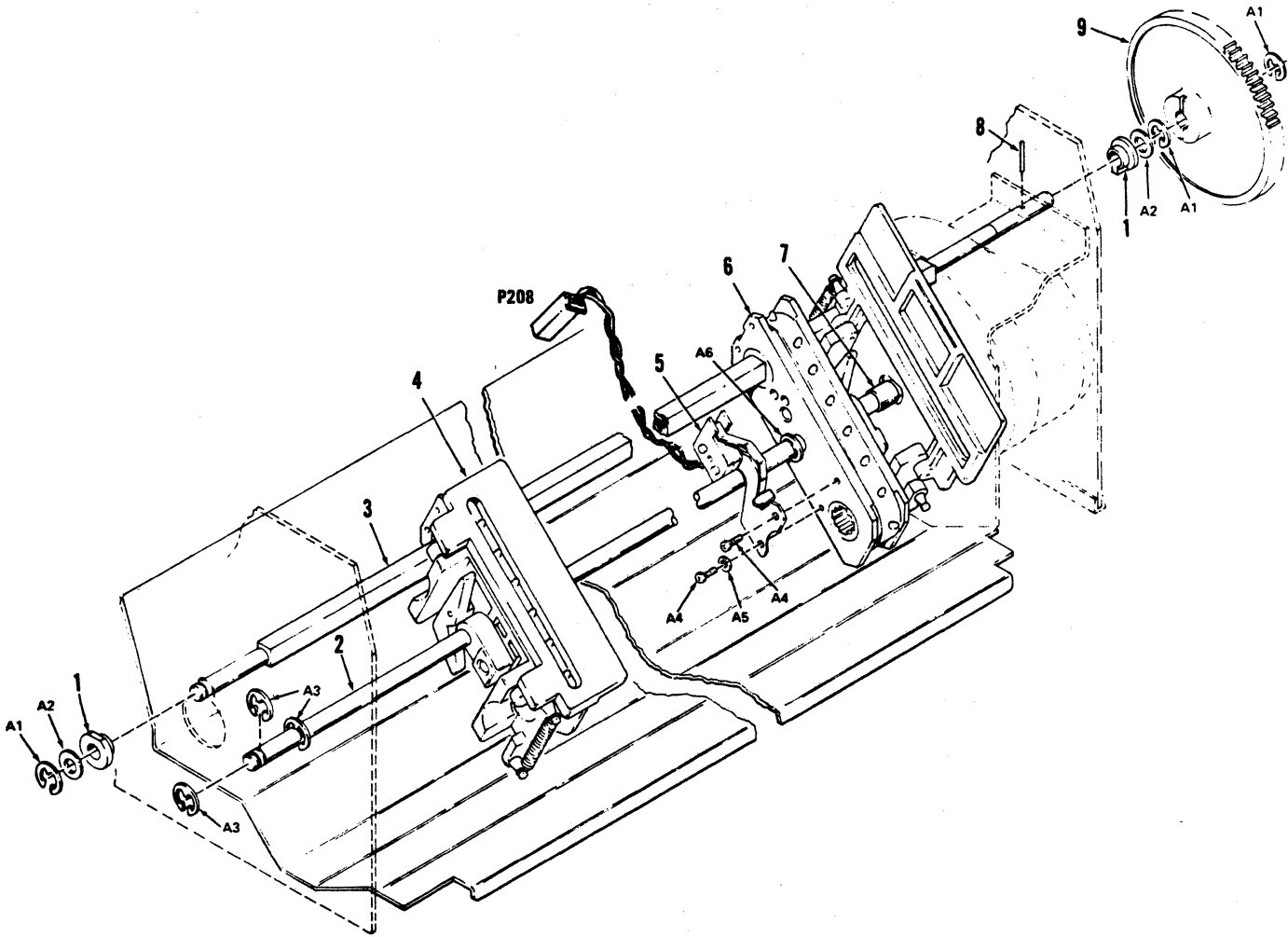


Figure 2-9. TRACTOR DRIVE MECHANISM

LIST OF MATERIALS
TRACTOR DRIVE MECHANISM
(Figure 2-9)

<u>Item</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty.</u>
1	U20033000	Bushing	2
2	U20077001	Tractor Guide Shaft	1
3	U20075001	Tractor Drive Shaft	1
4	U20074001	Pin Tractor Unit R	1
5	U21014001	P.E. Switch Unit (w/Harness)	1
6	U20073001	Pin Tractor Unit L	1
7	U20078001	Spacer	1
8	047201642	Spring Pin	1
9	U20076000	Tractor Gear	1
-----Attaching Hardware -----			
A1	048050345	Snap Ring	3
A2	025060135	Washer	2
A3	048050345	Snap Ring	3
A4	535610001	Screw	2
A5	503090001	Washer	1
A6	533562001	Snap Ring	1

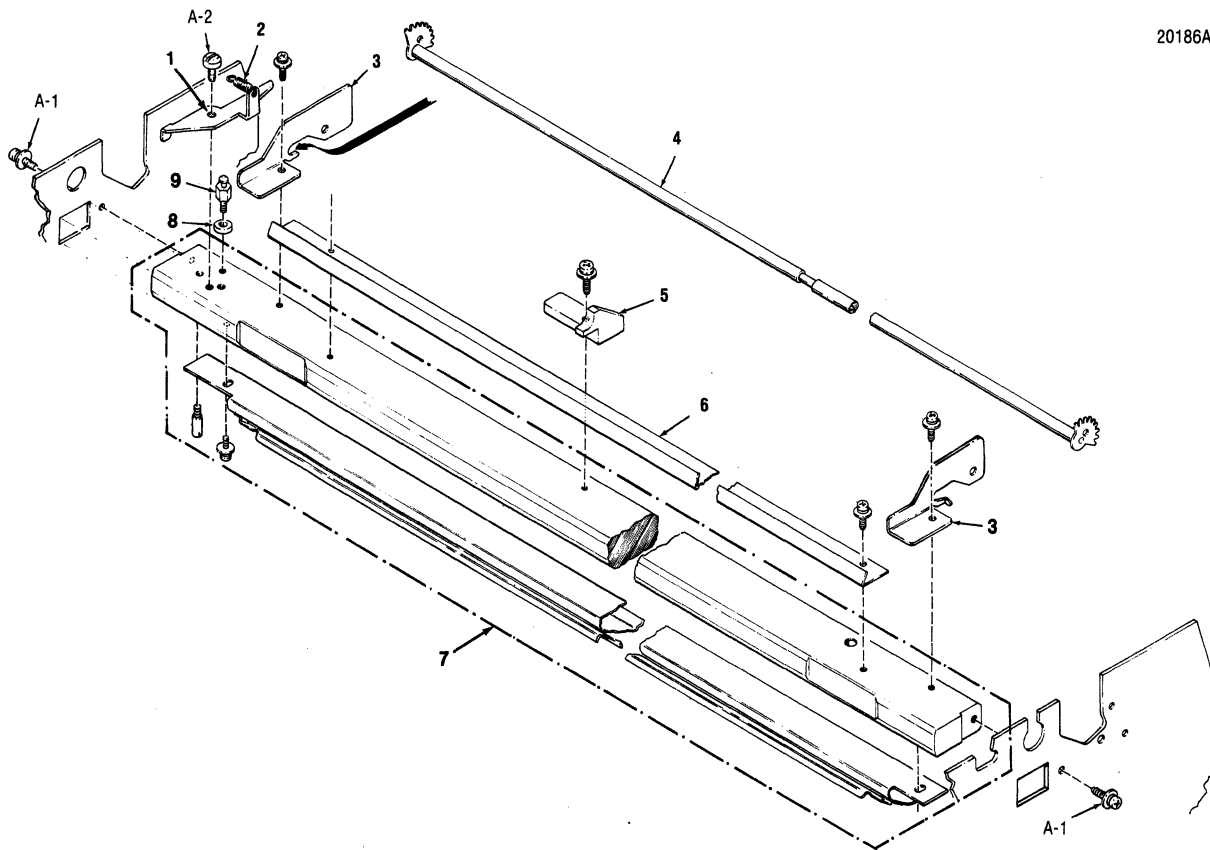
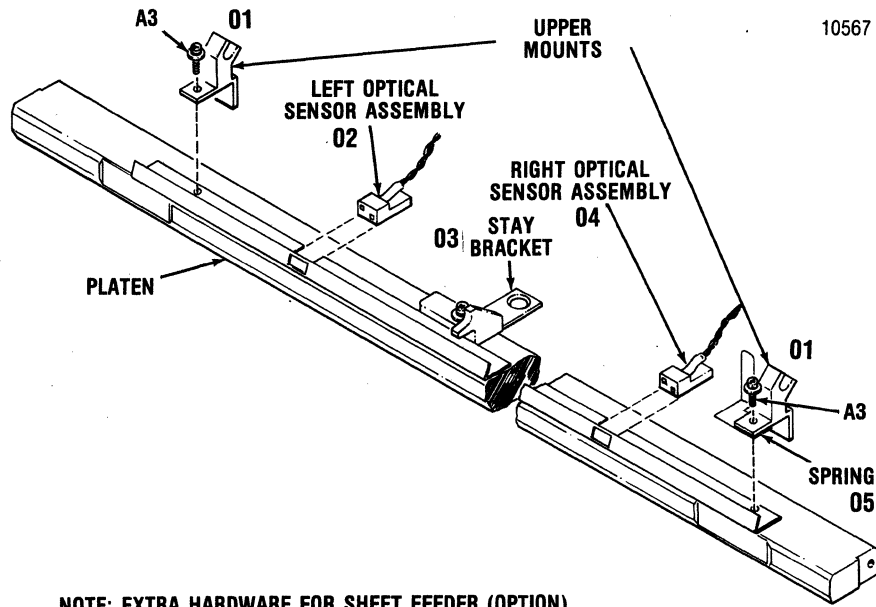


Figure 2-10. PLATEN AND ASSOCIATED ASSEMBLY

LIST OF MATERIALS
 PLATEN AND ASSOCIATED ASSEMBLY
 (Figure 2-10)

<u>Item</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty.</u>
1	U20130001	Carriage Lock Plate	1
2	541950001	Spring	1
3	U20067001	Link Shaft Holder, Left	2
4	U20064001	Link Shaft Unit	1
5	U20038000	Paper Feed Roller Guide	1
6	U20129000	Paper Guide, Upper	1
7	U20184001	Platen Unit	1
8	516442001	Collar	1
9	531572001	Stud Screw	1
-----Attaching Hardware -----			
A1	537235001	Screw	2
A2	527023001	Screw	1
A3	215081001	Screw	5
-----Attaching Hardware For Sheet Feeder -----			
01.	64001148-2001	Upper Mount	2
02	64002072-2002	Optical Sensor Assembly, Left	1
03	64000999-2001	Stay Bracket	1
04	64002072-2001	Optical Sensor Assembly, Right	1
05	64003136-2001	Spring, ESD	1

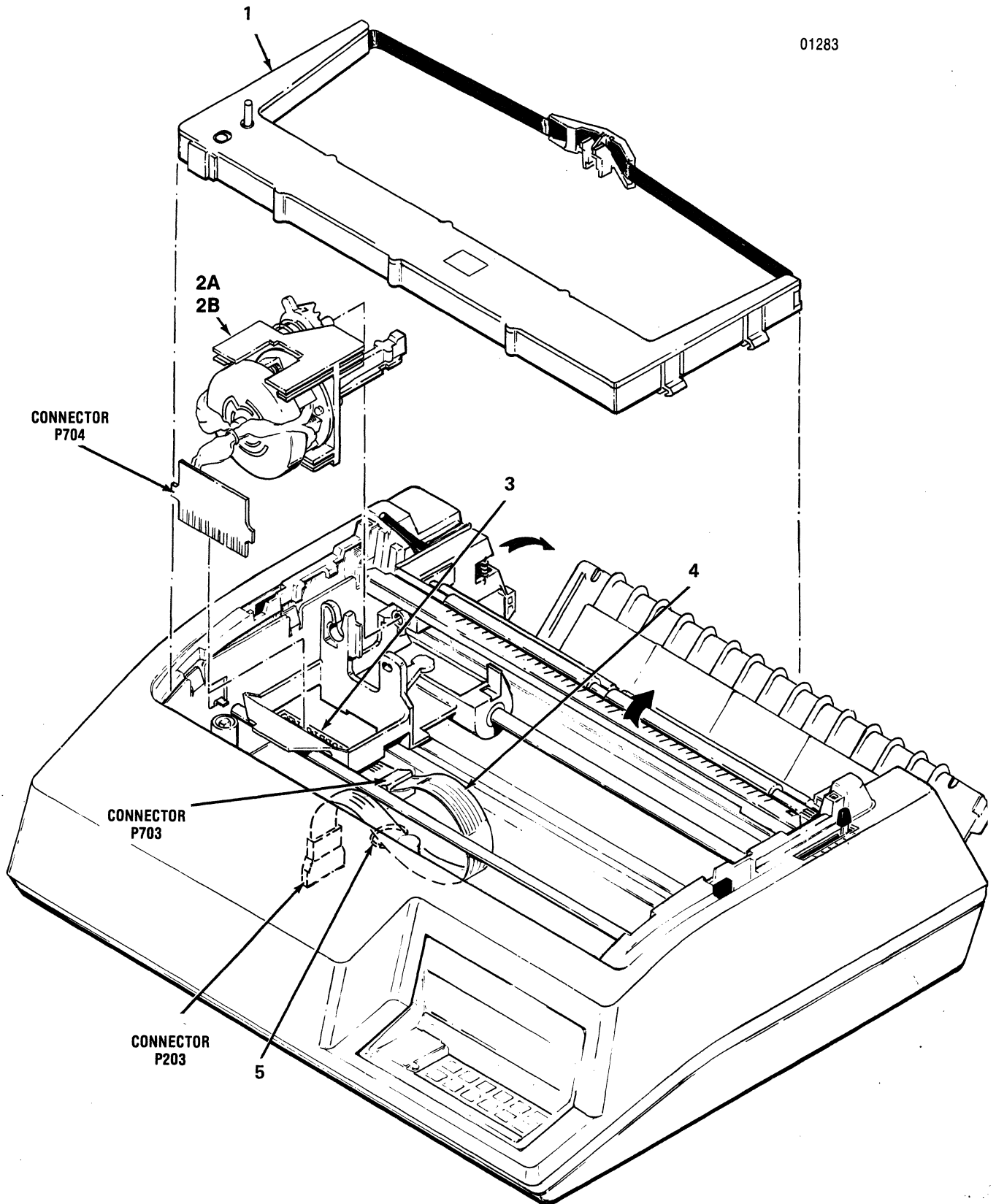


Figure 2-11. PRINT HEAD and ASSOCIATED ASSEMBLIES

LIST OF MATERIALS
PRINT HEAD AND ASSOCIATED ASSEMBLIES
(Figure 2-11)

<u>Item</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty.</u>
1	64000520-6001	Ribbon Cassette (see note)	1
2A	63180315-5001	Print Head Assembly	1
2B	63180315-5102	Print Head Assembly High Speed (2 Mil Shim)	
3	63180254-4001	Head Adapter Board	1
4	63180285-4001	Head Flex Cable Assembly	2
5	3635005-2001	O Ring	1

NOTE: 1. Item 1 part number is for a package containing four (4) cassettes.
2. Item 2B used on all 64001037 Print Controller boards.

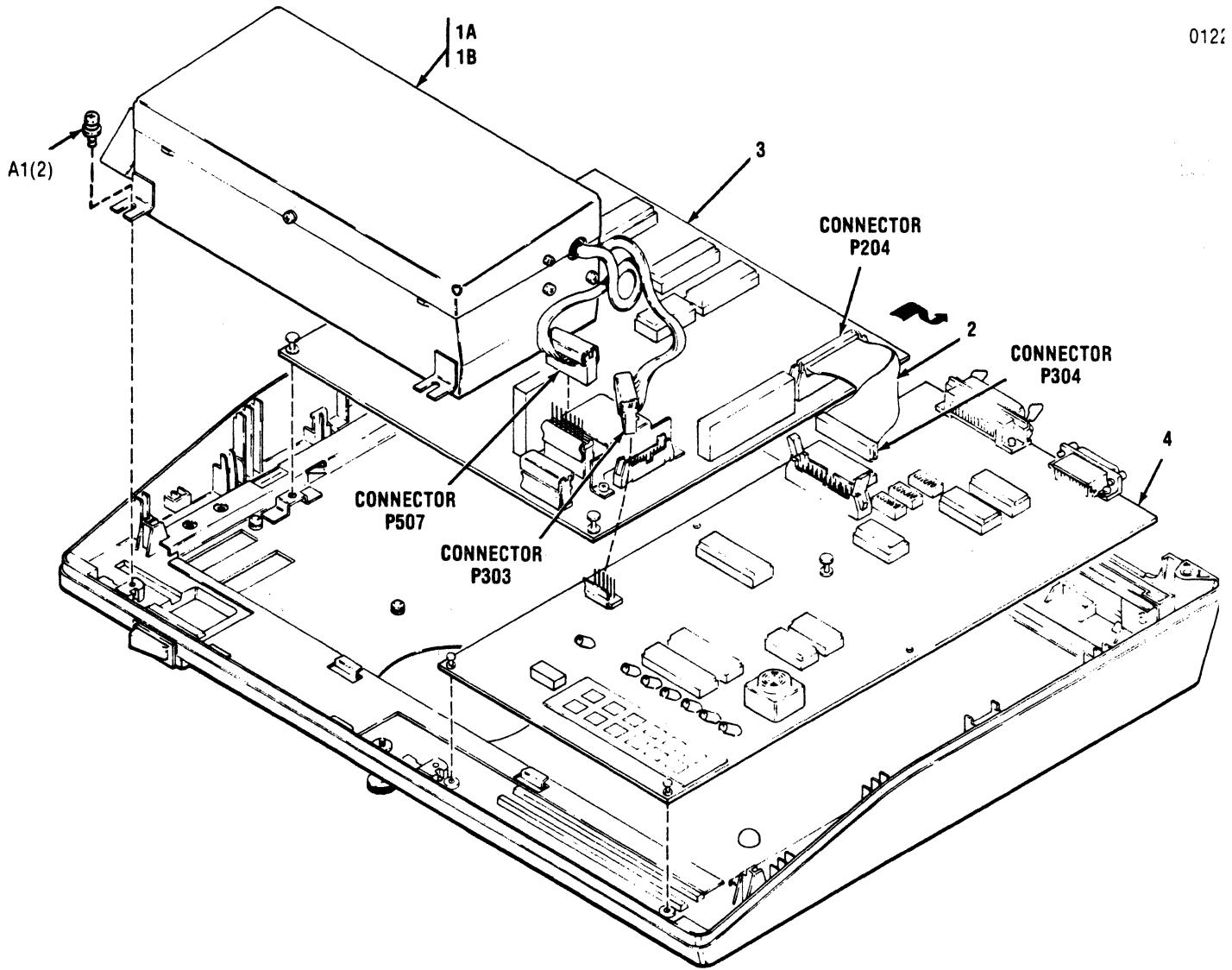


Figure 2-12. ASSEMBLY INTERCONNECTION

LIST OF MATERIALS
ASSEMBLY INTERCONNECTION
(Figure 2-12)

<u>Item</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty.</u>
1A	64000399-5015	Power Supply; 115 Vac, 60 Hz	
1B	64000399-5016	Power Supply; 230 Vac, 50 Hz	
2	63180300-4001	Format Control Cable Assembly (see Note 1)	
3	64000160-4XXX	Print Controller 350/352	
	64000564-4XXX	Print Controller 350/352/353	
	64000818-4XXX	Print Controller 350/352/353	
	64000920-4XXX	Print Controller 350	
	64001037-4XXX	Print Controller 350/353	
4	64000193-4XXX	Format Controller 351	
	64001101-4XXX	Format Controller 351	
	63180247-4XXX	Format Controller 352	
	64000585-4XXX	Format Controller 352	
	63180308-4XXX	Format Controller 353	
	64000588-4XXX	Format Controller 353	
	64001024-4XXX	Format Controller 353	

-----Attaching Hardware -----

A1	34000775-2046	Screw Assembly	2
A2	34900007-2001	Washer, Lock, Int.- Ext. Tooth	2

NOTES:

1. Printer Model 350 has only one board; the customer installs their own Format Controller.
2. Printer Model 351 has only one board which contains the Print Controller and the Format Controller.

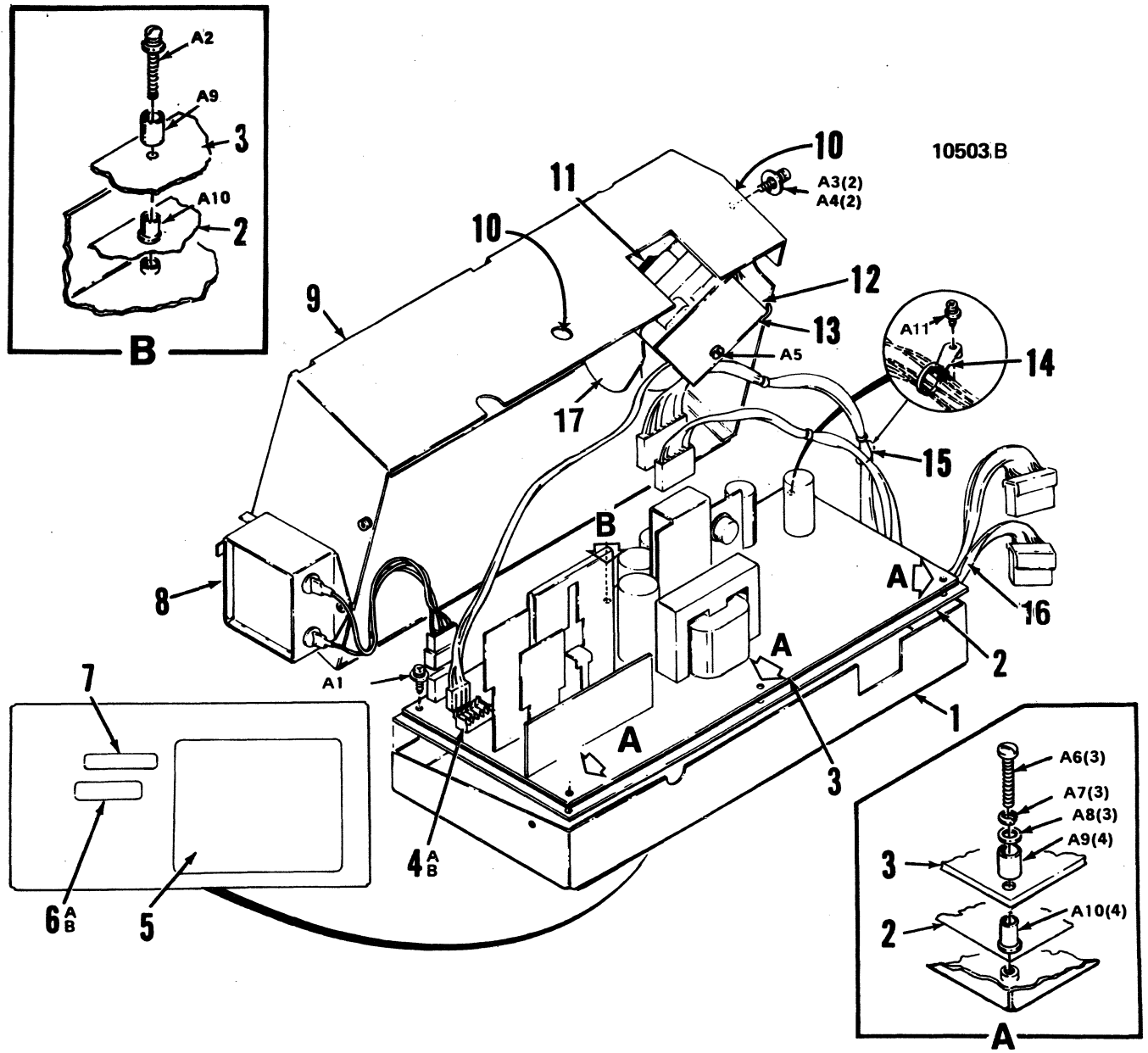


Figure 2-13. POWER SUPPLY ASSEMBLY 50/60 Hz.

LIST OF MATERIALS
POWER SUPPLY ASSEMBLY 60 Hz/50 Hz
64000399-5015/64000399-5016
(Figure 2-13)

<u>Item</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty.</u>
1	64000375-5001	Cover, Power Supply Shield Subassembly	1
2	64000376-2001	Liner, Power Supply	1
3	35200350-1001	Power Supply, 350 Ser.	1
3A	64001188-4001	PCB Assembly, Pwr Sply/Brownout	A/R
4A	64000311-4001	Connector Assy, 220	1
4B	64000312-4001	Connector Assy., 110	1
5	64000852-3001	Label, Power Supply	1
6A	64000524-3001	Label, 60 Hz	1
6B	64000524-3002	label, 50 Hz	1
7	64000523-3001	Dangerous Voltage Label	1
8	64000801-4001	Line Filter Assembly	1
9	64000368-5001	Base, Subassembly	1
10	36150029-2009	Cable Clamp .37 Dia.	2
11	64000366-5001	Bracket, Fan	1
12	64000514-4001	Motor Assembly 350 P/S	1
13	64001197-2001	Shield, Fan Motor Assembly	
14	39695331-2001	Strap Cable Adj Lkg .625 BDL	1
15	64000395-4001	Cable Assy, Pwr Supply/Controller,	1
16	64000528-4001	Cable Assy, Pwr Supply/Formatter	1
17	32810013-2001	Fan Blade	1

-----Attaching Hardware -----

A1	34000775-2043	Screw Assembly	6
A2	34000773-2048	Screw Assembly	1
A3	34000775-2085	Screw Assembly	2
A4	34934207-2001	Washer Flat #8 x .625 x .063 Thk	2
A5	34240164-2001	Screw, Nylon	1
A6	34000664-2021	Screw	3
A7	34000662-2004	Washer, lock	3
A8	34000663-2004	Washer, Flat	3
A9	36614506-2040	Spacer, Washer	4
A10	35000004-2007	Washer, Shoulder, Nylon	4
A11	34000775-2045	Screw Assembly	1

NOTE: For conversion to 50 Hz, refer to Pub. No. 37409057-9001 350 - 60/50 Hz power conversion.

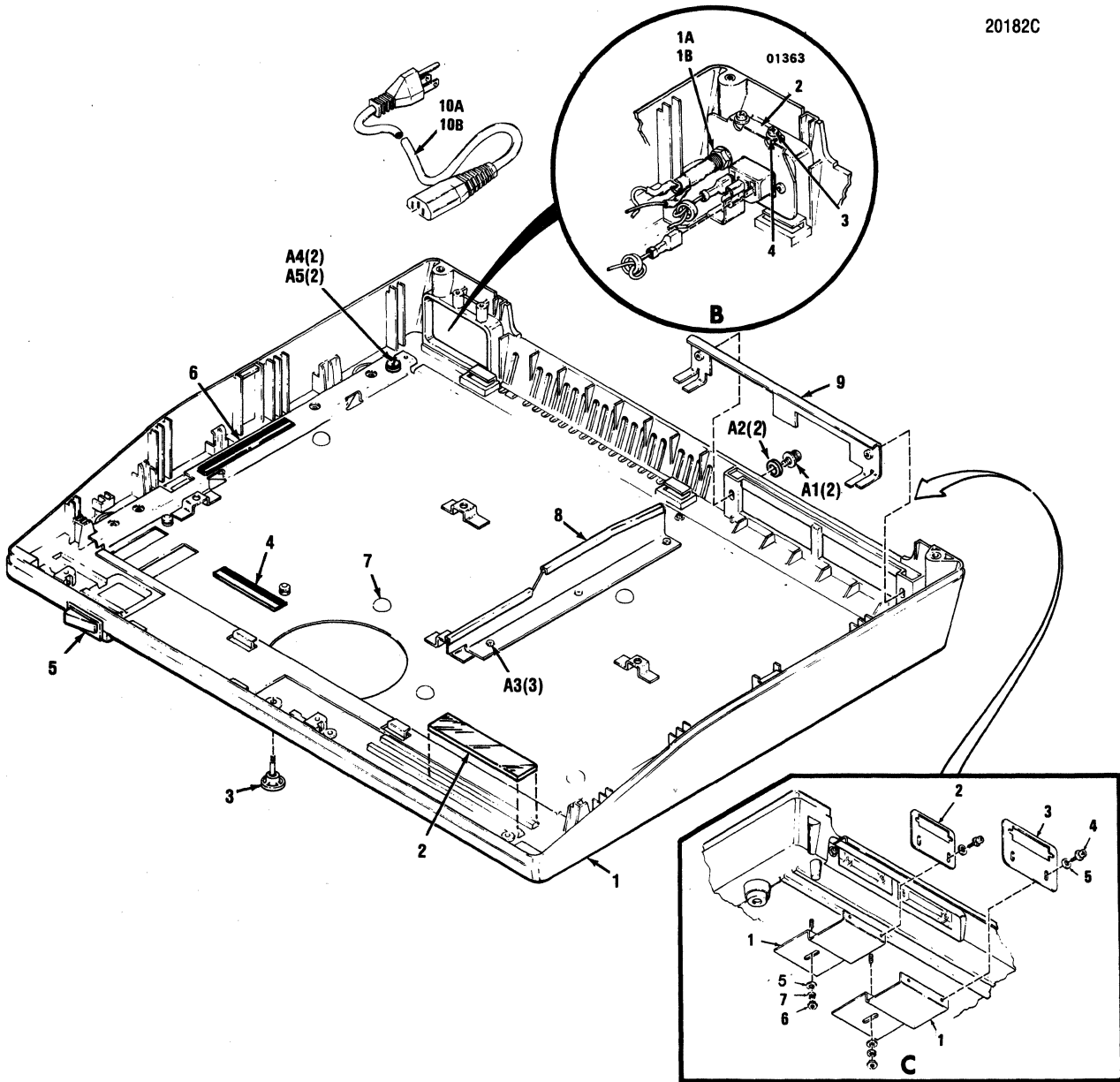


Figure 2-14. BASE COVER

LIST OF MATERIALS
BASE COVER
(Figure 2-14)

<u>Item</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty.</u>
1	64000837-2001	Bottom Cover Assembly	1
2	64000511-2011	Control Panel Support	1
3	U20267001	Knob, Body Cover	1
4	64000579-2001	Gasket, RFI, Power Supply	1
5	39098122-1001	Switch, On-Off	1
6	64000580-2001	Gasket, RFI, Mech.	2
7	36200018-2016	BMPR. ADH MTG. (see Note 1)	6
8	64000509-5001	Barrier, EMI Assy. (see Note 2)	1
9	63180313-5001	Bracket Mounting Assembly, Formatter	1
10A	39620021-1003	Power Cord 115V	1
10B	39620021-1001	Power Cord 220V	1
B1A	39030033-1027	Fuse Gl. 4A. 115V	1
B1B	39030036-1007	Fuse Gl. 2A 230V	1
B2	64000850-5001	Harness Bracket Assy. ESD, AC Power	1
C1	64000957-2001	Support Bracket	2
C2	64000956-2001	Serial Plate	1
C3	64000955-2001	Parallel Plate	1

-----Attaching Hardware-----

A1	34000775-2045	Screw Assembly	2
A2	34913125-2001	Flat Washer	2
A3	34000775-2043	Screw Assembly	3
A4	34000775-2085	Screw Assembly	2
A5	34000451-2056	Washer, Lock, Ext. Tooth	2
B3	33725718-2011	Screw Self Tapping	2
B4	34000452-2007	Washer, Flat	2
C4	34000773-2043	Screw Assembly M3x8	4
C5	34913125-2001	Washer, Flat	6
C6	34000652-2004	Hex Nut	2
C7	34000455-2004	Washer, Lock, M3	2

NOTES:

1. Item 7 qty. for Model 351 is 3.
2. Item 8 not used on Model 351.

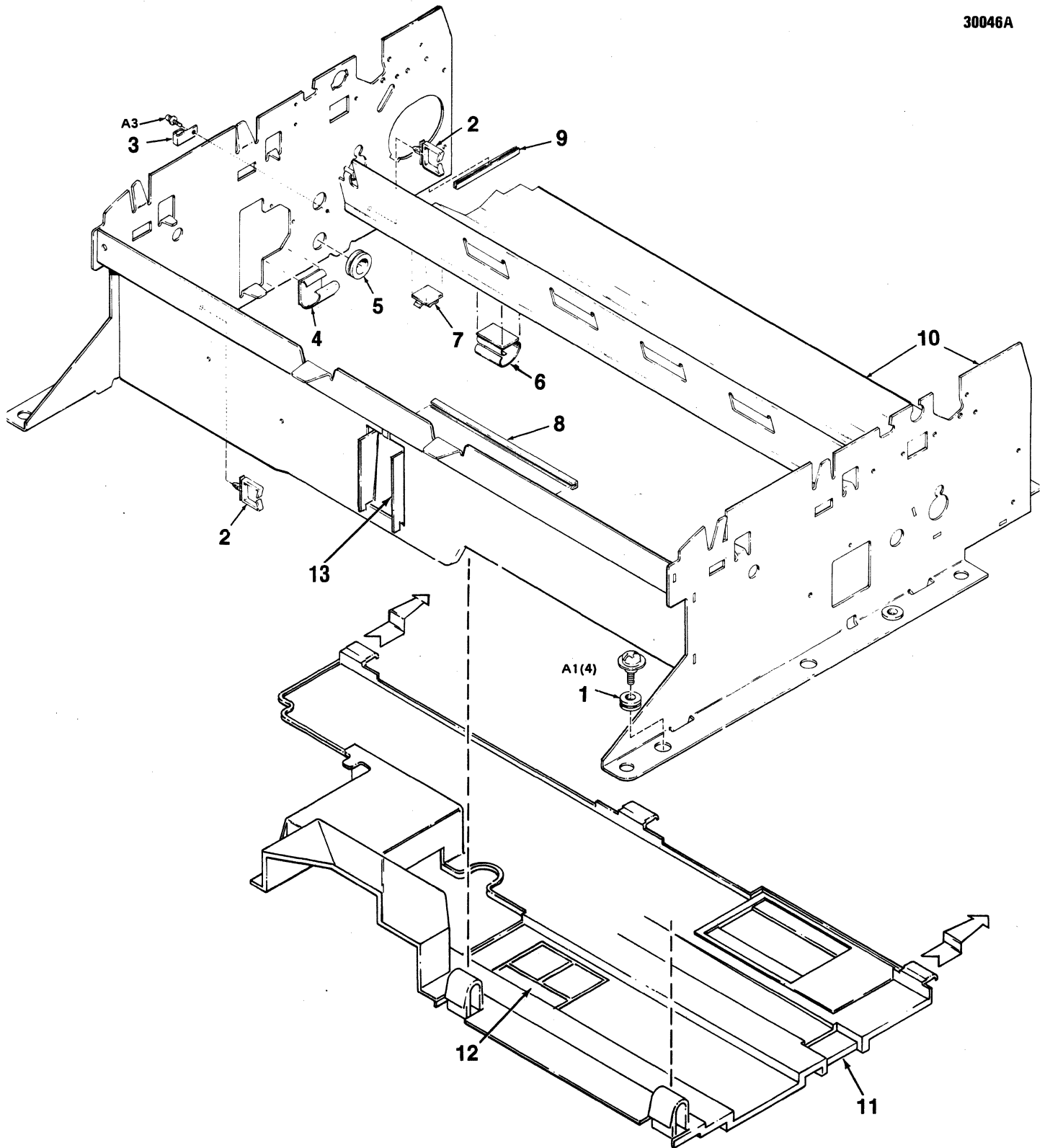


Figure 2-15. MAINFRAME

LIST OF MATERIALS
 MAINFRAME
 (Figure 2-15)

<u>Item</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty.</u>
1	U20017001	Rubber Spacer	4
2	U20278001	Clip	2
3	120370001	Clip	1
4	533816001	Clip	1
5	U20182001	Rubber Bushing	1
6	U20276001	Clip	1
7	33000022-2001	Clip	3
8	531494000	Edging	1
9	553968000	Edging	1
10	U20100001	Chassis, Complete Unit	1
11	64001175-5001	Dust Shield/Dip Switch Assy.	1
12	64003228-3001	Label, Head Cable Caution	1
13	64003186-2001	Shield, Mech Inlet	
-----Attaching Hardware-----			
A1	U21013001	Shoulder Screw	4
A2	533655001	Screw	1

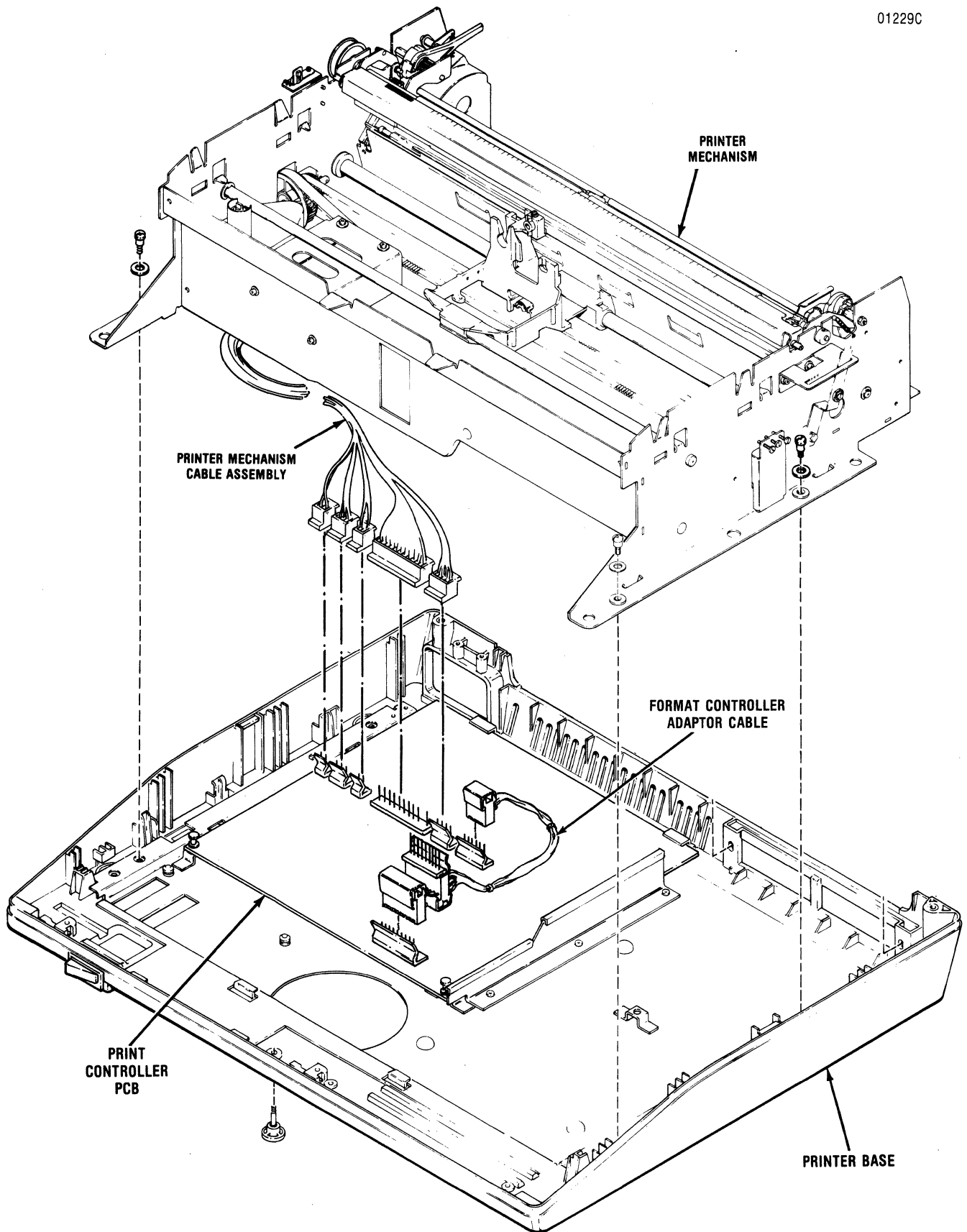


Figure 2-16. PRINTER INTERCONNECTION

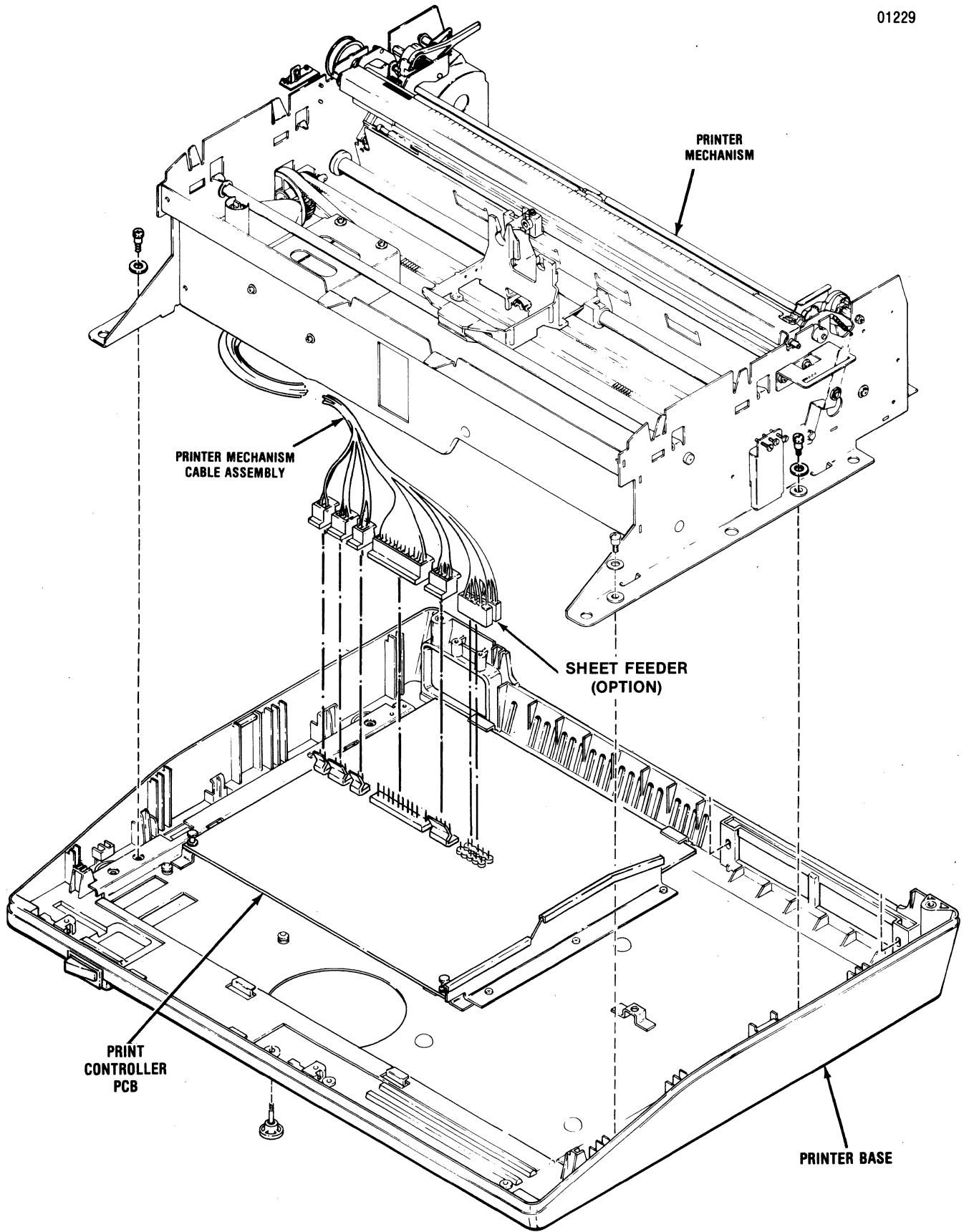


Figure 2-16A. PRINTER INTERCONNECTION W/SHEET FEEDER OPTION

PRINTER INTERCONNECTION

(Figure 2-16, 2-16A)

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>REFERENCE</u>
P208	P/O Paper Empty Mechanism	Fig. 2-9
P209	P/O Interlock Switch Unit	Fig. 2-2
P210	P/O Ribbon Drive Motor Assembly	Fig. 2-8
P212	P/O Carriage Motor/Encoder Assemblies	Fig. 2-5
P211	P/O Paper Feed Motor Assembly	Fig. 2-3
PRINT CONTROLLER PCB	Printer Logic Board	Fig. 2-12
PRINTER BASE	P/O Bottom Cover Assembly	Fig. 2-14
PRINTER MECHANISM	P/O Mainframe	Fig. 2-15
SHEET FEEDER (OPTION)	Attaches to the Platen	Fig. 2-10
FORMAT CONTROLLER ADAPTER CABLE	P.S. Cable Assembly 352/353 (all boards except 64001037)	64000396-4001
FORMAT CONTROLLER ADAPTER	P.C. Cable Assembly 351	31240085-1001

SECTION 3

ELECTRICAL PARTS BREAKDOWN

MODEL 350

The PCB Assemblies contained in the model 350 Printstations are listed in Table 3-1. The table includes; part number, revision level and the reference page number for each assembly. The Rev. level of the PCB assemblies show the level of the board when this manual was printed, however, a later Rev. level may exist. It is advisable to check with a factory representative. Section Eight identifies each revision level changed and includes a brief description of that change.

Table 3-1

MODEL 350 PRINTSTATION PC BOARDS

<u>PCB Assembly</u>	<u>Part Number</u>	<u>Rev.</u>	<u>Page</u>
<u>Print Controller</u>	<u>64000160-4001</u>	<u>C10</u>	<u>3-3</u>
<u>Print Controller</u>	<u>64000564-4000</u>	<u>B11</u>	<u>3-11</u>
<u>Print Controller</u>	<u>64000818-4000</u>	<u>A9</u>	<u>3-19</u>
<u>Print Controller</u>	<u>64000920-4000</u>	<u>A6</u>	<u>3-27</u>
<u>Print Controller</u>	<u>640001037-4000</u>	<u>A4</u>	<u>3-39</u>

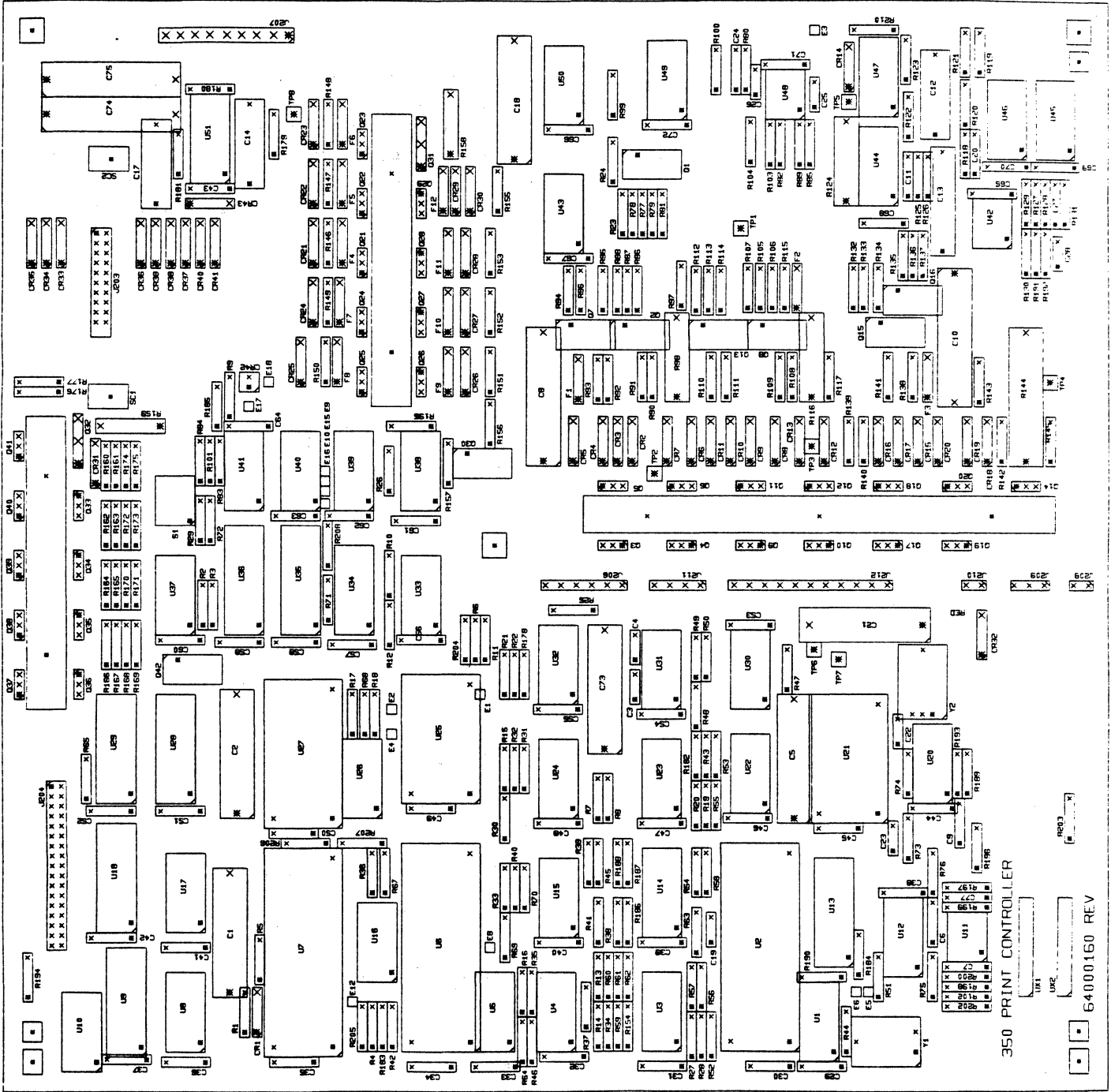


Figure 3-1. PRINT CONTROLLER 64000160 REV. C

LIST OF MATERIALS
PC BOARD ASSEMBLY
PRINT CONTROLLER
64000160-4001 REV. C10
(Reference Figure 3-1)

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
C1,C2,C5,C18 C21,C73	22107002-1001	Capacitor, Elctlt, 100 uF, 25V -10+75
C6,C9,C20,C24, C27,C29,C30,C31, C32,C33,C34,C35, C36,C37,C38,C39, C40,C41,C42,C43, C44,C45,C46,C47, C48,C49,C50,C51, C52,C53,C54,C55, C56,C57,C58,C59, C60,C61,C62,C63, C64,C65,C66,C67, C68,C69,C70,C71, C72,C82,C83,C84, C85,C86	21104005-1001	Capacitor, TBAX, .1 uF, 50V, -20+80%
C8,C10,C74,C75	22107006-1001	Capacitor, Elctlt, 100 uF, 80V
C11	21224001-1001	Capacitor, Cer. RDL, .22 uF, 50V, 20%
C12,C14	20123000-1001	Capacitor, TBAX, .012 uF, 100V, 2%
C13	21122000-1001	Capacitor, TBAX, 1200 pF, 50V, 2%
C15	21101001-1001	Capacitor, Cer. Disc, 100 pF, 1KV, 20%
C16,C80,C81	21103002-1001	Capacitor, Cer. Disc, .010 uF, 16V, 20%
C17	20273000-1001	Capacitor, Poly .027 mF, 200V, 2%
C22,C23	21201000-1001	Capacitor, Cer. Disc, 200 pF, 1KV, 20%
C25,C26	21202001-1001	Capacitor, Cer. Disc, 2K pF, 1KV, 20%
C28	21220001-1001	Capacitor, Cer. Disc, 22 pF, 1KV, 20%
C79	21102002-1001	Capacitor, TBAX, Glass/Epoxy 1000 pF
CR1,CR2,CR5,CR6, CR7,CR8,CR11,CR12, CR13,CR15,CR16, CR21,CR22,CR23, CR24,CR25,CR26, CR27,CR28,CR29, CR32,CR43	38040020-1001	Diode, TBAX, IN4002

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
CR3,CR4,CR9,CR10, CR17,CR18,CR19, CR20,CR33,CR34, CR35,CR36,CR37, CR38,CR39,CR40, CR41	38121140-1002	Diode, A114F
CR14	38047420-1001	Diode, TBAX12, IN4742
CR30,31	38104748-1001	Diode, TBAX22, IN4748A
CR42	38005752-1001	LED w/Leads
F1,F2	39030030-1004	Fuse, Insulated, .093, 2A, PC Mtg.
F3	39030030-1006	Fuse, Insulated, .093, 3A, PC Mtg.
F4,F5,F6,F7,F8, F9,F10,F11,F12	39030030-1009	Fuse, Insulated, .093, 5A, PC Mtg.
FL	64000802-4001	Filter, Delay, PCB, A Group (refer to page 3-28)
J203	31302002-1013	HDR, 20 Posn., Solder Pin
J204	31302002-1021	HDR, 34 Posn., Solder Pin
J206	31301029-1006	HDR, LKG, 6 Posn., PC Mtg.
J207	31301029-1009	HDR, LKG, 9 Posn., .045 SQP
J208	31301029-1002	HDR, LKG, 2 Posn., PC Mtg.
J209	31301029-1003	HDR, LKG, 3 Posn., PC Mtg.
J210	31301029-1102	HDR, LKG, 2 Posn., Red
J211	31301029-1004	HDR, LKG 4 Posn., .045 SQP
J212	31301029-1011	HDR, LKG, 11 Posn., .045 SQP
Q1	38300056-1001	Transistor (MPS-A56)
Q2,Q7,Q8,Q13, Q15,Q16,Q42	38300061-1001	Transistor, HV, NPN (MP5-A06)
Q3,Q5,Q9,Q11, Q17,Q18	38201252-1001	Transistor, Power, PNP (EP3011)
Q4,Q6,Q10,Q12, Q14,Q19,Q20	38201200-1001	Transistor, Power, NPN (TIP120)

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
Q21,Q22,Q23,Q24, Q25,Q26,Q27,Q28, Q29	38300442-1001	Transistor, NPN (D44E2)
Q30	38300065-1001	Transistor, Darlington, PNP (MPS-A65)
Q31,Q32	38201410-1001	Transistor, Power (TIP141)
Q33,Q34,Q35,Q36, Q37,Q38,Q39,Q40, Q41	38300452-1001	Transistor, NPN (D45E2)
R1,R2,R3,R4, R5,R6,R10,R13, R14,R15,R17,R18, R19,R42,R52,R53, R54,R55,R56,R57, R58,R59,R61,R63, R64,R67,R68,R70, R77,R86,R88,R95, R96,R105,R107,R113, R114,R126,R132,R134, R135,R137,R185,R186, R187,R195	41512925-1001	Resistor, Carbon, 5.1K Ohms, .25W, 5%
R7,R8,R11,R12,R16, R20,,R21,R22,R23, R24,R25,R26,R28, R30,R31,R32,R34, R35,R37,R38,R39, R41,R43,R44,R45, R51,R60,R62,R71, R78,R97,R99,R115, R117,R142,R143, R154,R179,R182,R188, R189,R190,R193,R204, R205,R208	41122925-1001	Resistor, Carbon, 1.2K Ohms, .25W, 5%
R9,R73,R74,R131, R160,R162,R164,R166, R168,R170,R172,R174, R176	41222925-1001	Resistor, Carbon, 2.2K Ohms, .25W, 5%
R27,R36,R194	41103925-1001	Resistor, Carbon, 10K Ohms, .25W, 5%
R29,R72,R83,R84, R101,R128,R145, R206	41102925-1001	Resistor, Carbon, 1K Ohms, .25W, 5%
R46,R65,R184	41271925-1001	Resistor, Carbon, 270 Ohms, .25W, 5%

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
R66,R75,R76,R201	41511925-1001	Resistor, Carbon, 510 Ohms, .25W, 5%
R79,R183	41681925-1001	Resistor, Carbon, 680 Ohms, .25W, 5%
R80	41510925-1001	Resistor, Carbon, 51 Ohms, .25W, 5%
R81,R89,R91,R92, R104,R109,R110, R139,R140,R156, R157	41202925-1001	Resistor, Carbon, 2K Ohms, .25W, 5%
R82,R85,R100, R103,R129,R130	41302925-1001	Resistor, Carbon, 3K Ohms, .25W, 5%
R87,R94,R106, R112,R133,R136	41101925-1001	Resistor, Carbon, 100 Ohms, .25W, 5%
R90,R93,R108, R111,R138,R141	41682925-1001	Resistor, Carbon, 6.8K Ohms, .25W, 5%
R98,R116	43477015-1001	Resistor, WW .47 Ohms, 1W, 5%
R118,R120	47100311-1001	Resistor, Met. Film, 100K Ohms, .125W, 1%
R119	47422011-1001	Resistor, Met. Film, 422 Ohms, .125W, 1%
R121	47110111-1001	Resistor, Met. Film, 1.1K Ohms, .125W, 1%
R122	47150311-1001	Resistor, Met. Film, 150K Ohms, .125W, 1%
R123	47274311-1001	Resistor, Met. Film, 274K Ohms, .125W, 1%
R124	41102015-1001	Resistor, Carbon, 1K Ohms, 1W, 5%
R125	41244925-1001	Resistor, Carbon, 240K Ohms, .25W, 5%
R127	41362925-1001	Resistor, Carbon, 3.6K Ohms, .25W, 5%
R144	43477055-1001	Resistor, WW .47 Ohms, 5W, 5%
R146,R147,R148, R149,R150,R151, R152,R153,R155	41121925-1001	Resistor, Carbon, 120 Ohms, .25W, 5%
R158,R159	41221945-1001	Resistor, Carbon, 220 Ohms, .5W, 5%
R161,R163,R165, R167,R169,R171, R173,R175,R177, R213	41152925-1001	Resistor, Carbon, 1.5K Ohms, .25W, 5%
R178	41471925-1001	Resistor, Carbon, 470 Ohms, .25W, 5%

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
R180	47392311-1001	Resistor, Met. Film, 392K Ohms, .125W, 1%
R181	47475211-1001	Resistor Met. Film, 47.5K Ohms, .125W, 1%
R191	41473925-1001	Resistor, Carbon, 47K Ohms, .25W, 5%
R192	41393925-1001	Resistor, Carbon, 39K Ohms, .25W, 5%
R207,R210	41000926-1001	Resistor, Carbon, 0 Ohms, .25W, 10%
R209	41221925-1001	Resistor, Carbon, 220 Ohms, .25W, 5%
R212	41104925-1001	Resistor, Carbon, 100K Ohms, .25W, 5%
RN1	40681204-1037	Resistor, Network 10P, 22K Ohms, 1.5W <u>+2%</u>
S1	39090019-1005	SW, Dip, ON/OFF SLD, 5 Posn.
U1,U3,U23	35674003-1001	IC, NAND, Gate Quad
U2	35208049-1001	IC, Microprocessor
U4,U16,U22,U26, U33	35577474-1001	IC, FF, D-type, Dual
U5,U15,U24,U30, U32,U40,U41,U43	35474070-1001	IC, BFR/DRVR, Hex
U6	35578156-1001	IC, Timer, Ram
U7	35578085-1001	IC, Microprocessor, 8-Bit
U8	35577432-1001	IC, OR, Quad, 2-Input
U9,U29,U35	35674244-1001	IC, BFR/DRVR, Octal
U10,U37,U44	35674014-1001	IC, Inverter, Hex, ST
U12,U20	35474040-1001	IC, Inverter, Hex
U13,U28	35674373-1001	IC, FF, D-type, Dual
U14	35574175-1001	IC, FF, D-type, Quad
U17,U31,U46	35577486-1001	IC, EXCL OR, Quad, 2-Input
U18	35674245-1001	IC, RCRV, Bus, Octal
U21	35522716-1A80	Prom, U0350A, 00D450NS
U25	35578253-1001	IC, Timer, Interval

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
U27	35512764-1H01	Prom, C0350 H.000
U34	35674139-1001	IC, Decoder, 2-4, Dual
U36	35674273-1001	IC, FF, D-Type, Octal
U38	35577400-1001	IC, NAND, Quad, 2-Input
U39	35674010-1001	IC, Triple, 3-Input
U42,U48	35203393-1001	IC, Voltage Comparator
U45	35577421-1001	IC, Gate, 4-Input
U47	35207392-1001	IC, LIC., DC MOT., Sp. Cont.
U49	35577408-1001	IC, AND, Quad, 2-Input
U50	35474060-1001	IC, BFR/DRVR, Hex Inverter
U51	35496020-1001	IC, Monostable, Dual
Y1	37810695-1001	Crystal, 6.0 MHz, w/Pin
Y2	37810694-1001	Resonator, Cer., 11 MHz

----- PARTS NOT SHOWN IN FIGURE 3-1 -----

<u>Part Number</u>	<u>Description</u>	<u>Quantity</u>
64000396-4001	Cable, Assy. Cont.	1
63180379-2001	Cable, Brkt.	1
63180377-2001	Insulator	1
64000309-2001	Insulator, Transistor, 3.0	4
64000310-2001	Insulator, Transistor, 4.8	2
63180264-2001	Heatsink, Transistor 3.0x2.0	1
63180265-2001	Heatsink, Transistor 4.8x1.0	1
63180266-2001	Heatsink, Transistor 3.0x1.0	1
31280004-1001	Jack	24
31243518-2001	Key, Polarizing	1
34000651-2004	Nut, Hex M3x0.5x2.4 THK, SST	2
36350006-2001	O-Ring .737 I.D.	1
33250003-2003	Pin, Cotter	8
34000352-2022	Screw, Cheesehead, Sltd., M2.5x45x8	33
34000353-2033	Screw, Panhead, Sltd., M3x0.5x8, SST	9
31410246-2001	Socket, IC, 24 Pin Solder Dip .600	1
31410246-2002	Socket, IC, 28 Pin Solder Dip .600	1
31410246-2003	Socket, IC, 40 Pin Solder Dip .600	3
36612103-2040	Spacer, .12 DIA., #0 Clear, .18L NYL	8
34000452-2003	Washer, Flat, M2.5x6.5, 0.5 THK	33
34000453-2004	Washer, Fl, M3x7, 0.5 THK, SST	9
34000454-2004	Washer, Lock, Split M3, SST	9
34000455-2003	Washer, Lock, Split, M2.5	33
34900006-2001	Washer, Fl, 4x.28 Teflon	11
35070010-2001	Washer, Shoulder	33

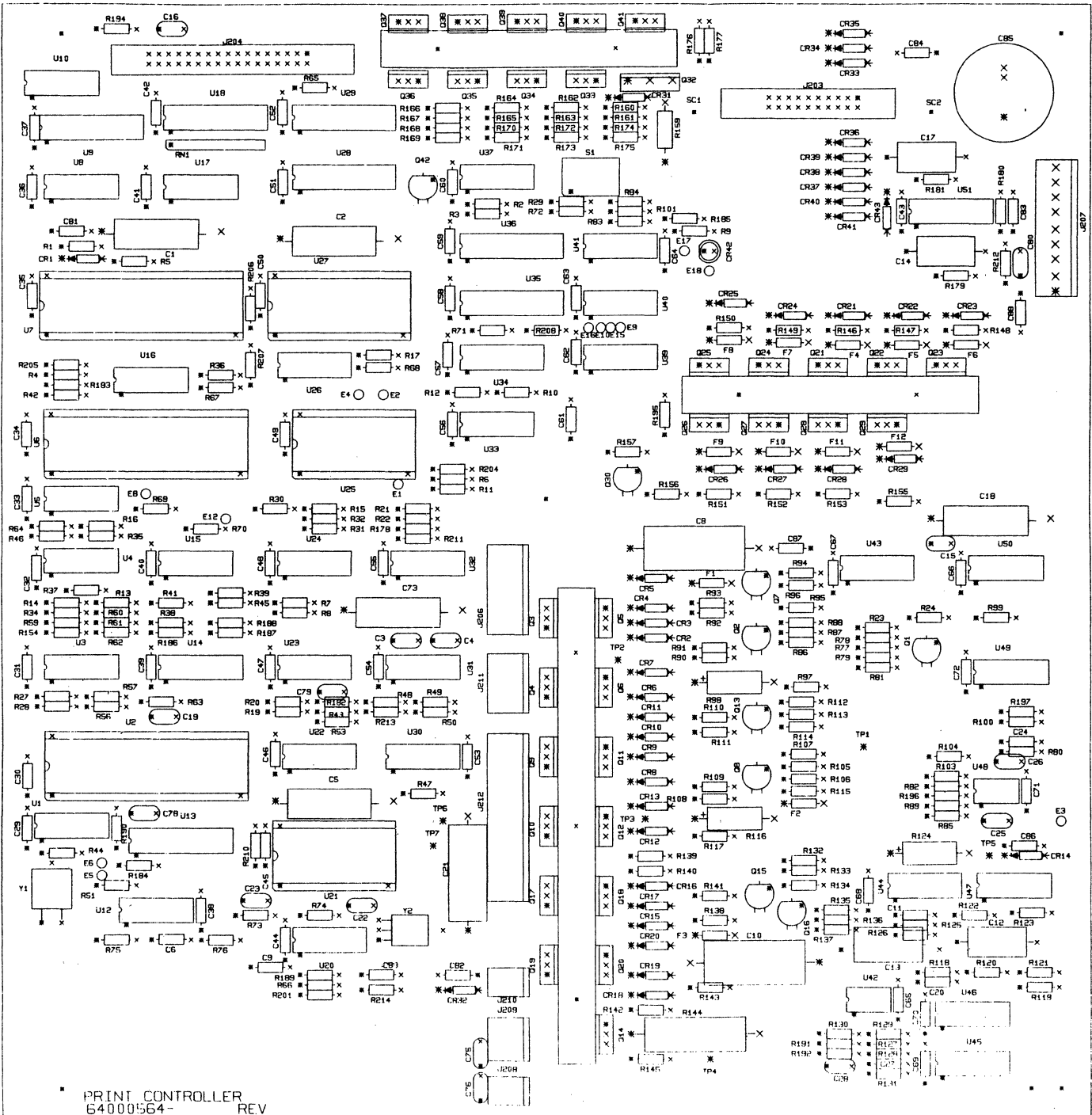


Figure 3-2. PRINT CONTROLLER 64000564 REV. B

PC BOARD ASSEMBLY
PRINT CONTROLLER
64000564-4001 REV. B13

<u>Item</u>	<u>Part Number</u>	<u>Description</u>
1	64000564-4000 Rev. B11	PCB Assy., Basic Print Controller
2	64000564-6001 Rev. B	PROM Kit Std. Print Controller

An illustrated parts breakdown of items 1 and 2 follows:

LIST OF MATERIALS
PC BOARD ASSEMBLY
PRINT CONTROLLER
64000564-4000 REV. B11
(Reference Figure 3-2)

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
C1,C2,C5,C18, C21,C73	22107002-1001	Capacitor, Elctlt, 100 uF, 25V -10+75%
C6, C79	21102002-1001	Capacitor, TBAX, Glass/Epoxy, 1000 pF
C8,C10	22107006-1001	Capacitor, Elctlt, 100 uF, 80V
C9,C20,C24,C27, C29,C30,C31,C32, C33,C34,C35,C36, C37,C38,C39,C40, C41,C42,C43,C44, C45,C46,C47,C48, C49,C50,C51,C52, C53,C54,C55,C56, C57,C58,C59,C60, C61,C62,C63,C64, C65,C66,C67,C68, C69,C70,C71,C72, C81,C82,C83,C84, C86,C87,C88	21104005-1001	Capacitor, TBAX .1 uF, 50V -20+80%
C11	21224001-1001	Capacitor, Cer. RDL, .22 uF, 50V, 20%
C12,C14	20123000-1001	Capacitor, TBAX, .012 uF, 100V, 2%
C13	21122000-1001	Capacitor, TBAX 1200 pF, 50V, 2%
C16,C75,C76,C78, C80	21103002-1001	Capacitor, Cer. Disc, .01 uF, 16V, 20%
C17	28273000-1001	Capacitor, TBAX, .027 uF, 100V, 2%
C22,C23	21201000-1001	Capacitor, Cer. Disc, 200 pF, 1KV, 20%
C25,C26	21202001-1001	Capacitor, Cer. Disc, 2K pF, 1KV, 20%
C28	21471003-1001	Capacitor, Cer. Disc, 470 pF, 1KV, 20%
C85	22228001-1001	Capacitor, Elctlt, 2200 uF, 50V
CR1	38100904-1001	Diode, TBAX, IN4148

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
CR2,CR5,CR6,CR7, CR8,CR11,CR12, CR13,CR15,CR16, CR21,CR22,CR23, CR24,CR25,CR26, CR27,CR28,CR29, CR32,CR43	38040020-1001	Diode, TBAX, IN4002
CR3,CR4,CR9,CR10, CR17,CR18,CR19, CR20,CR33,CR34, CR35,CR36,CR37, CR38,CR39,CR40, CR41	38121140-1002	Diode, A114F
CR14	38047420-1001	Diode, TBAX 12, IN4742
CR31	38104748-1001	Diode, TBAX22, IN47478A
CR42	38005752-1001	LED, w/Leads
F1,F2	39030030-1004	Fuse, Insulated, .093, 2A, PC Mtg.
F3	39030030-1006	Fuse, Insulated, .093, 3A, PC Mtg.
F4,F5,F6,F7,F8, F9,F10,F11,F12	39030030-1009	Fuse, Insulated, .093, 5A, PC Mtg.
F1	64000802-4001	Filter, Delay, PCB, A Group (refer to page 3-47)
J203	31302002-1013	HDR, 20 Posn., Solder Pin
J204	31302002-1021	HDR, 34 Posn., Solder Pin
J206	31301029-1006	HDR, LKG, 6 Posn., PC Mtg.
J207	31301029-1009	HDR, LKG, 9 Posn., .045 SQP
J208	31301029-1002	HDR, LKG, 2 Posn., PC Mtg.
J209	31301029-1003	HDR, LKG, 3 Posn., PC Mtg.
J210	31301029-1102	HDR, LKG, 2 Posn., Red
J211	31301029-1004	HDR, LKG, 4 Posn., .045 SQP
J212	31301029-1011	HDR, LKG, 11 Posn., .045 SQP
Q1	38300056-1001	Transistor, (MPS-A56)
Q2,Q7,Q8,Q13,Q15, Q16,Q42	38300061-1001	Transistor, HV, NPN (MPS-A06)
Q3,Q5,Q9,Q11,Q17, Q18	38201252-1001	Transistor, Power, PNP (EP3011)

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
Q4, Q6, Q10, Q12, Q14, Q19, Q20	38201200-1001	Transistor, Power, NPN (TIP 120)
Q21, Q22, Q23, Q24, Q25, Q26, Q27, Q28, Q29	38300444-1001	Transistor, Power, NPN
Q30	38300065-1001	Transistor, Darlington, PNP (MPS-A65)
Q32	38201410-1001	Transistor, Power (Tip 141)
Q33, Q34, Q35, Q36, Q37, Q38, Q39, Q40, Q41	38300454-1001	Transistor, Power, PNP
R1, R27, R36, R194 R217, R218, R219 R220, R221, R222	41103925-1001	Resistor, Carbon, 10K Ohms, .25W, 5%
R2, R3, R4, R5, R6, R10, R13, R14, R15, R17, R19, R42, R53, R56, R57, R59, R61, R63, R64, R67, R68, R70, R86, R88, R90, R93, R95, R96, R105, R107, R108, R111, R113, R114, R126, R132, R134, R135, R137, R138, R141, R185, R186, R187, R195	41512925-1001	Resistor, Carbon, 5.1K Ohms, .25W, 5%
R7, R8, R11, R12, R16, R20, R21, R22, R23, R24, R28, R30, R31, R32, R34, R35, R37, R38, R39, R41, R43, R44, R45, R51, R60, R62, R65, R78, R97, R99, R115, R117, R142, R143, R154, R179, R182, R188, R189, R190, R204, R205, R211	41122925-1001	Resistor, Carbon, 1.2K Ohms, .25W, 5%
R9, R73, R74, R131, R160, R162, R164, R166, R168, R170, R172, R174, R176	41222925-1001	Resistor, Carbon, 2.2K Ohms, .25W, 5%
R29, R66, R72, R75, R83, R84, R101, R128, R145, R201, R206, R213	41102925-1001	Resistor, Carbon, 1K Ohms, .25W, 5%

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
R46,R184,R210	41271925-1001	Resistor, Carbon, 270 Ohms, .25W, 5%
R76	41392925-1001	Resistor, Carbon, 3.9K Ohms, .25W, 5%
R85,R91,R92,R103, R109,R110,R139,R140	41511925-1001	Resistor, Carbon, 510 Ohms, .25W, 5%
R77,R81,R89,R104 R156,R157	41202925-1001	Resistor, Carbon, 2K Ohms, .25W, 5%
R79,R183	41681925-1001	Resistor, Carbon, 680 Ohms, .25W, 5%
R80	41510925-1001	Resistor, Carbon, 51 Ohms, .25W, 5%
R82,R100,R129	41302925-1001	Resistor, Carbon, 3K Ohms, .25W, 5%
R87,R94,R106,R112, R133,R136,R181	41472925-1001	Resistor, Carbon, 4.7K Ohms, .25W, 5%
R98,R116	43477015-1001	Resistor, WW, .47 Ohm, 1W, 5%
R118,R120	47100311-1001	Resistor Met. Film, 100K Ohms, .125W, 1%
R119	46101501-1002	Resistor, Pot, 1K Ohms, .5W 10%
R121	47110111-1001	Resistor Met. Film, 1.1K Ohms, .125W, 1%
R122	47150311-1001	Resistor Met. Film, 150K Ohms, .125W, 1%
R123	47274311-1001	Resistor Met. Film, 274K Ohms, .125W, 1%
R124	41102015-1001	Resistor, Carbon, 1K Ohms, 1W, 5%
R125	41244925-1001	Resistor, Carbon, 240K Ohms, .25W, 5%
R127	41362925-1001	Resistor, Carbon, 3.6K Ohms, .25W, 5%
R144	43477055-1001	Resistor, WW, .47 Ohm, 5W, 5%
R146,R147,R148, R149,R150,R151, R152,R153,R155	41121925-1001	Resistor, Carbon, 120 Ohms, .25W, 5%
R159	41221945-1001	Resistor, Carbon, 220 Ohms, .25W, 5%
R161,R163,R165, R167,R169,R171, R173,R175,R177	41152925-1001	Resistor, Carbon, 1.5K Ohms, .25W, 5%

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
R178	41471925-1001	Resistor, Carbon, 470 Ohms, .25W, 5%
R180	47392311-1001	Resistor, Film, 392K Ohms, .125W, 1%
R181	41472925-1001	Resistor, Carbon, 4.7K Ohms, .25W, 5%
R191	41473925-1001	Resistor, Carbon, 47K Ohms, .25W, 5%
R192	41393925-1001	Resistor, Carbon, 39K Ohms, .25W, 5%
R196,R197	41105925-1001	Resistor, Carbon, 1 meg. Ohm, .25W, 5%
R207,R215	41000926-1001	Resistor, Carbon, 0 Ohms, .25W, 10%
R223	41153925-1001	Resistor, Carbon 15K Ohms, .25W, 5%
R212	41153925-1001	Resistor, Carbon, 100K Ohms, .25W, 5%
R216	46503003-1001	Resistor, Pot, 50K, 1/2W, 10%
RN1	40681204-1037	Resistor, Network, 10P, 22K Ohms, 1.5W, <u>+ 2%</u>
S1	39090019-1005	SW, Dip, ON/OFF, SLD, 5 Posn.
U1,U3,U23	35674003-1001	IC, NAND Gate, Quad
U2	35208049-1001	IC, Microprocessor
U4,U16,U22,U26,U33	35577474-1001	IC, FF, Dual, D-Type
U5,U15,U24,U30, U32,U40,U41,U43	35474070-1001	IC, Buffer Hex
U6	35578156-1001	IC, Timer Ram
U7	35578085-1001	IC, Microprocessor 8-Bit
U8	35577432-1001	IC, OR, Quad, 2-Input
U9,U29,U35	35674244-1001	IC, BFR/DRVR, Octal
U10,U37,U44	35674014-1001	IC, Inverter Hex ST
U12	35577404-1001	IC, Inverter Hex
U20	35474040-1001	IC, Inverter Hex
U13,U28	35674373-1001	IC, FF D-Type, Dual
U14	35574175-1001	IC, FF, D-Type, Quad
U17,31,46	35577486-1001	IC, EXCL-OR, Quad, 2-Input
U18	35674245-1001	IC, RCVR Bus, Octal
U25	35578253-1001	IC, Timer, Interval

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
U34	35674139-1001	IC, Decoder, 2-4 Dual (139)
U36	35674273-1001	IC, FF D-Type, Dual (273)
U39	35674010-1001	IC, Triple/3-Input (7410)
U42,U48	35203393-1001	IC, Voltage Comparator (393)
U45	35577421-1001	IC, Gate, Input, D4 (7421)
U47	35207392-1001	IC, Lic, DC MOT, Sp. Cont. (7392)
U49	35577408-1001	IC, AND 2-Input, Quad (7408)
U50	35474060-1001	IC, BFR/DRVR, Hex Inverter (7406)
U51	35496020-1001	IC, Monostable, Dual (MV9602)
Y1	37810695-1001	Crystal, 6.0 mHz, w/Pin
Y2	37810694-1001	Resonator, Cer., 11 mHz

PROM Kit 64000564-6001

LIST OF MATERIALS
PROM KIT, STANDARD PRINT CONTROLLER
64000564-6001 REV. A3

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
U21	35522716-1A80	PROM, VO350A
U27	35512764-1H01	PROM, C0350H.000

NOTE: Current Rev. level of software when manual was printed; contact factory representative for latest Rev. level of software.

----- PARTS NOT SHOWN IN FIGURE 3-2 -----

<u>Part Number</u>	<u>Description</u>	<u>Quantity</u>
63180379-2001	Cable, Brkt.	1
63180264-2001	Heatsink, Transistor, 3.0x2.0	1
63180265-2001	Heatsink, Transistor, 4.8x1.0	1
63180266-2001	Heatsink, Transistor, 3.0x1.0	1
63180377-2001	Insulator	1
64000309-2001	Insulator, Transistor, 3.0	4
64000310-2001	Insulator, Transistor 4.8	2
31280004-1001	Jack	24
31243518-2001	Key, Polarizing	1
36200069-2001	Latch, Grommet	3
36200070-2001	Latch, Plunger	3
34000651-2004	Nut, Hex, M3x0.5x2.4 THK, SST	2
36350006-2001	O-Ring .737 I.D.	1
33250003-2003	Pin, Cotter	7
34000352-2022	Screw, Cheesehead, Sltd. M2.5x45x8	32
34000353-2033	Screw, Panhead, Sltd., M3x0.5x8, SST	9
31410246-2001	Socket, IC, 24 Pin, Solder Dip .600	1
31410246-2002	Socket, IC, 28 Pin, Solder Dip .600	1
31410246-2003	Socket, IC, 40 Pin, Solder Dip .600	1
36612103-2040	Spacer, .12 DIA, #0 Clear, .18L, Nylon	7
34000452-2003	Washer, Fl., M2.5x6.5, 0.5 THK	32
34000453-2004	Washer, Fl., M3x7, 0.5 THK., SST	9
34000454-2004	Washer, Lock, Split M3, SST	9
34000455-2003	Washer, Lock, Split M2.5	32
34900006-2001	Washer, Fl., 4x.28 Teflon	11
35070010-2001	Washer, Shoulder	32

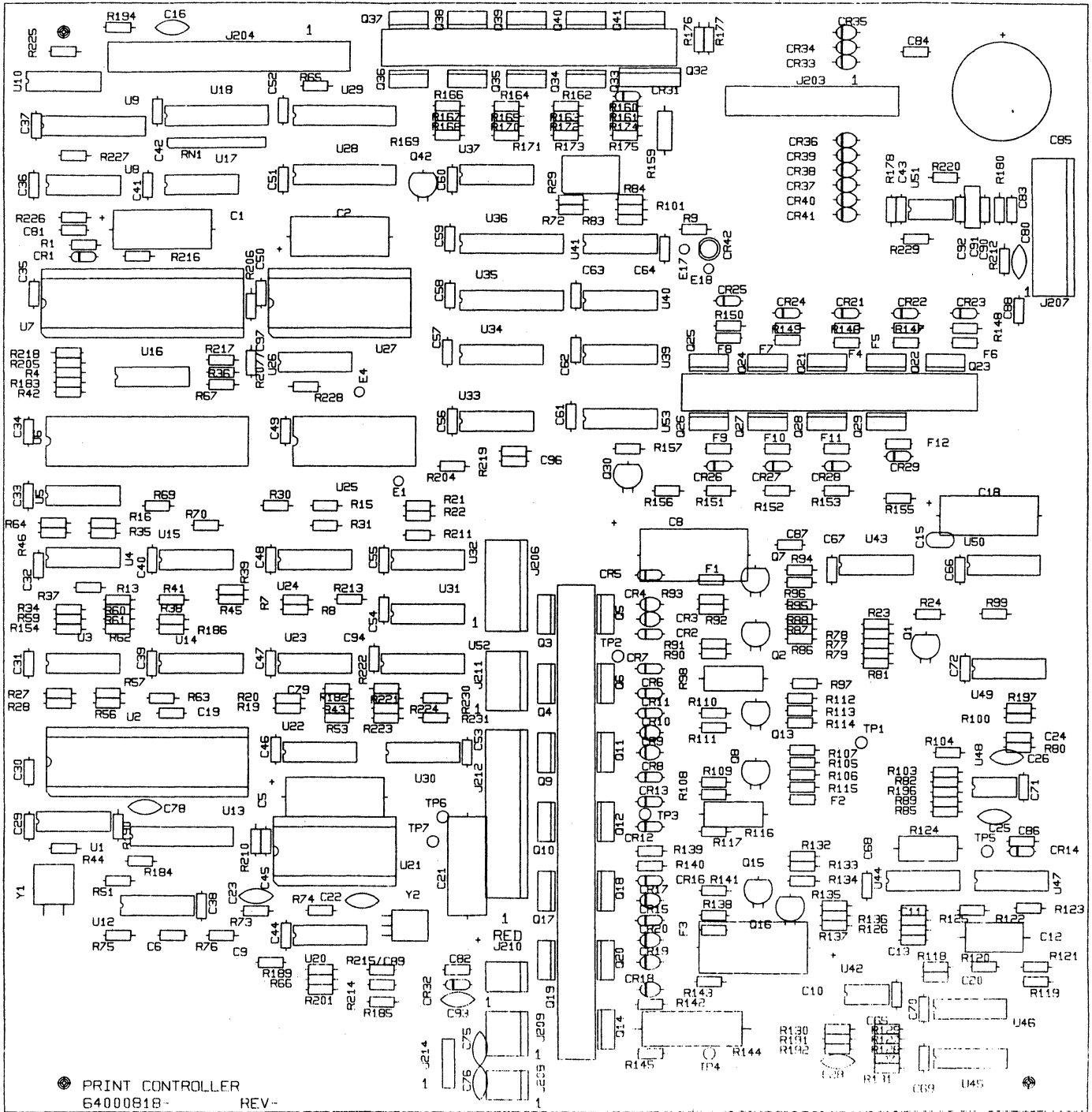


Figure 3-3. PRINT CONTROLLER 64000818 REV. A

PC BOARD ASSEMBLY
 PRINT CONTROLLER
 64000818-4001 REV. A11
 (Reference Figure 3-3)

<u>Item</u>	<u>Part Number</u>	<u>Description</u>
1	64000818-4000 Rev. A9	PCB Assy. Basic Print Controller
2	64000818-6001 Rev. A4	PROM Kit Std. Print Controller

An illustrated parts breakdown of items 1 and 2 follows.

LIST OF MATERIALS
 PC BOARD ASSEMBLY
 BASIC PRINT CONTROLLER
 64000818-4000 REV. A9
 (Reference Figure 3-3)

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
C1,C2,C5,C18, C21	22107002-1001	Capacitor, Elctlt, 100 uF, 25V -10+75%
C8,C10	22107006-1001	Capacitor, Elctlt, 100 uF, 80V
C6,C9,C20,C24,C27, C29,C30,C31,C32,C33, C34,C35,C36,C37,C38, C39,C40,C41,C42,C43, C44,C45,C46,C47,C48, C49,C50,C51,C52,C53, C54,C55,C56,C57,C58, C59,C60,C61,C62,C63, C64,C65,C66,C67,C68, C69,C70,C71,C72,C81, C82,C83,C84,C86,C87, C88,C90,C92,C94	21104005-1001	Capacitor, TBAX .1 uF, 50V -20+80%
C11	21224001-1001	Capacitor, Cer. RDL, .22 uF, 50V, 20%
C12	20123000-1001	Capacitor, TBAX, .012 uF, 100V, 2%
C13	21122000-1001	Capacitor, TBAX 1200 pF, 50V, 2%
C15	21101001-1001	Capacitor, Cer. Disc, 100 pF, 1KV, 20%
C16,C75,C76,C78,C80,C9	321103002-1001	Capacitor, Cer. Disc, .01 uF, 16V, 20%
C19,C28	21471003-1001	Capacitor, Cer. Disc, 470 pF, 1KV, 20%
C22,C23	21201000-1001	Capacitor, Cer. Disc, 200 pF, 1KV, 20%
C25,C26,C96	21202001-1001	Capacitor, Cer. Disc, 2K pF, 1KV, 20%
C79	21102002-1001	Capacitor, Glass/Epoxy 100 pF
C85	22228001-1001	Capacitor, Elctlt, 2200 uF, 50V

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
C91	24103000-1002	Capacitor, Rect, RDL, .01 uF, 100V, 2%
C103	21470000-1001	Capacitor, Cer. Disc, 47 pF, 1KV, 10%
CR1,CR43	38100904-1001	Diode, TBAX, IN4148
CR2,CR5,CR6,CR7,CR8, CR11,CR12,CR13,CR15, CR16,CR21,CR22,CR23, CR24,CR25,CR26,CR27, CR28,CR29,CR32,CR44	38040020-1001	Diode, TBAX, IN4002
CR3,CR4,CR9,CR10,CR17 CR18,CR19,CR20,CR33, CR34,CR35,CR36,CR37, CR38,CR39,CR40,CR41	38121140-1002	Diode, A114F
CR14,CR31	38047420-1001	Diode, TBAX 12, IN4742
CR42	38005752-1001	LED, w/Leads
F1,F2	39030030-1004	Fuse, Insulated, .093, 2A, PC Mtg.
F3	39030030-1006	Fuse, Insulated, .093, 3A, PC Mtg.
F4,F5,F6,F7,F8,F9,F10, F11,F12	39030030-1009	Fuse, Insulated, .093, 5A, PC Mtg.
J203	31302002-1013	HDR, 20 Posn., Solder Pin
J204	31302002-1021	HDR, 34 Posn., Solder Pin
J206	31301029-1006	HDR, LKG, 6 Posn., PC Mtg.
J207	31301029-1009	HDR, LKG, 9 Posn., .045 SQP
J208	31301029-1002	HDR, LKG, 2 Posn., PC Mtg.
J209	31301029-1003	HDR, LKG, 3 Posn., PC Mtg.
J210	31301029-1102	HDR, LKG, 2 Posn., Red
J211	31301029-1004	HDR, LKG, 4 Posn., .045 SQP
J212	31301019-1011	HDR, LKG, 11 Posn., .045 SQP
Q1	38300056-1001	Transistor, (MPS-A56)
Q2,Q7,Q8,Q13,Q15,Q16 Q42	38300061-1001	Transistor, HV, NPN (MPS-A06)
Q3,Q5,Q9,Q11,Q17,Q18	38201252-1001	Transistor, Power, PNP (EP3011)

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
Q4,Q6,Q10,Q12,Q14,Q19 Q20	38201200-1001	Transistor, Power, NPN (TIP 120)
Q21,Q22,Q23,Q24,Q25, Q26,Q27,Q28,Q29	38300444-1001	Transistor, Power, NPN
Q30	38300065-1001	Transistor, Darlington, PNP (MPS-A65)
Q32	38201410-1001	Transistor, Power (Tip 141)
Q33,Q34,Q35,Q36,Q37 Q38,Q39,Q40,Q41	38300454-1001	Transistor, Power, PNP
R1,R27,R36,R194,R250, R251,R252,R253,R254, R255	41103925-1001	Resistor, Carbon, 10K Ohms, .25W, 5%
R4,R13,R15,R42,R51, R53,R56,R57,R59,R61, R63,R64,R67,R70,R86, R88,R90,R93,R95,R96, R105,R107,R108,R111, R113,R114,R126,R132, R134,R135,R137,R138, R141,R185,R186,R240	41512925-1001	Resistor, Carbon, 5.1K Ohms, .25W, 5%
R7,R8,R16,R20,R21 R22,R23,R24,R28,R30, R31,R34,R35,R37,R38, R39,R41,R43,R44,R45, R60,R62,R65,R78,R97, R99,R115,R117,R142, R143,R154,R189,R190, R204,R205,R211	41122925-1001	Resistor, Carbon, 1.2K Ohms, .25W, 5%
R9,R73,R74,R131,R160 R162,R164,R166,R168, R170,R172,R174,R176	41222925-1001	Resistor, Carbon, 2.2K Ohms, .25W, 5%
R29,R66,R72,R83,R84 R101,R128,R145,R180, R201,R206,R213,R225, R226,R227,R228,R243	41102925-1001	Resistor, Carbon, 1K Ohms, .25W, 5%

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
R46,R184,R210, R216,R217	41271925-1001	Resistor, Carbon, 270 ohms, .25W, 5%
R85,R91,R92,R103, R109,R110,R139, R140	41511925-1001	Resistor, Carbon, 510 ohms, .25W, 5%
R77,R81,R89,R104 R156,R157	41202925-1001	Resistor, Carbon, 2K ohms, .25W, 5%
R79,R183,R218	41681925-1001	Resistor, Carbon, 680 ohms, .25W, 5%
R80,R219	41510925-1001	Resistor, Carbon, 51 ohms, .25W, 5%
R82,R100,R129, R130	41302925-1001	Resistor, Carbon, 3K ohms
R87,R94,R106, R112,R133,R136,	41472925-1001	Resistor, Carbon 4.7K ohms, .25W, 5%
R90,R93,R108, R111,R138,R141	41682925-1001	Resistor, Carbon, 6.8K ohms, .25W, 5%
R98,R116	43477015-1001	Resistor, WW, .47 ohm, 1W, 5%
R118,R120	47100311-1001	Resistor Met. Film, 100K ohms, .125W, 1%
R119	46101501-1002	Resistor, Pot, 1K ohms, .5W, 10%
R121	47110111-1001	Resistor Met. Film, 1.1K ohms, .125W, 1%
R122	47150311-1001	Resistor Met. Film, 150K ohms, .125W, 1%
R123	47274311-1001	Resistor Met. Film, 274K ohms, .125W, 1%
R124	41102015-1001	Resistor, Carbon, 1K ohms, 1W, 5%
R125	41244925-1001	Resistor, Carbon, 240K ohms, .25W, 5%
R127	41362925-1001	Resistor, Carbon, 3.6K ohms, .25W, 5%
R144	43477055-1001	Resistor, WW, .47 ohm, 5W, 5%
R146,R147,R148, R149,R150,R151, R152,R153,R155	41121925-1001	Resistor, Carbon, 120 ohms, .25W, 5%
R159	41221945-1001	Resistor, Carbon, 220 ohms, .25W, 5%
R161,R163,R165, R167,R169,R171, R173,R175,R177	41152925-1001	Resistor, Carbon, 1.5K ohms, .25W, 5%

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
R75,R76,R178	41471925-1001	Resistor, Carbon, 470 Ohms, .25W, 5%
R191	41473925-1001	Resistor, Carbon, 47K Ohms, .25W, 5%
R192,R222,R224	41393925-1001	Resistor, Carbon, 39K Ohms, .25W, 5%
R196,R197	41105925-1001	Resistor, Carbon, 1 meg. Ohm, .25W, 5%
R207,R215,R230,R231	41000926-1001	Resistor, Carbon, 0 Ohms, .25W, 10%
R212	41104925-1001	Resistor, Carbon, 100K Ohms, .25W, 5%
R220	47143311-1001	Resistor, Met. Film, 143K Ohms, .25W, 1%
R221,R223	41223925-1001	Resistor, Carbon 22K Ohms, .25W, 5%
R228	47137311-1001	Resistor, Met. Film, 137K Ohms, .25W 1%
R244	41330925-1001	Resistor, Carbon, 33 Ohms, .25W, 5%
R256	41153925-1001	Resistor, Carbon, 15K Ohms, .25W, 5%
RN1	40681204-1037	Resistor, Network, 10P, 22K Ohms, 1.5W, 2%
S1	39090019-1005	SW, Dip, ON/OFF, SLD, 5 Posn.
U1,U3,U23	35674003-1001	IC, NAND, Gate, Quad
U2	35208049-1001	IC, Microprocessor
U4,U16,U22,U26	35577474-1001	IC, FF, D-Type, Dual
U5,U15,U24,U32,U40, U41,U43	35474070-1001	IC, Buffer, Hex
U6	35578156-1001	IC, Timer, Ram
U7	35578085-1001	IC, Microprocessor, 8-Bit
U8,U33	35577432-1001	IC, OR, 2-Input, Quad
U9,U29,U35	35674244-1001	IC, BFR/DRVR, Octal
U10,U30,U37,U44	35674014-1001	IC, Inverter, Hex ST
U12,U20	35474040-1001	IC, Inverter, Hex
U13,U28	35674373-1001	IC, FF D-Type, Dual
U14	35574175-1001	IC, FF D-Type, Quad
U17,31,46	35577486-1001	IC, EXCL-OR, 2-Input, Quad

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
U18	35674245-1001	IC, RCVR, Bus, Octal
U21	35522716-1A80	PROM V035A
U25	35578253-1001	IC, Timer, Interval
U27	35512764-1F02	PROM C1350F.000
U34	35674139-1001	IC, Decoder, 2-4, Dual
U36	35674273-1001	IC, FF, D-Type, Dual
U39	35577400-1001	IC, NAND, 2-Input, Quad
U42,U48	35203393-1001	IC, Voltage Comparator
U45	35577421-1001	IC, Gate, Input D4
U47	35207392-1001	IC, Lic, DC MOT, Sp. Cont.
U49	35577408-1001	IC, AND, 2-Input, Quad
U50	35474060-1001	IC, BFR/DRVR, Inverter, Hex
U51	35205550-1001	IC, Timer, Linear 555
U52	35201449-1001	IC, SW, Bounce Elim., Hex
U53	35674090-1001	IC, Counter, Decode
Y1	37810695-1001	Crystal, 6.0 mHz, w/Pin
Y2	37810694-1002	Resonator, Cer., 11 mHz

PROM Kit 64000818-6001

LIST OF MATERIALS
PROM KIT, STD. PRINT CONTROLLER
64000818-6001 REV. A9

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
U21	35522716-1A80	PROM, VO350A
U27	35512764-1E05	PROM, C1350F.000

NOTE: Current Rev. level of software when manual was printed; contact factory representative for latest Rev. level of software.

----- PARTS NOT SHOWN IN FIGURE 3-3 -----

<u>Part Number</u>	<u>Description</u>	<u>Quantity</u>
63180379-2001	Cable, Brkt.	1
64001068-2001	Heatsink, Transistor, 4.8x1.0	1
64001067-2001	Heatsink, Transistor, 3.0x1.0	1
63180377-2001	Insulator	1
64000309-2001	Insulator, Transistor, 3.0	4
64000310-2001	Insulator, Transistor 4.8	2
31280004-1001	Jack	24
31243518-2001	Key, Polarizing	1
36200069-2001	Latch, Grommet	1
36200070-2001	Latch, Plunger	3
34000651-2004	Nut, Hex, M3x.5x2.4 THK SST	2
34000652-2003	Nut, Hex, Metric 2.5	17
36350006-2001	O-Ring .737 I.D.	1
33250003-2003	Pin, Cotter	6
34000352-2028	Screw, Cheesehead, Sltd. M2.5x.45x20	17
34000353-2033	Screw, Panhead, Sltd., M3x0.5x8, SST	9
31410246-2001	Socket, IC, 24 Pin, Solder Dip .600	1
31410246-2002	Socket, IC, 28 Pin, Solder Dip .600	1
31410246-2003	Socket, IC, 40 Pin, Solder Dip .600	1
36612103-2040	Spacer, .12 DIA, #0 Clear, .18L, Nylon	6
34000452-2003	Washer, Fl., M2.5x6.5, 0.5 THK	34
34000453-2004	Washer, Fl., M3x7, 0.5 THK., SST	9
34000454-2004	Washer, Lock, Split M3, SST	9
34000455-2003	Washer, Lock, Split M2.5	17
34900006-2001	Washer, Fl., 4x.28 Teflon	11
35070010-2001	Washer, Shoulder	32
64000985-2001	Washer, Nylon Latch	3

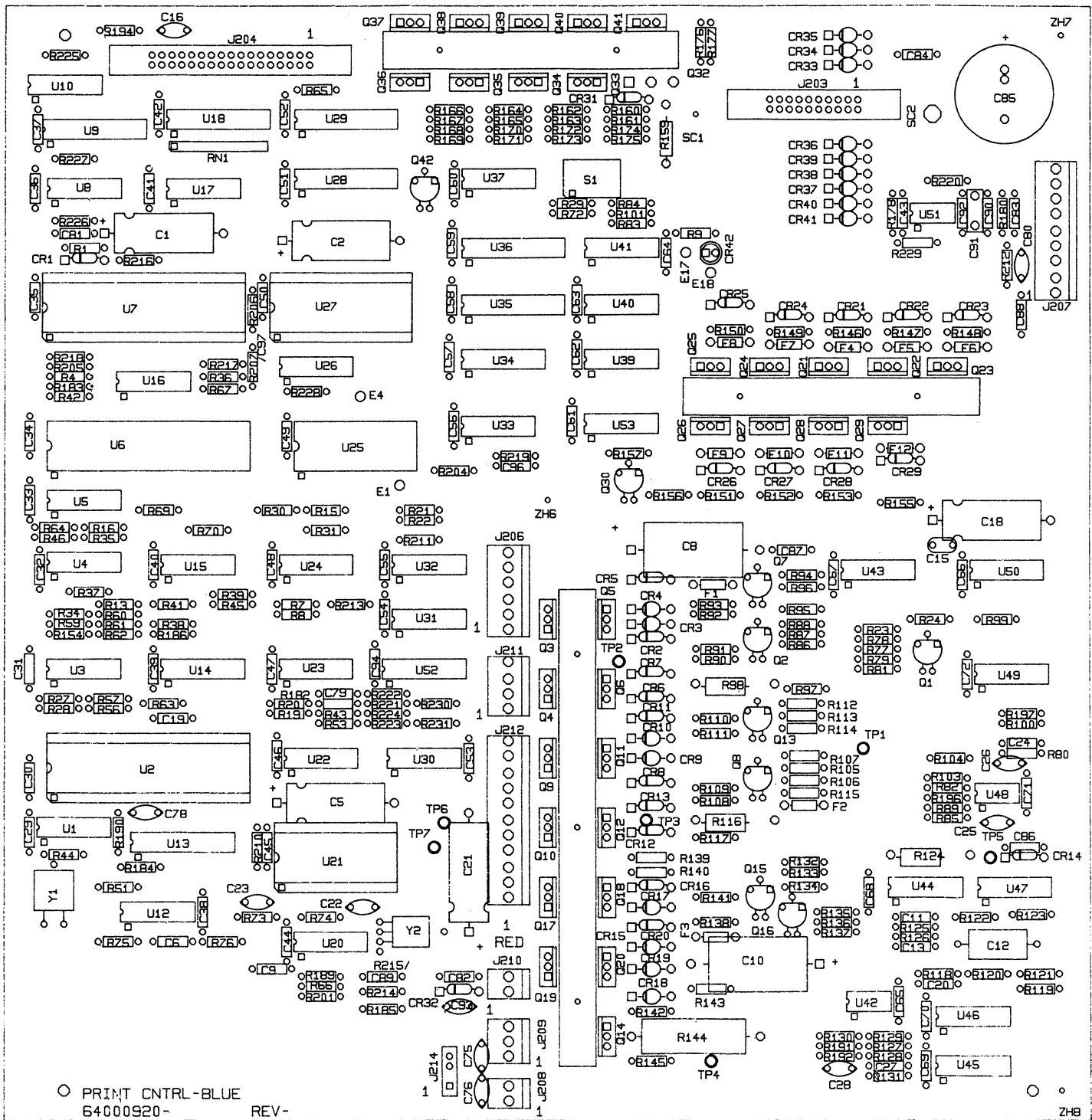


Figure 3-4. PRINT CONTROLLER 6400920 REV. A

PC BOARD ASSEMBLY PRINT CONTROLLER
64000920-4001 REV. A6

<u>Item</u>	<u>Part Number</u>	<u>Description</u>
1	64000920-4000 Rev. A6	PCB Assy. Basic Print Controller
2	64000920-6001 Rev. A2	PROM Kit, Standard Print Controller

LIST OF MATERIALS
PC BOARD ASSEMBLY PRINT CONTROLLER
64000920-4000 REV. A6
(Reference Figure 3-4)

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
C1,C2,C5,C18,C21	22107002-1001	Capacitor, Elctlt, 100 uF, 25V -10+75%
C6,C9,C20,C24,C27,C29 C30,C31,C32,C33,C34,C35, C36,C37,C38,C39,C40,C41, C42,C43,C44,C45,C46,C47, C48,C49,C50,C51,C52,C53, C54,C55,C56,C57,C58,C59, C60,C61,C62,C63,C64,C65, C66,C67,C68,C69,C70,C71, C72,C81,C82,C83,C84,C86, C87,C88,C90,C92,C94	21104005-1001	Capacitor, TBAX .1 uF, 50V -20+80%
C8,C10	22107006-1001	Capacitor, Elctlt, 100 uF, 80V
C11	21224001-1001	Capacitor, Cer. RDL, .22 uF, 50V, 20%
C12	20123000-1001	Capacitor, TBAX, .012 uF, 100V, 2%
C13	21122000-1001	Capacitor, TBAX 1200 pF, 50V, 2%
C15	21101001-1001	Capacitor, Cer. Disc, 100 pF, 1KV, 20%
C16,C75,C76,C78,C80,C93	21103002-1001	Capacitor, Cer. Disc, .01 uF, 16V, 20%
C19,C28	21471003-1001	Capacitor, Cer. Disc, 470 pF, 1KV, 20%
C22,C23	21201000-1001	Capacitor, Cer. Disc, 200 pF, 1KV, 20%
C25,C26,C96	21202001-1001	Capacitor, Cer. Disc, 2K pF, 1KV, 20%
C79,C97	21102002-1001	Capacitor, TBAX, Glass/Epoxy, 100 pF
C85	22228001-1001	Capacitor, Elctlt, 2200 uF, 50V
C91	24103000-1002	Capacitor, RDL, .014F, 100V, 2%
C103	21470000-1001	Capacitor, Cer. Disc, 47 pF, 1KV, 10%
CR1, CR43	38100904-1001	Diode, TBAX, IN4148

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
CR2,CR5,CR6,CR7,CR8, CR11,CR12,CR13,CR15, CR16,CR21,CR22,CR23, CR24,CR25,CR26,CR27, CR28,CR29,CR32,CR44	38040020-1001	Diode, TBAX, IN4002
CR3,CR4,CR9,CR10,CR17, CR18,CR19,CR20,CR33, CR34,CR35,CR36,CR37, CR38,CR39,CR40,CR41	38121140-1002	Diode, A114F
CR14,CR31	38047420-1001	Diode, TBAX 12, IN4742
CR42	38005752-1001	LED, w/Leads
F1,F2	39030030-1004	Fuse, Insulated, .093, 2A, PC Mtg.
F3	39030030-1006	Fuse, Insulated, .093, 3A, PC Mtg.
F4,F5,F6,F7,F8,F9,F10, F11,F12	39030030-1009	Fuse, Insulated, .093, 5A, PC Mtg.
J203	31302002-1013	HDR, 20 Posn., Solder Pin
J204	31302002-1021	HDR, 34 Posn., Solder Pin
J206	31301029-1006	HDR, LKG, 6 Posn., PC Mtg.
J207	31301029-1009	HDR, LKG, 9 Posn., .045 SQP
J208	31301029-1002	HDR, LKG, 2 Posn., PC Mtg.
J209	31301029-1003	HDR, LKG, 3 Posn., PC Mtg.
J210	31301029-1102	HDR, LKG, 2 Posn., Red
J211	31301029-1004	HDR, LKG, 4 Posn., .045 SQP
J212	31301019-1011	HDR, LKG, 11 Posn., .045 SQP
Q1	38300056-1001	Transistor, (MPS-A56)
Q2,Q7,Q8,Q13,Q15,Q16 Q42	38300061-1001	Transistor, HV, NPN (MPS-A06)
Q3,Q5,Q9,Q11,Q17,Q18	38201252-1001	Transistor, Power, PNP (EP3011)

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
Q4, Q6, Q10, Q12, Q14, Q19 Q20	38201200-1001	Transistor, Power, NPN (TIP 120)
Q21, Q22, Q23, Q24, Q25, Q26, Q27, Q28, Q29	38300444-1001	Transistor, Power, NPN
Q30	38300065-1001	Transistor, Darlington, PNP (MPS-A65)
Q32	38201410-1001	Transistor, Power (Tip 141)
Q33, Q34, Q35, Q36, Q37 Q38, Q39, Q40, Q41	38300454-1001	Transistor, Power, PNP
R1, R27, R36, R194, R250, R251, R252, R253, R254, R255	41103925-1001	Resistor, Carbon, 10K Ohms, .25W, 5%
R4, R13, R15, R19, R42, R51, R53, R56, R57, R59, R61, R63, R64, R67, R70, R86, R88, R90, R93, R95, R96, R105, R107, R108, R111, R113, R114, R126, R132, R134, R135, R137, R138, R141, R185, R186, R240	41512925-1001	Resistor, Carbon, 5.1K Ohms, .25W, 5%
R7, R8, R16, R20, R21 R22, R23, R24, R28, R30, R31, R34, R35, R37, R38, R39, R41, R43, R44, R45, R60, R62, R65, R78, R97, R99, R115, R117, R142, R143, R154, R189, R190, R204, R205, R211, R241	41122925-1001	Resistor, Carbon, 1.2K Ohms, .25W, 5%
R9, R73, R74, R131, R160 R162, R164, R166, R168, R170, R172, R174, R176	41222925-1001	Resistor, Carbon, 2.2K Ohms, .25W, 5%
R29, R66, R72, R83, R85 R84, R101, R128, R145, R180, R201, R206, R213, R225, R226, R227, R228, R243	41102925-1001	Resistor, Carbon, 1K Ohms, .25W, 5%

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
R46,R184,R210, R216, R217	41271925-1001	Resistor, Carbon, 270 ohms, .25W, 5%
R75,R76,R178	41471925-1001	Resistor, Carbon, 470 ohms, .25W, 5%
R77,R81,R89,R104,R156 R157	41202925-1001	Resistor, Carbon, 2K ohms, .25W, 5%
R79,R183,R218	41681925-1001	Resistor, Carbon, 680 ohms, .25W, 5%
R80,R219	41510925-1001	Resistor, Carbon, 51 ohms, .25W, 5%
R82,R100,R129,R130	41302925-1001	Resistor, Carbon, 3K ohms
R85,R91,R92,R103,R109 R110,R139,R140	41511925-1001	Resistor, Carbon, 510 ohms, .25W, 5%
R87,R94,R106,R112, R133,R136,	41472925-1001	Resistor, Carbon 4.7K ohms, .25W, 5%
R98,R116	43477015-1001	Resistor, WW, .47 ohm, 1W, 5%
R118	47825211-1001	Resistor, Met. Film, 82.5K, .25W, 1%
R119	47422011-1001	Resistor, Met. Film, 422 ohms, .25W, 1%
R120	47100311-1001	Resistor Met. Film, 100K ohms, .25W, 1%
R121	47110111-1001	Resistor Met. Film, 1.1K ohms, .25W, 1%
R122	47150311-1001	Resistor Met. Film, 150K ohms, .25W, 1%
R123	47274311-1001	Resistor Met. Film, 274K ohms, .25W, 1%
R124	41102015-1001	Resistor, Carbon, 1K ohms, 1W, 5%
R125	41244925-1001	Resistor, Carbon, 240K ohms, .25W, 5%
R127	41362925-1001	Resistor, Carbon, 3.6K ohms, .25W, 5%
R144	43477055-1001	Resistor, WW, .47 ohm, 5W, 5%
R146,R147,R148,R149, R150,R151,R152,R153, R155	41121925-1001	Resistor, Carbon, 120 ohms, .25W, 5%
R159	41221945-1001	Resistor, Carbon, 220 ohms, .25W, 5%
R161,R163,R165,R167, R169,R171,R173,R175, R177	41152925-1001	Resistor, Carbon, 1.5K ohms, .25W, 5%

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
R191	41473925-1001	Resistor, Carbon, 47K Ohms, .25W, 5%
R192,R222,R224	41393925-1001	Resistor, Carbon, 39K Ohms, .25W, 5%
R196,R197	41105925-1001	Resistor, Carbon, 1 meg. Ohm, .25W, 5%
R215,R230,R231	41000926-1001	Resistor, Carbon, 0 Ohms, .25W, 10%
R212	41104925-1001	Resistor, Carbon, 100K Ohms, .25W, 5%
R220	47143311-1001	Resistor, Met. Film, 143K Ohms, .25W, 1%
R221,R223	41223925-1001	Resistor, Carbon 22K Ohms, .25W, 5%
R228	47137311-1001	Resistor, Met. Film, 137K Ohms, .25W 1%
R242	41151925-1001	Resistor, Carbon, 150 Ohms, .25W, 5%
R244	41330925-1001	Resistor, Carbon, 33 Ohms, .25W, 5%
R256	41153925-1001	Resistor, Carbon, 15K Ohms, .25W, 5%
RN1	40681204-1037	Resistor, Network, 10P, 22K Ohms, 1.5W, 2%
S1	39090019-1005	SW, Dip, ON/OFF, SLD, 5 Posn.
U1,U3,U23	35674003-1001	IC, NAND Gate, Quad
U2	35208049-1001	IC, Microprocessor
U4,U16,U22,U26	35577474-1001	IC, FF, D-Type, Dual
U5,U15,U24,U32,U40, U41,U43	35474070-1001	IC, Buffer, Hex
U6	35578156-1001	IC, Timer, Ram
U7	35578085-1001	IC, Microprocessor, 8-Bit
U8,U33	35577432-1001	IC, OR, 2-Input, Quad
U9,U29,U35	35674244-1001	IC, BFR/DRVR, Octal
U10,U30,U37,U44	35674014-1001	IC, Inverter, Hex ST
U12,U20	35474040-1001	IC, Inverter, Hex
U13,U28	35674373-1001	IC, FF, D-Type, Dual
U14	35574175-1001	IC, D-Type, FF, Quad
U17,31,46	35577486-1001	IC, EXCL-OR, 2-Input, Quad

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
U18	35674245-1001	IC, RCVR, Bus, Octal
U25	35578253-1001	IC, Timer, Interval
U34	35674139-1001	IC, Decoder, 2-4, Dual
U36	35674273-1001	IC, FF, D-Type, Dual
U39	35577400-1001	IC, NAND, 2-Input, Quad
U42,U48	35203393-1001	IC, Voltage Comparator
U45	35577421-1001	IC, Gate, Input, D4
U47	35207392-1001	IC, Lic, DC MOT, Sp. Cont.
U49	35577408-1001	IC, AND, 2-Input, Quad
U50	35474060-1001	IC, BFR/DRVR, Inverter, Hex
U51	35205550-1001	IC, Timer, Linear 555
U52	35201449-1001	IC, SW, Bounce Elim., Hex
U53	35674090-1001	IC, Counter Decode
Y1	37810695-1001	Crystal, 6.0 mHz, w/Pin
Y2	37810694-1002	Resonator, Cer., 11 mHz

----- PARTS NOT SHOWN IN FIGURE 3-3 -----

<u>Part Number</u>	<u>Description</u>	<u>Quantity</u>
63180379-2001	Cable, Brkt.	1
64001068-2001	Heatsink, Transistor, 4.8x1.0	1
64001067-2001	Heatsink, Transistor, 3.0x1.0	2
63180377-2001	Insulator	1
64000309-2001	Insulator, Transistor, 3.0	4
64000310-2001	Insulator, Transistor 4.8	2
31280004-1001	Jack	24
31243518-2001	Key, Polarizing	1
36200069-2001	Latch, Grommet	3
36200070-2001	Latch, Plunger	3
34000651-2004	Nut, Hex, M3x.5x2.4 THK SST	2
34000652-2003	Nut, Hex, Metric 2.5	17
36350006-2001	O-Ring .737 I.D.	1
33250003-2003	Pin, Cotter	6
34000352-2028	Screw, Cheesehead, Sltd. M2.5x.45x20	17
34000353-2033	Screw, Panhead, Sltd., M3x0.5x8, SST	9
31410246-2001	Socket, IC, 24 Pin, Solder Dip .600	1
31410246-2002	Socket, IC, 28 Pin, Solder Dip .600	1
31410246-2003	Socket, IC, 40 Pin, Solder Dip .600	1
36612103-2040	Spacer, .12 DIA, #0 Clear, .18L, Nylon	6
34000452-2003	Washer, Fl., M2.5x6.5, 0.5 THK	34
34000453-2004	Washer, Fl., M3x7, 0.5 THK., SST	9
34000454-2004	Washer, Lock, Split M3, SST	9
34000455-2003	Washer, Lock, Split M2.5	17
34900006-2001	Washer, Fl., 4x.28 Teflon	11
35070010-2001	Washer, Shoulder	32
64000985-2001	Washer, Nylon Latch	3

LIST OF MATERIALS
PROM KIT STANDARD PRINT CONTROLLER
64000920-6001 REV. A2

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
U21	35522716-1A80	PROM V0350A
U27	35512764-1D03	PROM CB350D.000

NOTE: Current Rev.level of software when manual was printed; contact factory representative for latest Rev. level of software.

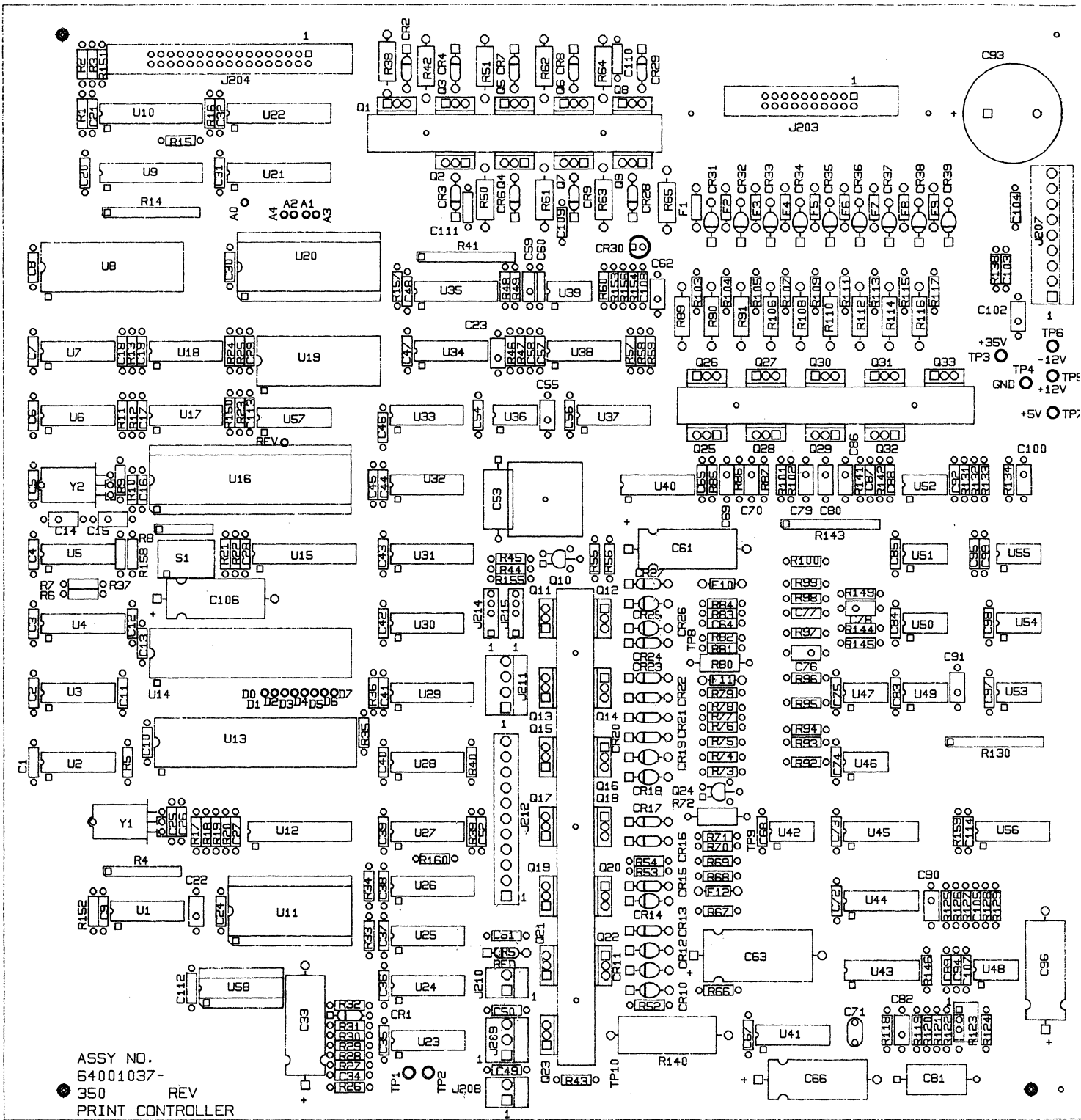


Figure 3-5. PRINT CONTROLLER 64001037 REV. A

PC BOARD ASSEMBLY PRINT CONTROLLER
64001037-4001 REV. A7

<u>Item</u>	<u>Part Number</u>	<u>Description</u>
1	64001037-4000 Rev. A4	PCB Assy. Print Controller
2	64001037-6001 Rev. A3	PROM Kit, Std. Print Controller

LIST OF MATERIALS
PC BOARD ASSEMBLY PRINT CONTROLLER
64001037-4000 REV. A4
(Reference Figure 3-5)

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
C1,C2,C3,C4,C5,C6,C7, C8,C10,C13,C16,C17,C19, C20,C21,C24,C27,C28,C29 C30,C31,C32,C33,C34,C35, C36,C37,C38,C39,C40,C41, C42,C43,C44,C46,C47,C48, C51,C54,C56,C57,C58,C60, C64,C65,C67,C68,C72,C73, C74,C75,C77,C83,C84,C85, C89,C94,C97,C98,C99,C104, C105,C107,C112,C113,C114,	21104005-1001	Capacitor, TBAX .1 uF, 50V -20+80+
C11,C18,C49,C50,C52 C92,C95,C103,C108,C109, C110,C111	21103004-1001	Capacitor, TBAX, Glass, .01 uF, 50V, 20%
C12,C45	21102002-1001	Capacitor, Glass, Epoxy, 100pF, 100v, -20 +80
C22,C23	21471003-1001	Capacitor, Cer., Disc. 470 pF, 1KV, 20%
C25,C26	21333002-1001	Capacitor, Cer., TBAX, 33 pF, 100V, 10%
C33,C61,C66,C96,C106	22107002-1001	Capacitor, Elctlt, 100 uF, 25V -10+75%
C53,C81	20123000-1001	Capacitor, TBAX, .012 uF, 100V, 2%
C63	22107006-1001	Capacitor, Elctlt, 100 uF, 80V, -10+50%
C71	21224001-1001	Capacitor, Cer. RDL, 22 uF, 50V, 20%
C76,C91,C100	21202001-1001	Capacitor, Cer. Disc, 2K pF, 1KV, 20%
C82	21122000-1001	Capacitor, TBAX 1200 pF, 50V, 2%
C90	21220001-1001	Capacitor, Cer., Disc, 22 pF, 1KV, 20%
C93	22228001-1001	Capacitor, Elctlt, 2200 uF, 50V
C102	21101001-1001	Capacitor, Cer., Disc, 100 pF, 1KV, 20%

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
C103	21470000-1001	Capacitor, Cer. Disc, 47 pF, 1KV, 10%
C115	21151001-1001	Capacitor, Cer. Disc, 150 pF, 1KV, 10%
CR1	38100904-1001	Diode, TBAX, IN4148
CR2,CR3,CR4,CR5,CR6, CR7,CR8,CR9,CR13,CR15, CR16,CR17,CR20,CR21,CR22, CR23,CR24,CR27,CR28,CR29	38040020-1001	Diode, TBAX, IN4002
CR10,CR11,CR12,CR14, CR18,CR19,CR25,CR26, CR31,CR32,CR33,CR34, CR35,CR36,CR37,CR38, CR39,CR40	38121140-1002	Diode, A114F
CR30	38005752-1001	LED, w/Leads
CR40,CR41,CR42,CR43, CR44,CR45,CR46,CR47, CR48	38005927-1001	Diode, TBAX, IN5927B
CR49	38052312-1001	Diode, TBAX, IN5231B
CR50	38102700-1001	Diode, TBAX, IN270
F1,F2,F3,F4,F5,F6,F7, F8,F9	39030030-1009	Fuse, Insulated, .093, 5A, PC Mtg.
F10,F11	39030030-1004	Fuse, Insulated, .093, 2A, PC Mtg.
F12	39030030-1006	Fuse, Insulated, .093, 3A, PC Mtg.
J203	31302002-1013	HDR, 20 Posn., Solder Pin
J204	31302002-1021	HDR, 34 Posn., Solder Pin
J207	31301029-1009	HDR, LKG, 9 Posn., .045 SQP
J208	31301029-1002	HDR, LKG, 2 Posn., .045 SQP
J209	31301029-1003	HDR, LKG, 3 Posn., PC Mtg.
J210	31301029-1102	HDR, LKG, 2 Posn., .045 SQP Red
J211	31301029-1004	HDR, LKG, 4 Posn., .045 SQP
J212	31301019-1011	HDR, LKG, 11 Posn., .045 SQP
J214, J215	31301048-1105	HDR, STR, .100C, 4CKT, PLZD
Q1,Q2,Q3,Q4,Q5,Q6,Q7, Q8,Q9	38300444-1001	Transistor, Power, NPN

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
Q10	38300065-1001	Transistor, Darlington, PNP (MPS-A65)
Q11,Q12,Q15,Q16,Q19, Q20	38201252-1001	Transistor, Power, PNP (EP3011)
Q13,Q14,Q17,Q18,Q21, Q22,Q23	38201200-1001	Transistor, Power, NPN (TIP 120)
Q24	38300056-1001	Transistor, MPSA56
Q25,Q26,Q27,Q28,Q29, Q30,Q31,Q32,Q33	38300454-1001	Transistor, Power, PNP, 68737
R1,R3,R13,R15,R16,R37, R39,R43,R46,R48,R149, R152,R153,R154,R157, R159,R160	41102925-1001	Resistor, Carbon, 1K Ohms, .25W, 5%
R2,R7,R24,R35,R52,R57, R58,R59,R66,R71,R92, R151	41122925-1001	Resistor, Carbon, 1.2K Ohms, .25W, 5%
R4	40681266-1029	Resistor Network, 8P, 7 Res., 4.7K Ohms, 1.1W, 2%
R5,R12,R17,R18,R20,R21, R23,R25,R40,R68,R69,R74, R78,R81,R83,R122,R131, R158	41512926-1001	Resistor, Carbon, 5.1K Ohms, .25W, 5%
R6,R11,R26,R155,R190, R191,R192,R193,R194, R195	41103925-1001	Resistor, Carbon, 10K Ohms, .25W, 5%
R8	40681004-1022	Resistor, Network, 6P, 5 Res, + 2%
R9,R10,R19,R22,R33, R34,R36	41271925-1001	Resistor, Carbon, 270 Ohms, .25W, 5%
R14	40681204-1037	Resistor Network, 10P, 22K Ohms, 1.5W 2%
R27,R29,R125	41393925-1001	Resistor, Carbon, 39K Ohms, .25W, 5%
R28,R31	41000926-1001	Resistor, Carbon, 0 Ohms, .25W, 10%
R30,R32	41223925-1001	Resistor, Carbon, 22K Ohms, .25W, 5%
R38,R42,R50,R51,R61, R62,R63,R64,R65	43018025-1001	Resistor, WW, .1 Ohms, 2W, 5%
R41	40681204-1019	Resistor Network, 10P, 820 Ohms, 2.5W, 2%

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
R44,R45	41121925-1001	Resistor, Carbon, 120 Ohms, .25W, 5%
R47	47274211-1001	Resistor, Met. Film, 27.4K Ohms, .25W, 1%
R49,R85,R86,R87,R101, R102,R141,R144,R145	47226311-1001	Resistor, Met. Film, 226K Ohms, .25W, 1%
R53,R54,R56,R75,R77, R79,R82,R84,R93,R103, R104,R105,R107,R109, R111,R113,R115,R117	41511925-1001	Resistor, Carbon, 510 Ohms, .25W, 5%
R55,R186	41751925-1001	Resistor, Carbon, 750 Ohms, .25W, 5%
R60,R129	41222925-1001	Resistor, Carbon, 2.2K Ohms, .25W, 5%
R67,R96,R97,R127	41302925-1001	Resistor, Carbon, 3K Ohms, .25W, 5%
R70,R76,R95,R100	41202925-1001	Resistor, Carbon, 2K Ohms, .25W, 5%
R72,R80	43477015-1001	Resistor, WW, .47 Ohms, 1W, 5%
R73	41681925-1001	Resistor, Carbon, 680 Ohms, .25W, 5%
R89,R90,R91,R106, R108,R110,R112,R114, R116	41162945-1001	Resistor, Carbon, 1.6K Ohms, 5W, 5%
R94,R99	41105925-1001	Resistor, Carbon, 1 meg. Ohm, .25W, 5%
R98,R134	41510925-1001	Resistor, Carbon, 51 Ohms, .25W, 5%
R118	41244925-1001	Resistor, Carbon, 240K Ohms, .25W, 5%
R119	47150311-1001	Resistor Met. Film, 150K Ohms, .25W, 1%
R120	47274311-1001	Resistor Met. Film, 274K Ohms, .25W, 1%
R121	47110111-1001	Resistor Met. Film, 1.1K Ohms, .25W, 1%
R123	46101501-1002	Pot, PC Mtg. 1K Ohms, .5W, 10%
R124,R146	47100311-1001	Resistor Met. Film, 100K Ohms, .25W, 1%
R126	41473925-1001	Resistor, Carbon, 47K Ohms, .25W, 5%
R128	41362925-1001	Resistor, Carbon, 3.6K Ohms, .25W, 5%
R130	40681204-1020	Resistor Network, 10P, 1K, 1.5W, 2%
R138,R156	41104925-1001	Resistor, Carbon, 100K Ohms, .25W 5%

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
R140	43477055-1001	Resistor, WW, .47 Ohm, 5", 5%
R143	40681217-1017	Resistor Network 10P, 4.7K Ohms, 1.5W, 2%
R150	41151925-1001	Resistor, Carbon, 150 Ohms, .25W, 5%
R196	41101925-1001	Resistor, Carbon, 100 Ohms, .25W, 5%
S1	39090019-1005	SW, Dip, ON/OFF, SLD, 5 Posn.
U1,U18,U34,U45	35474070-1001	IC, Buffer, Hex
U2,U5,U6,U27,U28	35577474-1010	IC FF, D-Type, Dual
U3,U7,U23,U41	35674014-1001	IC, Inverter, Hex, ST
U4	35574175-1001	IC, FF, D-Type, Quad
U8	35674607-1001	Mux/Latch, 2-Input, Octal
U9	35674245-1001	IC RCVR, Bus, Octal
U10,U15,U22	35674244-1001	IC, Buffer/Driver, Octal
U12,U21	35674373-1001	IC, FF, D-Type, Dual
U13	35208049-1001	IC, Microprocessor
U14	35578156-1001	IC, Timer, Ram
U16	35578085-1001	IC, Microprocessor, 8-Bit
U17	35577400-1001	IC, NAND, 2-Input, Quad
U19	35578253-1001	IC, Timer, Interval
U24	35577486-1001	IC, EXCL-OR, 2-Input, Quad
U25	35674090-1001	IC, Counter, Decode
U26	35201449-1001	IC, SW, Bounce Elim, Hex
U29	35674367-1001	IC, Buffer, Hex
U30,U44	35577408-1001	IC, AND, 2-Input, Quad
U31	35674138-1001	IC Decoder, 3-8
U32,U57	35577432-1001	IC, OR, 2-Input, Quad
U33	35674002-1001	IC, NOR, 2-Input, Quad R

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
U35	35674257-1001	IC, Data Sel/Mux
U36	35205550-1001	IC, Timer, Linear, 555
U37,U40	35203390-1001	IC, Voltage Comparator
U38	35474060-1001	IC, BFR/DRVR, Inverter Hex
U39,U49	35203393-1001	IC, Voltage Comparator
U42,U46,U47,U50,U51,U53 U54,U55	35575472-1001	IC, POS-NAND, Driver, Dual
U43	35207392-1001	IC, Lic, DC MOT, Sp. Cont.
U56	35674015-1001	IC, AND, OC, Trip 3-Input
Y1	37810694-1002	Resonator, Cer. 11 MHZ
Y2	37810002-1001	Crystal, 6.0 MHZ w/pin
-	64003016-4001	PCB, Bi-Level C.L. Driver (refer to page 3-45)

----- PARTS NOT SHOWN IN FIGURE 3-3 -----

<u>Part Number</u>	<u>Description</u>	<u>Quantity</u>
63180379-2001	Cable, Brkt.	1
39690200-0022	Cable, Strap, Adj, Lkg, .75 BDL	1
63180264-2001	Heatsink, Transistor, 3.0x2.0	1
63180265-2001	Heatsink, Transistor, 4.8x1.0	1
63180266-2001	Heatsink, Transistor, 3.0x1.0	1
63180377-2001	Insulator	1
64000309-2001	Insulator, Transistor, 3.0	2
64000310-2001	Insulator, Transistor 4.8	2
31280004-1001	Jack, Flux	24
31243518-2001	Key, Polarizing	1
36200069-2001	Latch, Grommet	3
36200070-2001	Latch, Plunger .05	3
34000651-2004	Nut, Hex, M3x.05x2.4 THK SST	2
34000652-2003	Nut, Hex, Metric 2.5	17
36350006-2001	O-Ring .737 I.D.	1
35070003-2002	Pad, Transistor, MTG. TIP, .002 THK	9
33250003-2003	Pin, Cotter	7
34000352-2022	Screw, Cheesehead, Sltd. M2.5x.45x8	31
34000353-2033	Screw, Panhead, Sltd., M3x0.5x8, SST	9
31410246-2001	Socket, IC, 24 Pin, Solder Dip .600	1
31410246-2002	Socket, IC, 28 Pin, Solder Dip .600	1
31410246-2003	Socket, IC, 40 Pin, Solder Dip .600	1
36612103-2040	Spacer, .12 DIA, #0 Clear, .18L, Nylon	7
34000452-2003	Washer, Fl., M2.5x6.5, 0.5 THK	31
34000453-2004	Washer, Fl., M3x7, 0.5 THK., SST	9
34000454-2004	Washer, Lock, Split M3, SST	9
34000455-2003	Washer, Lock, Split M2.5	31
34900006-2001	Washer, Fl., 4x.28 Teflon	11
35070010-2001	Washer, Shoulder	31
64000985-2001	Washer, Nylon Latch	3

LIST OF MATERIALS
 PROM KIT, STANDARD PRINT CONTROLLER
 64001037-6001 REV. A3

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
U11	35522716-1A80	PROM, VO350A.000
U20	35512764-1F05	PROM, C2350F.000

LIST OF MATERIALS
 PROM KIT, POLARIS PRINT CONTROLLER
 64001037-6003 REV. A3

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
U11	35522716-1A80	PROM, VO350A.000
U20	35512764-1E05	PROM, C1350E.000

NOTE: Current revision level of software when manual was printed; contact factory representative for latest revision level of software.

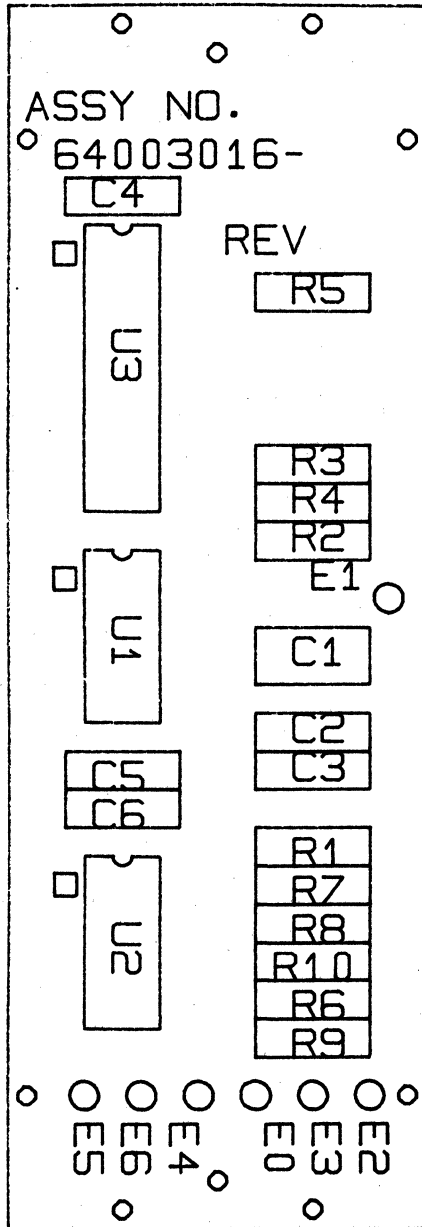


Figure 3-6. BI-LEVEL C.L. DRIVER 64003016

LIST OF MATERIALS
 PC BOARD ASSEMBLY
 BI-LEVEL C.L. DRIVER
 64003016-4001 REV. A (see note)
 (Reference Figure 3-6)

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
C1	24103000-1002	Capacitor, RDL, .01 uF, 100V, 2%
C2,C4	21104005-1001	Capacitor, TBAX, .1 uF, 50V
C5,C6	21103004-1001	Capacitor, TBAX, .01 uF, 50V
R1	47143311-1001	Resistor, Met. Film, 143K Ohms, .25W, 1%
R2	47143111-1001	Resistor, Met. Film, 1.43K Ohms, .25W, 1%
R3,R5	47100111-1001	Resistor, Met. Film, 1K Ohms, .25W, 1%
R4	47100311-1001	Resistor, Met. Film, 100K Ohms, .25W, 1%
R6,R7,R8,R10	47100211-1001	Resistor, Met. Film, 10K Ohms, .25W, 1%
R9	41512925-1001	Resistor, Carbon, 5.1K Ohms, .25W, 5%
U1	35205550-1001	IC, Timer, Linear, 555
U2	35214580-1001	IC, OPNL AMP, Dual, MC1458
U3	35474070-1001	IC, Buffer/Driver, Hex 7407

----- PARTS LISTED AS ITEM NUMBERS IN FIGURE 3- -----

<u>Item No.</u>	<u>Part Number</u>		<u>Qty.</u>
14	63669502-2001	Mounting Block, Flyback Board	2
15	34517105-2001	Screw, Panhead, #4-40x.31L SST	2
16	34818007-2001	Washer, Lock, Split, #4	2
17	34912085-2001	Washer, Flat #4x.25x.032 THK SST	2
18	39648505-0004-0	Wire, Type B, 26 AWG, Black	.5 ft.
19	39648505-0004-1	Wire, Type B, 26 AWG, Brown	.5 ft.
20	39648505-0004-2	Wire, Type B, 26 AWG, Red	.5 ft.
21	39648505-0004-3	Wire, Type B, 26 AWG, Orange	.5 ft.
22	39648505-0004-4	Wire, Type B, 26 AWG, Yellow	.5 ft.
23	39648505-0004-5	Wire, Type B, 26 AWG, Green	.5 ft.
24	39648505-0004-6	Wire, Type B, 26 AWG, Blue	.5 ft.

NOTE: Part of the 64001037-4XXX board.

01281

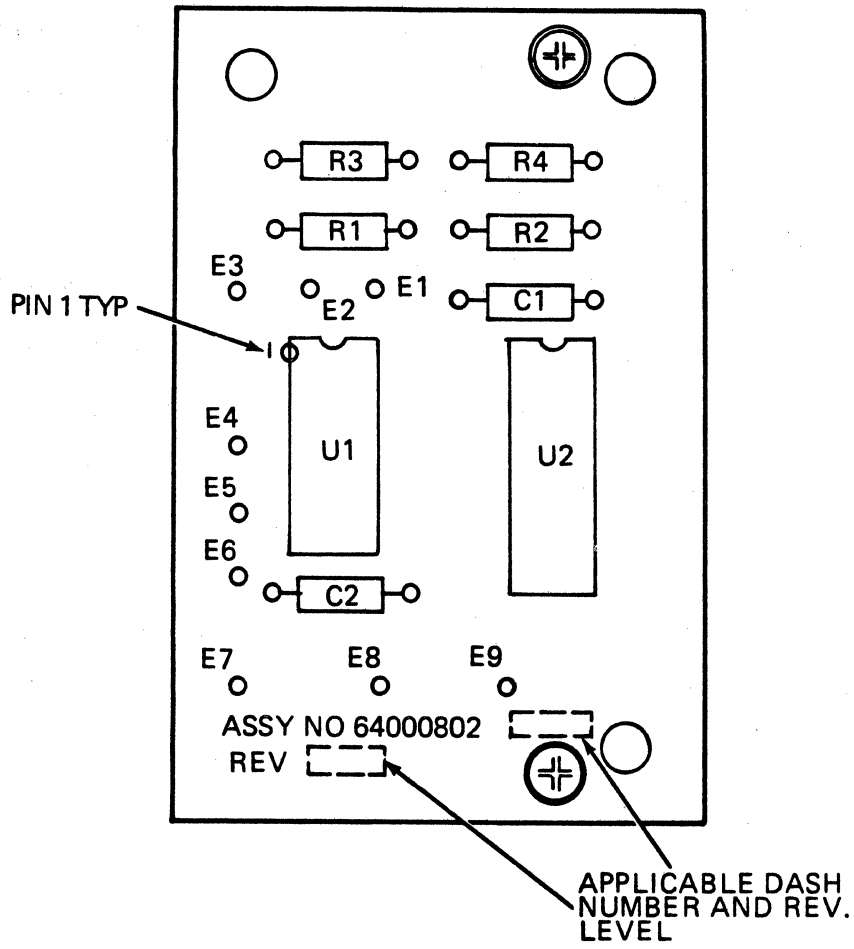


Figure 3-7. GROUP DELAY FILTER 64000802

SECTION 4

ELECTRICAL PARTS BREAKDOWN

MODEL 351

The only PCB Assembly contained in the Model 351 printstation is the Format Controller, P/N 64000193-4000. The Rev. level of the PCB assemblies show the level of the board when this manual was printed; however, a later Rev. level may exist. It is advisable to check with a factory representative. Section Eight identifies each revision level change and includes a brief description of that change.

Table 4-1

MODEL 351 PRINTSTATION PC BOARDS

<u>PCB Assembly</u>	<u>Part Number</u>	<u>Rev.</u>	<u>Page</u>
Format controller	64000193-4000	A24	4-3
Format controller	64001101-4000	A5	4-11

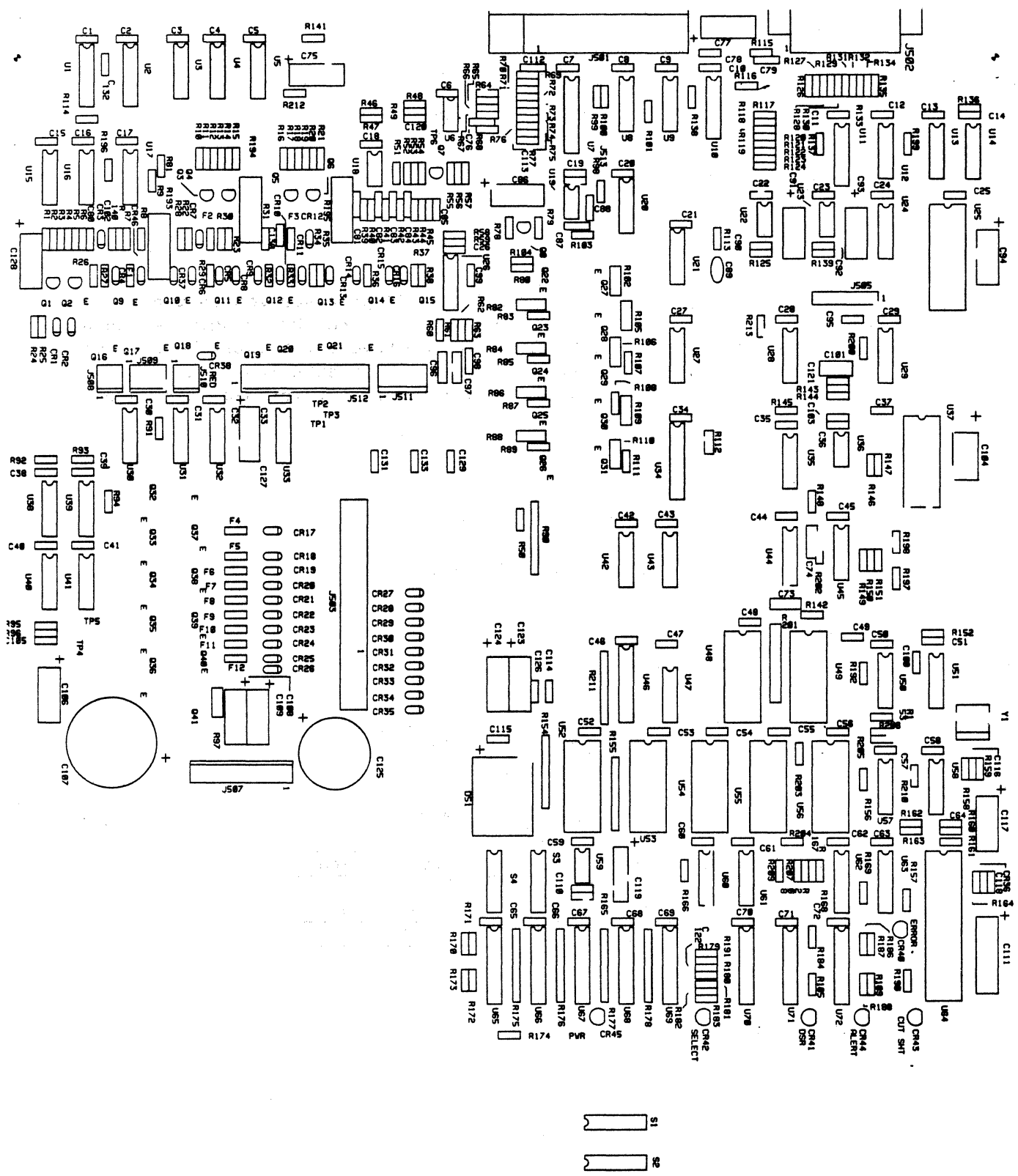


Figure 4-1. FORMAT CONTROLLER 64000193 REV. A

PC BOARD ASSEMBLY
 FORMAT CONTROLLER
 64000193-4001 REV. A30

<u>Item</u>	<u>Part Number</u>	<u>Description</u>
1	64000193-4000 Rev. A24	PCB Assy. Basic Format Controller
2	64000193-6001 Rev. A3	PROM Kit Std. Format Controller
3	64000964-4001	Cable Assy, Power Conn

(An illustrated parts breakdown of items 1 and 2 follows:)

LIST OF MATERIALS
 PC BOARD ASSEMBLY
 FORMAT CONTROLLER
 64000193-4000 REV. A24
 (Reference Figure 4-1)

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
C1 thru C72,C78,C80 C85,C87,C90,C92,C95 C99,C103,C105,C110 C113,C114,C115,C118 C121,C126,C129,C130 C131,C133	21104005-1001	Capacitor, TBAX, 0.1 uF 50V, -20+80%
C75,C77,C86,C91,C93 C94,C104,C106,C108, C109,C117,C119,C123, C124,C127,C128	22206002-1001	Capacitor, Elctlt, 20 uF, 25V -10 +75%
C76,C116	21471003-1001	Capacitor, Cer. Disc, 470 pF, 1KV, 20%
C79,C88,C122	21102002-1001	Capacitor, TBAX, Glass/Epoxy, 100 pF
C81,C83,C120	21202001-1001	Capacitor, Cer. Disc, 2KpF, 1KV, 20%
C89,C112	21330001-1001	Capacitor, Cer. Disc, 33 pF, 1KV, 20%
C96,C97,C101	24103000-1002	Capacitor, Rect., .01 uF, 100V, 2%
C98	21224001-1001	Capacitor, Cer. RDL, 22 uF, 50V, 20%
C100	21220001-1001	Capacitor, Cer. Disc, 22 pF, 1KV, 20%
C102,C132	21103004-1001	Capacitor, TBAX, Glass, .01 uF, 50V, 20%
C107	22688001-1001	Capacitor, Elctlt, 6800 uF, 50V
C111	22107002-1001	Capacitor, Elctlt, 100 uF, 25V -10 +75%
C125	22228001-1001	Capacitor, Elctlt, 2200 uF, 50V
CR1,CR4,CR5,CR6,CR9 CR10,CR11,CR13,CR14, CR15,CR17,CR18,CR19, CR20,CR21,CR22,CR23, CR24,CR25,CR38	38040020-1001	Diode, TBAX, IN4002

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
CR2,CR3,CR7,CR8,CR12, CR16,CR27,CR28,CR29, CR30,CR31,CR32,CR33 CR34,CR35,CR37,CR46	38121140-1001	Diode, A114F
CR26	38047420-1001	Diode, TBAX 12, IN4742
CR36	38100904-1001	Diode, TBAX, IN4148
CR40,CR41,CR42,CR43 CR44	3800572-1001	LED, w/leads
CR45	38100234-1001	LED, Green
DS1	32000001-1001	Buzzer, Mintr., Elec. 6V
F1	38030030-1006	Fuse, Insulated, .093, 3A, PC Mtg.
F2,F3	39030030-1004	Fuse, Insulated, .093, 2A, PC Mtg.
F4,F5,F6,F7,F8,F8,F10, F11,F12	39030030-1009	Fuse, Insulated, .093, 5A, PC Mtg.
FL1	64000802-4002	Filter, Group Delay
J501	31230025-1002	Connector, 36 Posn., Rt. Angle
J502	31230198-1007	Connector, RCPT., 25 Posn., Rt. Angle
J503	31240080-1034	Connector, HDR, 20 Posn.
J505	31343027-1009	Connector, PC, 9 Posn., Top Entry
J507	31301029-1009	HDR, LKG, 9 Posn., .045 SQP
J508	31301029-1002	HDR, LKG, 2 Posn., PC Mtg.
J509	31301029-1003	HDR, LKG, 3 Posn., PC Mtg.
J510	31301029-1102	HDR, LKG, 2 Posn., PC Mtg., Red
J511	31301029-1004	HDR, LKG, 4 Posn., .045 SQP
J512	31301019-1011	HDR, LKG, 11 Posn., .045 SQP
J513	31301044-1003	HDR, PC, 3 Posn., 1 Row
Q1,2,Q3,Q4,Q5,Q6,Q8	38300061-1001	Transistor, HV, NPN (MPS-A06)
Q7	38300056-1001	Transistor (MPS-A56)
Q9,Q11,Q13,Q15,Q16, Q19,Q22	38201252-1001	Transistor, Power, PNP (EP3011)

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
Q10,Q12,Q14,Q17,Q18 Q20,Q21	38201200-1001	Transistor, Power, NPN (Tip 120)
Q23,Q24,Q25,Q26,Q27 Q28,Q29,Q30,Q31	38300454-1001	Transistor, Power, PNP (68737)
Q32,Q33,Q34,Q35,Q36 Q37,Q38,Q39,Q40	38300444-1001	Transistor, Power, NPN (68736)
Q41	38201410-1001	Transistor, Power (Tip 141)
R1,R4,R12,R15,R18,R21, R28,R39,R42,R56,R57 R70,R71,R72,R73,R74, R75,R76,R77,R91,R92, R93,R94,R95,R96,R99, R100,R101,R112,R140, R143,R158,R162,R163, R170,R171,R172,R173, R179,R180,R181,R183, R192,R212	41102925-1001	Resistor, Carbon, 1K Ohms, .25W, 5%
R2,R3,R5,R6,R10,R11, R13,R14,R16,R17,R19, R20,R48,R114,R137, R138,R145,R146,R147, R156,R160,R166,R186, R199	41472925-1001	Resistor, Carbon, 4.7K Ohms .25W, 5%
R7,R8,R25,R27,R29,R30 R31,R32,R33,R35, R36, R37,R49	41511925-1001	Resistor, Carbon, 510 Ohms, .25W, 5%
R9,R68	47162111-1001	Resistor, Met. Film, 1.62K Ohms, .125W. 1%
R22,R23,R24,R26,R34 R38	41512925-1001	Resistor, Carbon, 5.1K Ohms, .25W, 5%
R40,R51,R66	41105925-1001	Resistor, Carbon, 1 megohm, .25W, 5%

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
R43,R44,R127,R128,R131 R133	41302925-1001	Resistor, Carbon, 3K Ohms, .25W, 5%
R45	41510925-1001	Resistor, Carbon, 51 Ohms, .25W, 5%
R46,R47,R53,R126,R129, R130,R132,	41202925-1001	Resistor, Carbon, 2K Ohms, .25W, 5%
R50,R174	41121926-1001	Resistor, Carbon, 120 Ohms, .25W, 10%
R54	41681925-1001	Resistor, Carbon, 680 Ohms, .25W, 5%
R55,R79,R80,R83,R85, R87,R89,R103,R104,R107 R108,R111,R187	41222925-1001	Resistor, Carbon, 2.2K Ohms, .25W, 5%
R58,R64	47499111-1001	Resistor, Met. Film, 4.99K Ohms, .125W, 1%
R59,R115,R191	41104925-1001	Resistor, Carbon 100K Ohms, .25W, 5%
R60	47210311-1001	Resistor, Met. Film, 210K Ohms, .25W, 1%
R61	47100211-1001	Resistor, Met. Film, 10K Ohms, .25W, 1%
R62	47154211-1001	Resistor, Met. Film, 15.4K Ohms .25W, 1%
R63	41304925-1001	Resistor, Carbon, 300K Ohms, .25W, 5%
R65	41152925-1001	Resistor, Carbon 1.5 Ohms, .25W, 5%
R67	41203925-1001	Resistor, Carbon 20K Ohms, .25W, 5%
R69,R78,R113	41471925-1001	Resistor, Carbon 470 Ohms, .25W, 5%
R81,R134,R141,R150, R157,R198,R204,R206, R213,	41000926-1001	Resistor, Carbon, 0 Ohms, .25W, 10%
R82,R84,R86,R88,R102 R105,R106,R109,R110	41162945-1001	Resistor Carbon 1.6K Ohms, .50W, 5%
R90	40681204-1008	Resistor, Network, 10P, 120 Ohms, 1.5W, 2%
R97	41221945-1001	Resistor, Carbon, 220 Ohms, .50W, 5%
R98	41391925-1001	Resistor, Carbon, 3.9K Ohms, .25W, 5%
R117,R118,R119,R120 R121,R122,R123,R124 R125,R139,R207,R208, R209,R210,R225,R226, R227,R228,R229,R230	41103925-1001	Resistor, Carbon, 10K Ohms, .25W, 5%

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
R116,R136,R151,R152 R159,R161,R168,R169, R184,R190	41331925-1001	Resistor, Carbon, 330 Ohms, .25W, 5%
R144	47143311-1001	Resistor, Met. Film, 143K Ohms, 25W, 1%
R154,R155,R175,R176 R177,R178,R211	40681218-1009	Resistor, Network 10P, 1K Ohms, .75W, 2%
R164	41273925-1001	Resistor, Carbon, 27K Ohms, .25W, 5%
R165	41205925-1001	Resistor Carbon 2 meg. Ohms, .25W, 5%
R182,R185,R188,R189	41271925-1001	Resistor, Carbon, 270 Ohms, .25W, 5%
R193,R194,R195	43058055-1001	Resistor, WW .50 Ohms 5W, 5%
R201	40681218-1022	Resistor, Network 10P, 10K Ohms, .75W, 2%
S1,S2,S3,S4	39090019-1008	SW, Dip, ON/OFF, SLD, 8 Posn.
U1,U2	35574175-1001	IC, FF D-Type, Quad
U3,U12,U30,U60	35577408-1001	IC, AND, 2-Input, Quad
U4,U5,U8,U17,U42,U43 U61	35474070-1001	IC, BFR/DRVR Hex
U6,U18	35203393-1001	IC, Voltage Comparator
U7,U72	35674373-1001	IC, FF, D-Type, Dual
U9,U29,U31,U32,U35 U40,U50	35577474-1001	IC, FF, D-Type, Dual
U10,U62	35674367-1001	IC, Buffer Hex
U11	35212632-1001	IC, RCVR, Line, Diff. Quad
U13	35474040-1001	IC, Inverter, Hex
U14,U24,U51	35674125-1001	IC, EXCL-NOR, Quad

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
U15	35577421-1001	IC, Input/Gate, D4
U16	35577486-1001	IC, EXCL-OR, 2-Input, Quad
U19,U36,U59	35205550-1001	IC, Timer, Linear
U20	35577400-1001	IC, NAND, 2-Input, Quad
U21,U28,U33	35674014-1001	IC, Inverter, Hex
U22,U23	35596360-1001	IC, DRV Line, Dual Program
U25	35578251-1001	IC, Comm. Interface
U26	35207392-1001	IC, Lic., DC MOT., Sp. Cont
U27,U45,U47	35577432-1001	IC, OR, 2-Input, Quad
U34,U70	35674273-1001	IC, D-Type, Octal
U37	35578254-1001	IC, Timer, Interval
U38,U39	35474274-1001	IC, FF, D-Type, Dual
U41	35477400-1001	IC, NAND, 2-Input, Quad
U46,U65,U66,U67,U68,U69	35674244-1001	IC, BFR/DRV, Octal
U48,U49	35514802-1001	IC, SRAM K/8, N-3
U52	35474159-1001	IC, SEL/MUX
U57	35674073-1001	IC, FF J-K, Dual
U58	35577404-1001	IC, Inverter, Hex
U63	35674138-1001	IC, Decoder, 3-8
U64	35578085-1002	IC, Microprocessor, 8-Bit
U71	35674245-1001	IC, XCVR, Bus, Octal
Y1	37810693-1001	Crystal 10.1376 MHz

LIST OF MATERIALS
PROM KIT STD. PRINT CONTROLLER
64000193-6001 REV. A3

U53	35522732-1M17	PROM FC351M.000
U54	35522732-1M18	PROM FC351M.000
U55	35522732-1C16	IC PROM CHAR GEN 7x9 PROP
U56	35522732-1F21	PROM FC3516000+F21.000

NOTE: Current Rev. level of software when manual was printed; contact factory representative for latest Rev. level of software.

----- PARTS NOT SHOWN IN FIGURE 4-1 -----

<u>Part Number</u>	<u>Description</u>	<u>Quantity</u>
63180379-2001	Brkt, Cable	1
64000964-4001	Cable Assy, Power Connector	1
31240085-1001	Connector, Jumper	1
64000709-2001	Control, Panel Assy.	1
64001067-2001	Heatsink, Transistor, 3.0x1.0	2
64001068-2001	Heatsink, Transistor, 4.8x1.0	1
63180364-2001	Holder, Light	5
64000309-2001	Insulator, Transistor, 3.0	4
64000310-2001	Insulator, Transistor, 4.8	2
31280004-1001	Jack	24
36200069-2001	Latch, Grommet	3
36200071-2001	Latch, Grommet	2
36200070-2001	Latch, Plunger	3
36200072-2001	Latch, Plunger	2
34000652-2003	Nut, Hex, M2.5	17
34000651-2004	Nut, Hex, M3x0	2
36350006-2001	O-Ring .737 I.D.	1
33250003-2003	Pin, Cotter	6
33713715-2010	Screw, SLTP, 8x4, SST 5/16	2
34000352-2028	Screw, Cheese Head, Sltd., M2.5x70	17
34000353-2033	Screw, Pan Head, Sltd., M3x0.5x	9
31410246-2001	Socket, IC, 24 Pin, Solder dip .600	4
31410246-2003	Socket, IC, 40 Pin, Solder Dip .600	1
36612103-2040	Spacer, .12 DIA, #0 Clear, .18L, Nylon	6
36600021-2003	Standoff, Male, Female, .187 Hex	2
34000451-2004	Washer, Lock, Intl. Tooth, M3	2
34004523-2003	Washer, Fl., M2.5	34
34000453-2004	Washer, Fl., M3x7, 0.5 THK, SST	9
34000454-2003	Washer, Lock, Split, M2.5, SST	17
34000455-2004	Washer, Lock, Split, M3, SST	7
34900006-2001	Washer, Fl., 4x.28, Teflon	13
35070010-2001	Washer, Shoulder	33

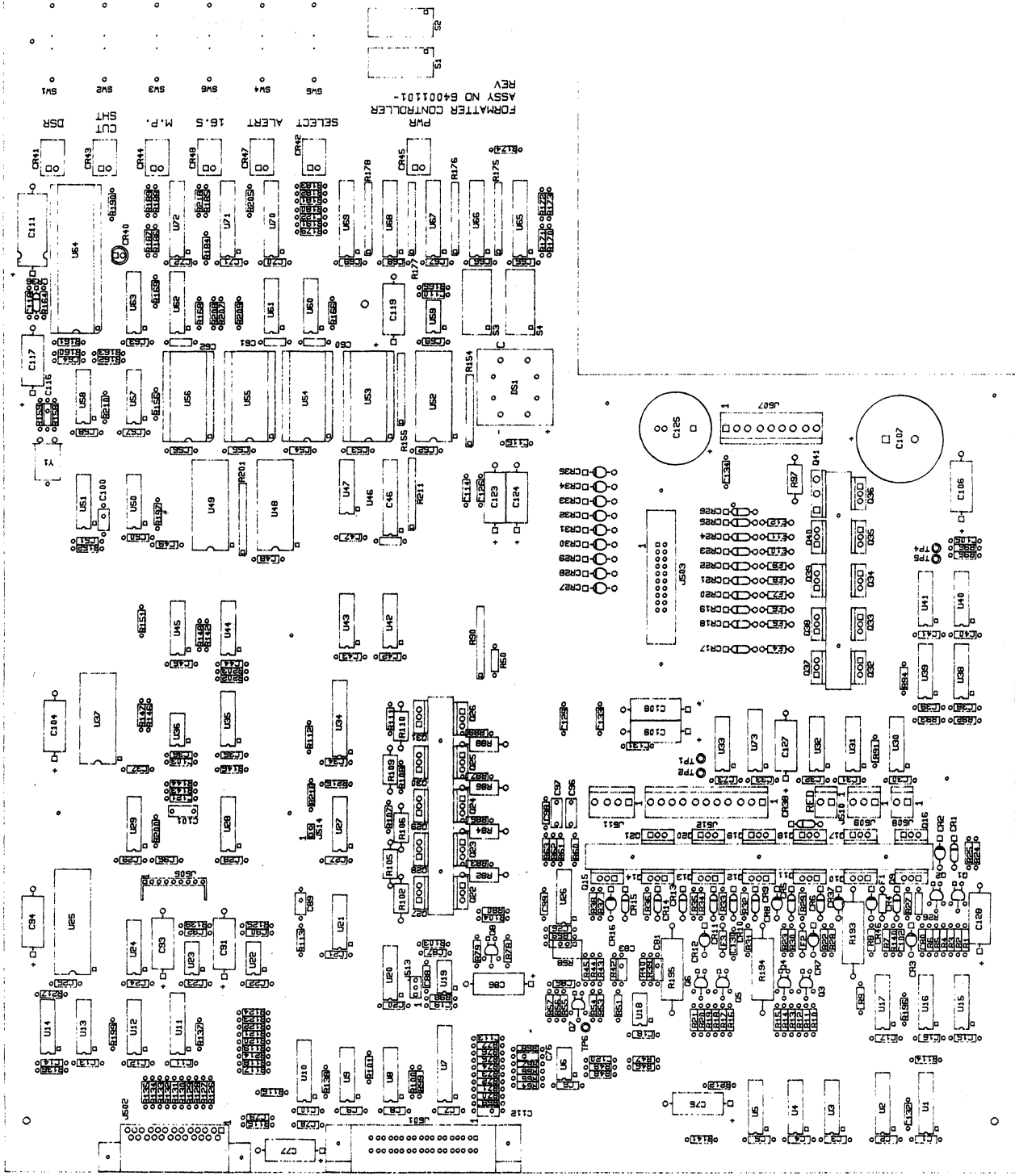


Figure 4-2. FORMATTER CONTROLLER 64001101 REV. A

PC BOARD ASSEMBLY
 FORMAT CONTROLLER
 64001101-4001 REV. A5

<u>Item</u>	<u>Part Number</u>	<u>Description</u>
1	64001101-4000 Rev. A5	PCB Assy. Format Controller
2	64001101-6001 Rev. A	PROM Kit, 351 Format Controller

(An illustrated parts breakdown of items 1 and 2 follows:)

LIST OF MATERIALS
 PC BOARD ASSEMBLY
 FORMAT CONTROLLER
 64001101-4000 REV. A5
 (Reference Figure 4-2)

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
C1 thru C25, C27 thru C73, C78, C80, C85, C87, C90, C92, C95, C98, C99, C103, C105, C110, C113, C114, C115, C118, C121, C126, C129, C130, C131, C133, C134	21104005-1001	Capacitor, TBAX, 0.1 uF 50V, -20+80%
C26, C102, C132	21103004-1001	Capacitor, TBAX, Glass, .01 uF, 50V, 20%
C75, C77, C86, C91, C93, C94, C104, C106, C108, C109, C117, C119, C123, C124, C127, C128	22206002-1001	Capacitor, Elctlt, 20 uF, 25V -10+75%
C76, C116	21471003-1001	Capacitor, Cer. Disc, 470 pF, 1KV, 20%
C79, C88, C122	21102002-1001	Capacitor, TBAX, Glass/Epoxy, 1000 pf, 100V
C81, C83, C120	21202001-1001	Capacitor, Cer. Disc, 2KpF, 1KV, 20%
C89, C112	21330001-1001	Capacitor, Cer. Disc, 33 pF, 1KV, 20%
C96, C97	24103000-1002	Capacitor, Rect., .01 uF, 100V, 2%
C100	21220001-1001	Capacitor, Cer. Disc, 22 pF, 1KV, 20%
C101	24103000-1001	Capacitor, Rect, .01 uF, 400V, 5%
C107	22688001-1001	Capacitor, Elctlt, 6800 uF, 50V
C111	22107002-1001	Capacitor, Elctlt, 100 uF, 25V -10+75%
C125	22228001-1001	Capacitor, Elctlt, 2200 uF, 50V
CR1, CR4, CR5, CR6, CR9, CR10, CR11, CR13, CR14, CR15, CR17, CR18, CR19, CR20, CR21, CR22, CR23, CR24, CR25, CR38	38040020-1001	Diode, TBAX, IN4002

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
CR2,CR3,CR7,CR8,CR12, CR16,CR27,CR28,CR29, CR30,CR31,CR32,CR33, CR34,CR35,CR37,CR46	38121140-1002	Diode, A114F
CR26	38047420-1001	Diode, TBAX 12, IN4742
CR40,CR41,CR42,CR43, CR44,CR47,CR48	3800572-1001	LED, w/leads
CR45	38100234-1001	LED, Green
DS1	32000001-1001	Buzzer, Mintr., Elec. 6V
F1	38030030-1006	Fuse, Insulated, .093, 3A, PC Mtg.
F2,F3	39030030-1004	Fuse, Insulated, .093, 2A, PC Mtg.
F4,F5,F6,F7,F8,F9, F10,F11,F12	39030030-1009	Fuse, Insulated, .093, 5A, PC Mtg.
J501	31230025-1002	Connector, 36 Posn., Rt. Angle
J502	31230198-1007	Connector, RCPT., 25 Posn., Rt. Angle
J503	31240080-1034	Connector, HDR, 20 Posn.
J505	31343027-1009	Connector, PC, 9 Posn., Top Entry
J507	31301029-1009	HDR, LKG, 9 Posn., .045 SQP
J508	31301029-1002	HDR, LKG, 2 Posn., PC Mtg.
J509	31301029-1003	HDR, LKG, 3 Posn., PC Mtg.
J510	31301029-1102	HDR, LKG, 2 Posn., PC Mtg., Red
J511	31301029-1004	HDR, LKG, 4 Posn., .045 SQP
J512	31301019-1001	HDR, PC Mtg., 11 Posn., .045 SQP
J513	31301044-1003	HDR, PC, 3 Posn., 1 Row
J514	31343027-1002	Connector, PC, C-Posn., Top Entry
Q1,Q2,Q3,Q4,Q5,Q6,Q8	38300061-1001	Transistor, HV, NPN (MPS-A06)
Q7	38300056-1001	Transistor (MPS-A56)
Q9,Q11,Q13,Q15,Q16, Q19,Q22	38201252-1001	Transistor, Power, PNP (EP3011)

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
Q10,Q12,Q14,Q17,Q18 Q20,Q21	38201200-1001	Transistor, Power, NPN (Tip 120)
Q23,Q24,Q25,Q26,Q27 Q28,Q29,Q30,Q31	38300454-1001	Transistor, Power, PNP (68737)
Q32,Q33,Q34,Q35,Q36 Q37,Q38,Q39,Q40	38300444-1001	Transistor, Power, NPN (68736)
Q41	38201410-1001	Transistor, Power (Tip 141)
R2,R3,R5,R6,R10,R11, R13,R14,R16,R17,R19, R20,R21,R48,R114,R137, R138,R145,R146,R147, R156,R160,R166,R186, R196,R197,R199,R200, R214,R215,R216	41102925-1001	Resistor, Carbon, 1K Ohms, .25W, 5%
R7,R8,R25,R27,R29,R30, R31,R32,R33,R35,R36, R37,R49	41511925-1001	Resistor, Carbon, 510 Ohms, .25W, 5%
R9,R68	47162111-1001	Resistor, Met. Film 1.62K Ohms, .25W 1%
R22,R23,R24,R26,R34,R38	41512925-1001	Resistor, Carbon, 5.1K Ohms, .25W, 5%
R46,R47,R53,R126,R129, R130,R132	41202925-1001	Resistor, Carbon, 2K Ohms, .25W, 5%
R1,R4,R12,R15,R18,R21, R28,R39,R42,R56,R57,R70, R71,R72,R73,R74,R75,R76, R77,R91,R92,R93,R94,R95, R96,R99,R100,R101,R112, R140,R142,R143,R148,R158, R162,R163,R170,R171,R172, R173,R179,R180,R181,R183, R192,R202,R203,R212,R217	41102925-1001	Resistor, Carbon, 1K Ohms, .25W, 5%
R40,R51,R66	41105925-1001	Resistor, Carbon, 1 megohm, .25W, 5%
R43,R44,R127,R128,R131, R133	41302925-1001	Resistor, Carbon, 3K Ohms, .25W, 5%
R45	41510925-1001	Resistor, Carbon, 51 Ohms, .25W, 5%
R46,R47,R53,R126,R129, R130,R132	41202925-1001	Resistor, Carbon, 2K Ohms, .25W, 5%

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
R50,R174	41121925-1001	Resistor, Carbon, 120 Ohms, .25W, 5%
R54	41681925-1001	Resistor, Carbon, 680 Ohms, .25W, 5%
R55,R79,R80,R83,R85, R87,R89,R103,R104, R107,R108,R111,R187	41222925-1001	Resistor, Carbon, 2.2K Ohms, .25W, 5%
R58,R64	47499111-1001	Resistor, Met. Film, 4.99K Ohms, .25W, 1%
R59,R115,R191	41104925-1001	Resistor, Carbon 100K Ohms, .25W, 5%
R60	47210311-1001	Resistor, Met. Film, 210K Ohms, .25W, 1%
R61	47100211-1001	Resistor, Met. Film, 10K Ohms, .25W, 1%
R62	47154211-1001	Resistor, Met. Film, 15.4K Ohms, .25W, 1%
R63	41304925-1001	Resistor, Carbon, 300K Ohms, .25W, 5%
R65	41152925-1001	Resistor, Carbon, 1.5 Ohms, .25W, 5%
R67	41203925-1001	Resistor, Carbon, 20K Ohms, .25W, 5%
R69,R78,R113	41471925-1001	Resistor, Carbon 470 Ohms, .25W, 5%
R81,R134,R141,R150, R157,R198,R204,R206, R213	41000926-1001	Resistor, Carbon, 0 Ohms, .25W, 10%
R82,R84,R86,R88,R102, R105,R106,R109,R110	41162945-1001	Resistor, Carbon, 1.6K Ohms, .50W, 5%
R90	40681204-1008	Resistor, Network, 10P, 120 Ohms, 1.5W, 2%
R97	41221945-1001	Resistor, Carbon, 220 Ohms, .50W, 5%
R98	41392925-1001	Resistor, Carbon, 3.9K Ohms, .25W, 5%
R117,R118,R119,R120, R121,R122,R123,R124, R125,R139,R207,R208, R209,R210,R225,R226, R227,R228,R229,R230	41103925-1001	Resistor, Carbon, 10K Ohms, .25W, 5%
R116,R136,R151,R152, R159,R161,R168,R169, R184,R190	41331925-1001	Resistor, Carbon, 330 Ohms, .25W, 5%
R134,R141	411000926-1001	Resistor, Carbon, 0 Ohms, .25W, 10%

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
R144	47143311-1001	Resistor, Met. Film, 143K Ohms, .25W, 1%
R154,R155,R175,R176, R177,R178,R211	40681218-1009	Resistor, Network 10P, 1K Ohms, .75W, 2%
R164	41273925-1001	Resistor, Carbon, 27K Ohms, .25W, 5%
R165	41205925-1001	Resistor, Carbon 2 meg. Ohms, .25W, 5%
R182,R185,R188,R189, R205,R218	41271925-1001	Resistor, Carbon, 270 Ohms, .25W, 5%
R193,R194,R195	43058055-1001	Resistor, WW .50 Ohms 5W, 5%
R201	40681218-1022	Resistor, Network 10P, 10K Ohms, .75W, 2%
S1,S2,S3,S4	39090019-1008	SW, Dip, ON/OFF, SLD, 8 Posn.
U1,U2	35574175-1001	IC, FF, D-Type, Quad
U3	35474080-1001	IC, AND, Pos, 2-Input
U12,U30,U60	35577408-1001	IC, AND, 2-Input, Quad
U4,U5,U8,U17,U42,U43, U61	35474070-1001	IC, BFR/DRVR, Hex
U6,U18	35203393-1001	IC, Voltage Comparator
U7,U72	35674373-1001	IC, FF, D-Type, Dual
U9,U29,U31,U32,U35,U40, U44,U50	35577474-1001	IC, D-Type, FF, Dual
U10,U62	35674367-1001	IC, Buffer, Hex
U11	35212632-1001	IC, Quad, Diff. Line RCVR
U12,U30,U60	35577408-1001	IC, AND, 2-Input, Quad
U13	35474040-1001	IC, Inverter, Hex
U14,U24,U51	35674125-1001	IC, EXCL-NOR, Quad
U15	35577421-1001	IC, Input/Gate, D4
U16	35577486-1001	IC, EXCL-OR, 2-Input, Quad
U19,U36,U59	35205550-1001	IC, Linear Timer
U20	35577400-1001	IC, NAND, 2-Input, Quad

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
U21,U28,U33	35674014-1001	IC, Inverter, Hex, ST
U22,U23	35596360-1001	IC, Line DRV, Dual Program
U25	35578251-1001	IC, Comm. Interface
U26	35207392-1001	IC, Lic., DC MOT., Sp. Cont
U27	35474320-1001	IC, Driver, Quad R, 2-Input
U34,U70	35674273-1001	IC, Octal, D-Type
U37	35578254-1001	IC, Interval Timer
U41	35477400-1001	IC, NAND, 2 Input, Quad
U45,U47	35577432-1001	IC, OR, 2-Input, Quad
U46,U65,U66,R67,U68,U69	35674244-1001	IC, BFR/DRVR, Octal
U48,U49	35514802-1001	IC, 2K/8 SRAM N-3
U52	35474159-1001	IC, SEL/MUX
U57	35674073-1001	IC, FF, J-K, Dual
U58	35577404-1001	IC, Inverter, Hex
U63	35674138-1001	IC, Decoder, 3-8
U64	35578085-1002	IC, Microprocessor, 8-Bit
U71	35674245-1001	IC, XCVR, Bus, Octal
U73	35201449-1001	IC, Bounce Elim, Hex, MC14490
Y1	37810693-1001	Crystal 10.1376 mhz

LIST OF MATERIALS
PROM KIT, FORMAT CONTROLLER
64001101-6001 REV. A

U53	35522732-1A24	IC, PROM, FC351A.000
U54	35522732-1A25	IC, PROM, FC351A.000
U55	35522732-1C16	IC, CHARACTER GENERATOR
U56	35522732-1A26	IC, PROM, FC351A.000

NOTE: Current Rev. level of software when manual was printed; contact factory representative for latest Rev. level of software.

----- PARTS NOT SHOWN IN FIGURE 4-1 -----

<u>Part Number</u>	<u>Description</u>	<u>Quantity</u>
63180379-2001	Brkt, Cable	1
31240085-1001	Connector, Jumper	1
64000709-2001	Control, Panel Assy.	1
64001068-2001	Heatsink, Transistor, 4.8x1.0	1
64001067-2001	Heatsink, Transistor, 3.0x1.0	2
63180364-2001	Holder, Light	7
64000309-2001	Insulator, Transistor, 3.0	4
64000310-2001	Insulator, Transistor, 4.8	2
31280004-1001	Jack	24
36200069-2001	Latch, Grommet	3
36200071-2001	Latch, Grommet	2
36200070-2001	Latch, Plunger	3
36200072-2001	Latch, Plunger	2
34000652-2003	Nut, Hex, M2.5	17
34000651-2004	Nut, Hex, M3x0.5x2.4 THK, SST	2
36350006-2001	O-Ring .737 I.D.	1
33250003-2003	Pin, Cotter	6
33713715-2010	Screw, SLTP, 8x4, SST 5/16	2
34000352-2028	Screw, Cheese Head, Sltd., M2.5x20	17
34000353-2033	Screw, Pan Head, Sltd., M3x0.5x	9
31410246-2003	Socket, IC, 40 Pin, Solder Dip .600	1
36612103-2040	Spacer, .12 DIA, #0 Clear, .18L, Nylon	5
36600021-2003	Standoff, Male, Female, .187 Hex	2
34004523-2003	Washer, Fl., M2.5	34
34000453-2004	Washer, Fl., M3x7, 0.5 THK, SST	9
34000455-2003	Washer, Lock, Split, M2.5, SST	17
34000454-2004	Washer, Lock, Split, M3, SST	9
34900006-2001	Washer, Fl., 4x.28, Teflon	13
35070010-2001	Washer, Shoulder	33

SECTION 5

ELECTRICAL PARTS BREAKDOWN

MODEL 352

The PCB Assemblies contained in the Model 352 printstation are listed in Table 5-1. The table includes; part numbers, revision level and reference page numbers for each board. If a board has been previously listed, a reference to another chapter is indicated. The Rev. level of the PCB assemblies show the level of the board when this manual was printed; however, a later Rev. may exist. It is advisable to check with a factory representative. Section Eight identifies each revision level change and includes a brief description of that change.

PRINTSTATION PC BOARDS
TABLE 5-1

<u>PCB Assembly</u>	<u>Part Number</u>	<u>Rev.</u>	<u>Page</u>
Print Controller	64000160-4001	C10	3-3
Print Controller	64000564-4000	B11	3-11
Print Controller	64000818-4000	A9	3-19
Format Controller	63180247-4000	A16	5-3
Format Controller	64000585-4000	B8	5-9

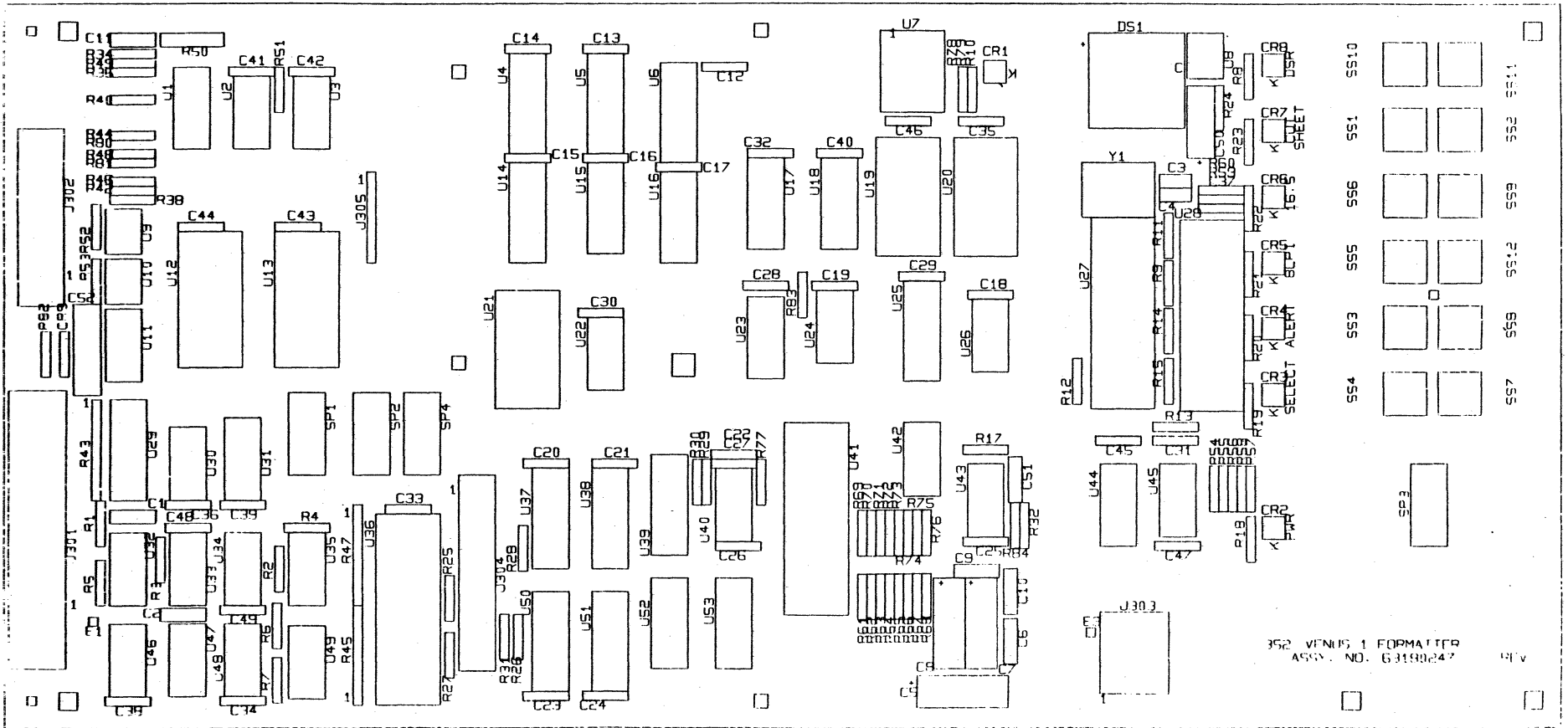


Figure 5-1. FORMAT CONTROLLER 63180247 REV. A

PC BOARD ASSEMBLY
 FORMAT CONTROLLER
 63180247-4001 REV. A18

<u>Item</u>	<u>Part Number</u>	<u>Description</u>
1	63180247-4000 Rev. A16	PCB Assy. Basic Format Controller
2	63180247-6001 Rev. A1	PROM Kit, Std. Basic Formatter

LIST OF MATERIALS
 PC BOARD ASSEMBLY
 FORMAT CONTROLLER
 64000247-4000 REV. A16
 (Reference Figure 5-1)

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
C1	21330001-1001	Capacitor, Cer. Disc, 33pF, 1KV, 20%
C2	20102000-1001	Capacitor, Tube, RDL, 1000pF, 600V, 5%
C5,C7,C8,C54,C55	22206002-1001	Capacitor, Elctlt, 20uF, 25V, -10+75%
C6,C9,C10,C12,C13,C14, C15,C16,C17,C18,C19,C20, C21,C22,C23,C24,C25,C26, C27,C28,C29,C30,C31,C32, C33,C34,C35,C36,C37,C38, C39,C40,C41,C42,C43,C44, C45,C46,C47,C48,C49,C58, C59	21104005-1001	Capacitor, TBAX, 1uF, 50V, -20+80%
C11,C51	21102000-1001	Capacitor, Cer. Disc, 1KpF, 1KV, 20%
C50	22105002-1001	Capacitor, Electlt, 1uF, 25V, -10+75%
C52	22106002-1001	Capacitor, Electlt, 10uF, 25V, -10+75%
C53	21101001-1001	Capacitor, Cer. Disc, 100pF, 1KV, 20%
C56	21471003-1001	Capacitor, Cer. Disc, 470pF, 1KV, 20%
C57	21103003-1001	Capacitor, Cer. Disc, .01uF, 1KV, 20%
CR1,CR3,CR4,CR5,CR6 CR7,CR8	38005752-1001	LED, w/Leads
CR2	38100234-1001	LED, Green
CR9	38100904-1001	Diode, TBAX, IN4148
DS1	32000001-1001	Buzzer, Mintr, Elec., 6V
J301	31230025-1002	Connector, 36 Posn., Rt. Angle
J302	31230198-1003	Connector, RCPT, 25 Posn., Rt. Angle
J303	31301029-1006	HDR, LKG, 6 Posn., PC Mtg.

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
J304	31240080-1004	HDR, 34 Posn., Solder Pin, Latch
J305	31343027-1009	Connector, PC, 9 Posn., Top Entry
R1,R5	41471925-1001	Resistor, Carbon, 470 Ohms, .25W, 5%
R2,R3,R4,R9,R12,R13, R14,R15,R49,R51,R52, R53,R54,R55,R56,R57, R58,R59,R60,R61,R62, R63,R64,R65,R66,R67, R68,R69,R70,R71,R72, R73,R74,R75,R76,R77	41103925-1001	Resistor, Carbon, 10K Ohms, .25W, 5%
R6	41102925-1001	Resistor, Carbon, 1K Ohms, .25W, 5%
R7,R11,R17,R25,R26, R27,R28,R29,R30,R31, R84	41472925-1001	Resistor, Carbon, 4.7K Ohms, .25W, 5%
R8,R19,R20,R21,R22, R23	41201925-1001	Resistor, Carbon, 200 Ohms, .25W, 5%
R10,R34,R38,R42,R46	41202925-1001	Resistor, Carbon, 2K Ohms, .25W, 5%
R18	41121925-1001	Resistor, Carbon, 120 Ohms, .25W, 5%
R24	41394925-1001	Resistor, Carbon, 390K Ohms, .25W, 5%
R32	41101925-1001	Resistor, Carbon, 100 Ohms, .25W, 5%
R36,R40,R44,R48	41302925-1001	Resistor, Carbon, 3K Ohms, .25W, 5%
R43	40681218-1009	Resistor, Network, 10P, 1K Ohms, .75W, 2%
R45,R47	40681218-1022	Resistor, Network, 10P, 10K Ohms, .75W, 2%
R50	41104945-1001	Resistor, Carbon, 100K Ohms, .25W, 5%
R78,R80	41000926-1001	Resistor, Carbon, 0 Ohm, .25W, 10%
R82	41473925-1001	Resistor, Carbon, 47K Ohms, .25W, 5%
R83	41331925-1001	Resistor, Carbon, 330 Ohms, .25W, 5%
S1,S2,S3,S4	39090019-1008	SW, Dip, ON/OFF, SLD, 8 Posn
U1	35212632-1001	IC, RCVR Diff Line, Quad
U2,U34	35674014-1001	IC, Inverter, Hex, ST
U3,U35	35674125-1001	IC, EXCL-NOR, Quad
U4,5,6	35672569-1001	IC, Counter Binary UP/DOWN
U8	35205550-1001	IC, Timer, Linear
U9,U10	35596360-1001	IC, DRVR Line, Dual Program

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
U11	35474200-1001	IC, NAND, 4-Input Dual
U13	35578251-1001	IC, Communication Interface
U14	35674373-1001	IC, FF D-Type, Dual
U15,U16,U17,U18 U52,U53	35512114-1003	IC, RAM, 1024x4 Bit
U22,U42	35577408-1001	IC, AND, 2-Input AND, Quad
U23	35674139-1001	IC, Decoder 2-4, Quad
U24	35577404-1001	IC, Inverter, Hex
U25,U37,U38,U39	35674244-1001	IC, BFR/DRVR, Octal
U26	35577432-1001	IC, OR, 2-Input, Quad
U27	35578085-1001	IC, Microprocessor, 8-Bit
U29	35674374-1001	IC, FF D-Type, Octal
U30	35674002-1001	IC, NOR, 2-Input, Quad
U31	35574175-1001	IC, FF, D-Type, Quad
U32	35577400-1001	IC, NAND, 2-Input, Quad
U33	35577486-1001	IC, EXCL-OR, 2-Input, Quad
U36,U41	35578156-1001	IC, Timer and I/O, RAM
U40,U46	35474320-1001	IC, OR, 2-Input, Quad
U43,U49	35577474-1001	IC, FF D-Type, Quad
U44	35674138-1001	IC, Decoder 3-8
U45	35474060-1001	IC, BFR/DRVR, Inverter, Hex
U47	35474080-1001	IC, AND, 2-Input, Quad
U48	35674122-1001	IC, Monostable MV, Delay
U50,U51	35674245-1001	IC, Receiver, Bus, Octal
Y1	37810692-1001	Crystal 6.144 MHZ

----- PARTS NOT SHOWN IN FIGURE 5-1 -----

<u>Part Number</u>	<u>Description</u>	<u>Quantity</u>
63180364-2001	Holder, Light	7
64000589-2001	Keyboard, Control Panel	1
36200069-2001	Latch, Grommet	1
36200071-2001	Latch, Grommet	2
36200070-2001	Latch, Plunger	1
36200072-2001	Latch, Plunger	2
34000651-2003	Nut, Hex, M2.5x0.45x2 THK, SST	4
34000359-2086	Screw, Cheesehead, Sltd., M2.5x0.45x8	2
34000359-2087	Screw, Cheesehead, Sltd., M2.5x0.45x10	4
31410762-1024	Socket, IC, 24 Pin, Solder Dip .600	3
31410762-1028	Socket, IC, 28 Pin, Solder Dip .600	2
31410762-1040	Socket, IC, 40 Pin, Solder Dip .600	4
36600021-2003	Standoff, Male-Female .187 Hex	2
34000453-2003	Washer, Fl., M2.5x6.50, 0.5 THK, SST	8
34000454-2003	Washer, Lock, Split, M2.5, SST	4
34900006-2001	Washer, Flat, 4x0.28 Teflon	4

LIST OF MATERIALS
PROM KIT STD. FORMAT CONTROLLER
63180247-6001 REV. A1

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
U12	35552100-1A02	PROM FPLA 352A.000
U19	35522716-1J71	PROM F0352J.000
U20	35522716-1J70	PROM F0352J.000
U21	35522715-1B19	PROM CHAR GEN 352 Std.
U28	35578755-1J53	PROM F0352J.000

NOTE: Current Rev. level of software when manual was printed; contact factory representative for latest Rev. level of software.

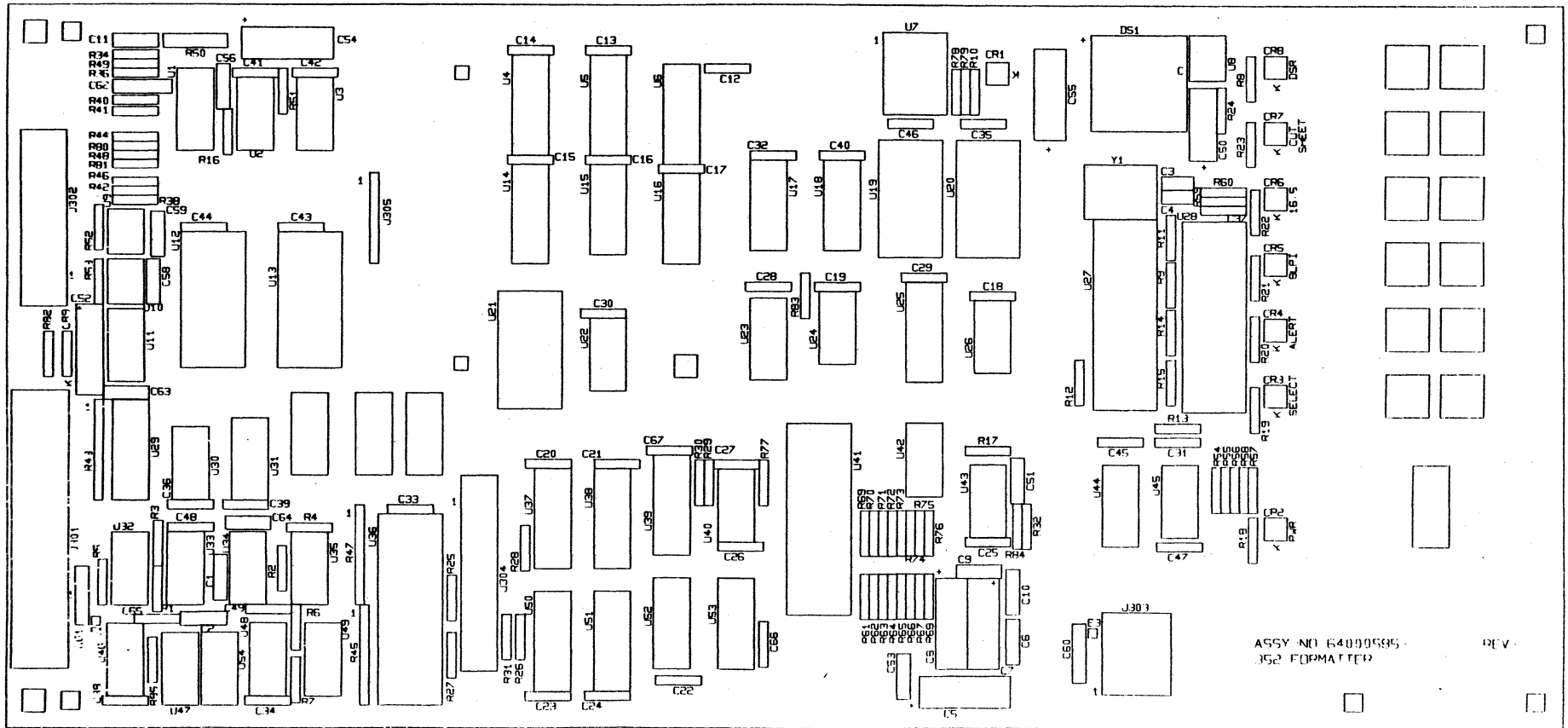


Figure 5-2. FORMAT CONTROLLER 64000585 REV. B

PC BOARD ASSEMBLY
 FORMAT CONTROLLER
 64000585-4001 REV. B11
 (Reference Figure 5-2)

<u>Item</u>	<u>Part Number</u>	<u>Description</u>
1	64000585-4000 Rev. B8	PCB Assy., Basic Format Controller
2	64000585-6001 Rev. B1	PROM Kit Basic Formatter

LIST OF MATERIALS
 PC BOARD ASSEMBLY
 FORMAT CONTROLLER
 64000585-4000 REV. B8
 (Reference Figure 5-2)

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
C1,C11,C51	21102002-1001	Capacitor, TBAX, 1000pF
C2	20102000-1001	Capacitor, Tube, RDL, 1000pF, 600V, 5%
C5,C7,C8,C54,C55	22206002-1001	Capacitor, Elctlt, 20uF, 25V, -10+75%
C6,C9,C10,C12,C13,C14 C15,C16,C17,C18,C19,C20, C21,C22,C23,C24,C25,C26, C27,C28,C29,C30,C31,C32, C33,C34,C35,C36,C37,C38, C39,C40,C41,C42,C43,C44, C45,C46,C47,C48,C49,C58, C59,C63,C65,C66,C67	21104005-1001	Capacitor, TBAX, 1uF, 50V, -20+80%
C50	22105002-1001	Capacitor, Electlt, 1uF, 25V, -10+75%
C52	22106002-1001	Capacitor, Electlt, 10uF, 25V, -10+75%
C53	21101001-1001	Capacitor, Cer. Disc, 100pF, 1KV, 20%
C56	21471003-1001	Capacitor, Cer. Disc, 470pF, 1KV, 20%
C60,C61,C62,C64	21103003-1001	Capacitor, Cer. Disc, .01uF, 1KV, 20%
CR1,CR3,CR4,CR5,CR6 CR7,CR8	38005752-1001	LED, w/Leads
CR2	38100234-1001	LED, Green
CR9	38100904-1001	Diode, TBAX, IN4148
DS1	32000001-1001	Buzzer, Mintr, Elec., 6V
J301	31230025-1002	Connector, 36 Posn., Rt. Angle
J302	31230198-1007	Connector, RCPT, 25 Posn., Rt. Angle
J303	31301029-1006	HDR, LKG, 6 Posn., PC Mtg

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
J304	31240052-1003	HDR, Encl. 34 Posn., Solder Pin
J305	31343027-1009	Connector, PC, 9 Posn., Top Entry
R1,R5	41471925-1001	Resistor, Carbon, 470 Ohms, .25W, 5%
R2,R3,R4,R9,R12,R13, R14,R15,R49,R51,R52, R53,R54,R55,R56,R57, R58,R59,R60,R61,R62, R63,R64,R65,R66,R67, R68,R69,R70,R71,R72, R73,R74,R75,R76,R77	41103925-1001	Resistor, Carbon, 10K Ohms, .25W, 5%
R6	41102925-1001	Resistor, Carbon, 1K Ohm, .25W, 5%
R7,R11,R17,R25,R26,R27, R28,R29,R30,R31,R84,R85	41472925-1001	Resistor, Carbon, 4.7K Ohms, .25W, 5%
R8,R19,R20,R21,R22,R23	41201925-1001	Resistor, Carbon, 200 Ohms, .25W, 5%
R10,R34,R38,R42,R46	41202925-1001	Resistor, Carbon, 2K Ohms, .25W, 5%
R18	41121925-1001	Resistor, Carbon, 120 Ohms, .25W, 5%
R24	41394925-1001	Resistor, Carbon, 390K Ohms, .25W, 5%
R32	41101925-1001	Resistor, Carbon, 100 Ohms, .25W, 5%
R36,R40,R44,R48	41302925-1001	Resistor, Carbon, 3K Ohms, .25W, 5%
R41,R83	41331925-1001	Resistor, Carbon, 330 Ohms, .25W, 5%
R43	40681218-1009	Resistor, Network, 10P, 1K Ohms, .75W, 2%
R45,R47	40681218-1022	Resistor, Network, 10P, 10K Ohms, .75W, 2%
R50	41104945-1001	Resistor, Carbon, 100K Ohms, .25W, 5%
R78,R80	41000926-1001	Resistor, Carbon, 0 Ohm, .25W, 10%
R82	41473925-1001	Resistor, Carbon, 47K Ohms, .25W, 5%
S1,S2,S3,S4	39090019-1008	SW, Dip, ON/OFF, SLD, 8 Posn
U1	35212632-1001	IC, RCVR, Diff Line, Quad
U2,U34	35674014-1001	IC, Inverter, Hex, ST
U3,U35	35674125-1001	IC, EXCL-NOR, Quad
U4,5,6	35672569-1001	IC, Counter, Binary, UP/DOWN
U8	35205550-1001	IC, Timer, Linear
U9,U10	35596360-1001	IC, DRVR, Line, Dual Program

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
U11	35474200-1001	IC, NAND, 4-Input, Dual
U13	35578251-1001	IC, Communication Interface
U14	35674373-1001	IC, FF D-Type, Dual
U15,U16,U17,U18,U52 U53	35512114-1003	IC, RAM, 1024x4 Bit
U22,U42	35577408-1001	IC, AND, 2-Input, Quad
U23	35674139-1001	IC, Decoder, 2-4, Dual
U24	35577404-1001	IC, Inverter, Hex
U25,U37,U38,U39	35674244-1001	IC, BFR/DRVR, Octal
U26	35577432-1001	IC, OR, 2-Input, Quad
U27	35578085-1001	IC, Microprocessor, 8-Bit
U29	35574374-1001	IC, FF, D-Type, Octal
U30	35674002-1001	IC, NOR, 2-Input, Quad
U31	35574175-1001	IC, FF, D-Type, Quad
U32	35577400-1001	IC, NAND, 2-Input, Quad
U33	35577486-1001	IC, EXCL-OR, 2-Input, Quad
U36,U41	35578156-1001	IC, Timer and I/O, Ram
U40,U46	35474320-1001	IC, OR, 2-Input, Quad
U43,U49,U54	35577474-1001	IC, FF, D-Type, Dual
U44	35674138-1001	IC, Decoder, 3-8
U45	35474060-1001	IC, BFR/DRVR, Inverter, Hex
U47	35474080-1001	IC, AND, 2-Input, Quad
U48	35674122-1001	IC, Monostable, Delay
U50,U51	35674245-1001	IC, Receiver, Bus, Octal
Y1	37810692-1001	Crystal 6.144 MHZ

----- PARTS NOT SHOWN IN FIGURE 5-2 -----

<u>Part Number</u>	<u>Description</u>	<u>Quantity</u>
63180364-2001	Holder, Light	7
64000589-2001	Keyboard, Control Panel	1
36200069-2001	Latch, Grommet	1
36200071-2001	Latch, Grommet	2
36200070-2001	Latch, Plunger	1
36200072-2001	Latch, Plunger	2
33713715-2010	Screw, SLTP, 4B, SST 5/16L	2
31410762-1024	Socket, IC, 24 Pin, Solder Dip .600	3
31410762-1028	Socket, IC, 28 Pin, Solder Dip .600	1
31410762-1040	Socket, IC, 40 Pin, Solder Dip .600	2
3660021-2003	Standoff, Male, Female .187 Hex	2
3490006-2001	Washer, Fl. 4x0.28 Teflon	2

LIST OF MATERIALS
PROM KIT STD. FORMAT CONTROLLER
64000585-6001 REV. B1

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
U12	35552100-1A02	PROM FPLA 352A.000
U19	35522716-1K71	PROM F0352K.000
U20	35522716-1K70	PROM F0352K.000
U21	35522716-1B69	PROM CHAR GEN 352 Std.
U28	35578755-1K53	PROM F0352K.000

NOTE: Current Rev. level of software when manual was printed; contact factory representative for latest Rev. level of software.

SECTION 6

ELECTRICAL PARTS BREAKDOWN

MODEL 353

The PCB Assemblies contained in the Model 353 printstation are listed in Table 6-1. The table includes; part number, revision level and a reference page number. If a board has been previously listed a reference to another chapter is included. The Rev. level of the PCB assemblies show the level of the board when this manual was printed; however, a later Rev. level may exist. It is advisable to check with a factory representative. Section Eight identifies each revision level change and includes a brief description of that change.

TABLE 6-1
MODEL 353 PRINTSTATION PC BOARDS

<u>PCB Assembly</u>	<u>Part Number</u>	<u>Rev.</u>	<u>Page</u>
<u>Print Controller</u>	<u>64000564-4000</u>	<u>B11</u>	<u>3-11</u>
<u>Print Controller</u>	<u>64000818-4000</u>	<u>A9</u>	<u>3-19</u>
<u>Print Controller</u>	<u>64001037-4000</u>	<u>A4</u>	<u>3-39</u>
<u>Format Controller</u>	<u>63180308-4000</u>	<u>A16</u>	<u>6-3</u>
<u>Format Controller</u>	<u>64000588-4000</u>	<u>C2</u>	<u>6-10</u>
<u>Format Controller</u>	<u>64001024-4000</u>	<u>A2</u>	<u>6-18</u>

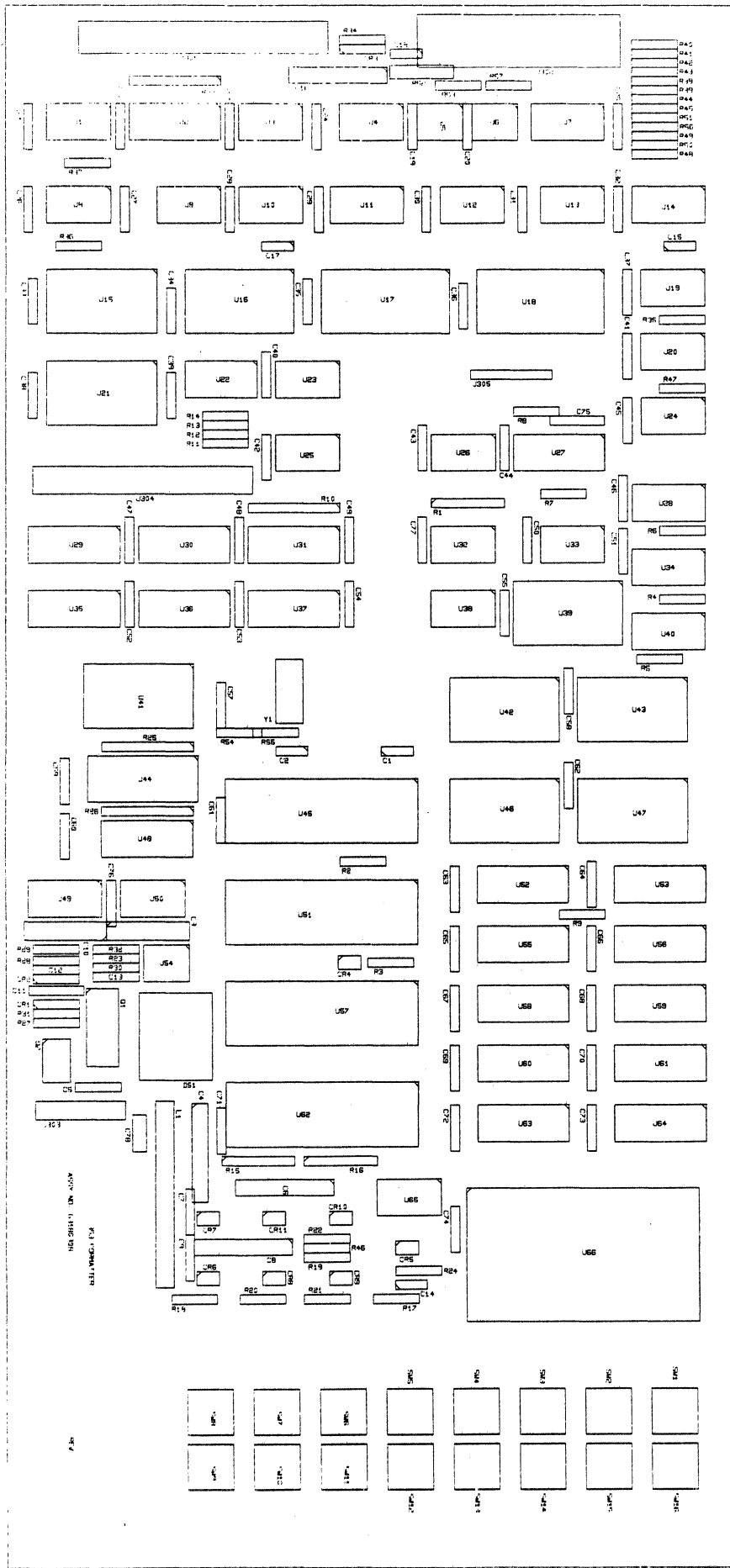


Figure 6-1. FORMAT CONTROLLER 63180308 REV. A

PC BOARD ASSEMBLY
 FORMAT CONTROLLER
 63180308-4001 REV. A18

<u>Item</u>	<u>Part Number</u>	<u>Description</u>
1	63180308-4000 Rev. A16	PCB Assy., Basic Format Controller
2	63180308-6001 Rev. A1	PROM Kit, Std., Format Controller

LIST OF MATERIALS
 PC BOARD ASSEMBLY
 FORMAT CONTROLLER
 63180308-4000 REV. A16
 (Reference Figure 6-1)

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
C3	22105002-1001	Capacitor, Elctlt, 1uF, 25V
C4,C6,C8,C16	22206002-1001	Capacitor, Elctlt, 20uF, 25V
C5,C7,C9,C12,C13,C19, C20,C21,C22,C23,C24,C25, C26,C27,C28,C29,C30,C31, C32,C33,C34,C35,C36,C37, C38,C39,C40,C41,C42,C43, C44,C45,C46,C47,C48,C49, C50,C51,C52,C53,C54,C55, C57,C58,C59,C60,C61,C62, C63,C64,C65,C66,C67,C68, C69,C70,C71,C72,C73,C74, C76,C77	21104005-1001	Capacitor, TBAX, .1uF, 50V
C10	22205000-1001	Capacitor, Elctlt, 2uF, 25V
C11	21475000-1001	Capacitor, Cer. Disc, .47uF, 50V
C14,C18	21102000-1001	Capacitor, Cer. Disc, 1K pF, 1KV, 20%
C15	21330001-1001	Capacitor, Cer. Disc, 33 pf, 1KV, 20%
C17	20102000-1001	Capacitor, Tab, RDL, 600V, 5%
C75,C80	21471001-1001	Capacitor, Cer. Disc, 470 pF, 1KV, 10%
C78	21101001-1001	Capacitor, Cer. Disc, 100 pF, 1KV, 20%
CR1	38100904-1001	Diode, TBAX, IN4148
CR2	38055256-1001	Diode, IN5256
CR3	38040020-1001	Diode, TBAX, IN4002
CR4,CR6,CR7,CR8,CR9 CR10,CR11	38005752-1001	LED, w/Leads
CR5	38100234-1001	LED, w/Leads
DS1	32000001-1001	Buzzer, Mintr., Elec., 6V

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
J301	31230025-1002	Connector, 36 Posn., Rt. Angle
J302	31230198-1003	Connector, RCPT., 25 Posn., RT. Angle
J303	31301029-1006	Header, LKG., 6 Posn.
J304	31240052-1003	Header, ENCL., 3 Posn., Solder Pin
J305	31343027-1009	Connector, PC, 9 Posn., Top Entry
L1	30410014-1009	Inductor, TBAX, 250MH
Q1	38200300-1900	Transistor, PNP, w/Mica, TIP 30
Q2	38239040-1001	Transistor, GP, 2N3904
R1	40681266-1029	Resistor, Network 8P, 4.7K Ohms, 1.1W, 2%
R2,R4,R5,R6,R7,R27, R47,R48,R53,R57	41103925-1001	Resistor, Carbon, 10K Ohms, .25W, 5%
R3	41222925-1001	Resistor, Carbon, 2.2K Ohms, .25W, 5%
R8,R18,R19,R20,R21, R22,R24,R46	41331925-1001	Resistor, Carbon, 330 Ohms, .25W, 5%
R9,R30	41102925-1001	Resistor, Carbon, 1K Ohms, .25W, 5%
R10	40681218-1017	Resistor, Network, 10P, 4.7K Ohms, .75W, 2%
R12,R14,R51,R55	41000926-1001	Resistor, Carbon, 0 Ohm, .25W, 10%
R15,R16	40681266-1033	Resistor, Network 8P, 10K Ohms, 1.1W, 2%
R17	41121926-1001	Resistor, Carbon, 120 Ohms, .25W, 10%
R23	41394925-1001	Resistor, Carbon, 390K Ohms, .25W, 5%
R25,R26	40681218-1022	Resistor, Network, 10P, 10K Ohms, .75W, 2%
R28	41152925-1001	Resistor, Carbon, 1.5K Ohms, .25W, 5%
R29	41101925-1001	Resistor, Carbon, 100 Ohms, .25W, 5%
R31	41104925-1001	Resistor, Carbon, 100K Ohms, .25W, 5%
R32	41473925-1001	Resistor, Carbon, 47K Ohms, .25W, 5%
R33	40681218-1009	Resistor, Network, 10P, 1K Ohms, .75W, 2%
R34	41243925-1001	Resistor, Carbon, 24K Ohms, .25W, 5%

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
R35,R36	41471925-1001	Resistor, Carbon, 470 Ohms, .25W, 5%
R37	41472925-1001	Resistor, Carbon, 4.7K Ohms, .25W, 5%
R38,R40,R42,R44,R49	41202925-1001	Resistor, Carbon, 2K Ohms, .25W, 5%
R39,R41,R43,R45,R50	41302925-1001	Resistor, Carbon, 3K Ohms, .25W, 5%
R52	41104945-1001	Resistor, Carbon, 100K Ohms, .50W, 5%
U1	35474320-1001	IC, OR, 2-Input, Quad
U2	35674374-1001	IC, FF, D-Type, Octal
U3	35474080-1001	IC, AND, 2-Input, Quad
U4	35474100-1001	IC, NAND, 3-Input, Triple
U5,U6	35596360-1001	IC, DRVR, Line, Dual Program
U7,U14	35212632-1001	IC, RCVR, Line, Diff., Quad
U8,U26,U32,U33	35577474-1001	IC, Dual, FF, D-Type
U9,U25,U50	35577408-1001	IC, AND, 2-Input, Quad
U10	35674122-1001	IC, Monostable MV, DL
U11	35574175	IC, FF, D-Type, Quad
U12,U19	35674125-1001	IC, EXCL-NOR, Quad
U13	35577404-1001	IC, Inverter, Hex
U16,U41,U42,U46	35514802-1001	IC, SRAM, 2Kx8
U18	35578251-1001	IC, Interface, Communication
U20	35674014-1001	IC, Inverter, Hex, ST.
U22	35674139-1001	IC, Decoder, 2-4, Dual
U23	35577400-1001	IC, 2-Input, NAND, Quad
U24	35577486-1001	IC, EXCL-OR, 2-Input, Quad
U27,U30,U31,U36,U37	35674244-1001	IC, BFR/DRVR, Octal
U28,U34,U40	35674138-1001	IC, Decoder, 3-8
U29,U35,U48	35674245-1001	IC, Bus RCVR, Octal

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
U38	35577432-1001	IC, OR, 2-Input, Quad
U39	35578212-1001	IC, Input/Output, 8-Bit
U44	35523400-1001	IC, EAROM, 1Kx4
U45	35578085-1001	IC, Microprocessor, 8-Bit
U49	35474123-1001	IC, Monostable, MV, Dual
U52,U53,U55	35672569-1001	IC, Binary Counter, Up/Down
U54	35205550-1001	IC, Timer, Linear
U56,U58,U59,R60,U61, U63,U64	35674273-1001	IC, Octal, FF, D-Type
U57,U62	35578156-1001	IC, Timer +I/O, Ram
U65	35474060-1001	IC, Inverter, BFR/DRVR, Hex
U66	37210004-1001	LCD, Alpha/Numeric, DSPL.
Y1	37810692-1001	Crystal, 6.144 MHz

----- PARTS NOT SHOWN IN FIGURE 6-1 -----

<u>Part Number</u>	<u>Description</u>	<u>Quantity</u>
64000590-2001	Keyboard, Control Panel	1
36200069-2001	Latch, Grommet	1
36200071-2001	Latch, Grommet	2
36200070-2001	Latch, Plunger	1
36200072-2001	Latch, Plunger	2
34000651-2003	Nut, Hex, M2x5x0.45x2 THK, SST	4
34000651-2004	Nut, Hex, M3x0.5x2.4 THK, SST	1
34000353-2033	Screw, Panhead, Sltd., M3x0.5x8, SST	1
34000359-2087	Screw, Cheesehead, Sltd., M2x5x0.45x10	4
31400011-1001	Socket, IC, Dip, Line, 25 Pin	2
31410762-1022	Socket, IC, 22 Pin, .400W, TP	1
31410762-1024	Socket, IC, 24 Pin, Solder Dip .600	4
31410762-1028	Socket, IC, 28 Pin, Solder Dip .600	1
31410762-1040	Socket, IC, 40 Pin, Solder Dip .600	2
36600021-2003	Standoff, Male, Female, .187 Hex	2
34000451-2004	Washer, Lock Int., Tooth, M3	1
34000453-2003	Washer, FL., M2.5x6.5x0.5 THK SST	4
34000453-2004	Washer, Fl., M3x7x0.5 THK SST	1
34000454-2003	Washer, LKG., Split, M2.5, SST	4
34900006-2001	Washer, Fl., 4x0.28 Teflon	5

LIST OF MATERIALS
PROM KIT STD. FORMAT CONTROLLER
63180308-6001 REV. A1

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
U15	35522732-1D13	IC PROM CHAR GEN 3531D13.000
U17	35552100-1A03	IC PROM FPLA 353A.000
U21	35522716-1B01	IC PROM CHAR GEN 355 STD. 7x9
U43	35522732-1L14	IC PROM F0353L.000
U47	35522732-1L15	IC PROM F0353L.000
U51	35578755-1L58	IC PROM F0353L.000

NOTE: Current Rev. level of software when manual was printed; contact factory representative for latest Rev. level of software.

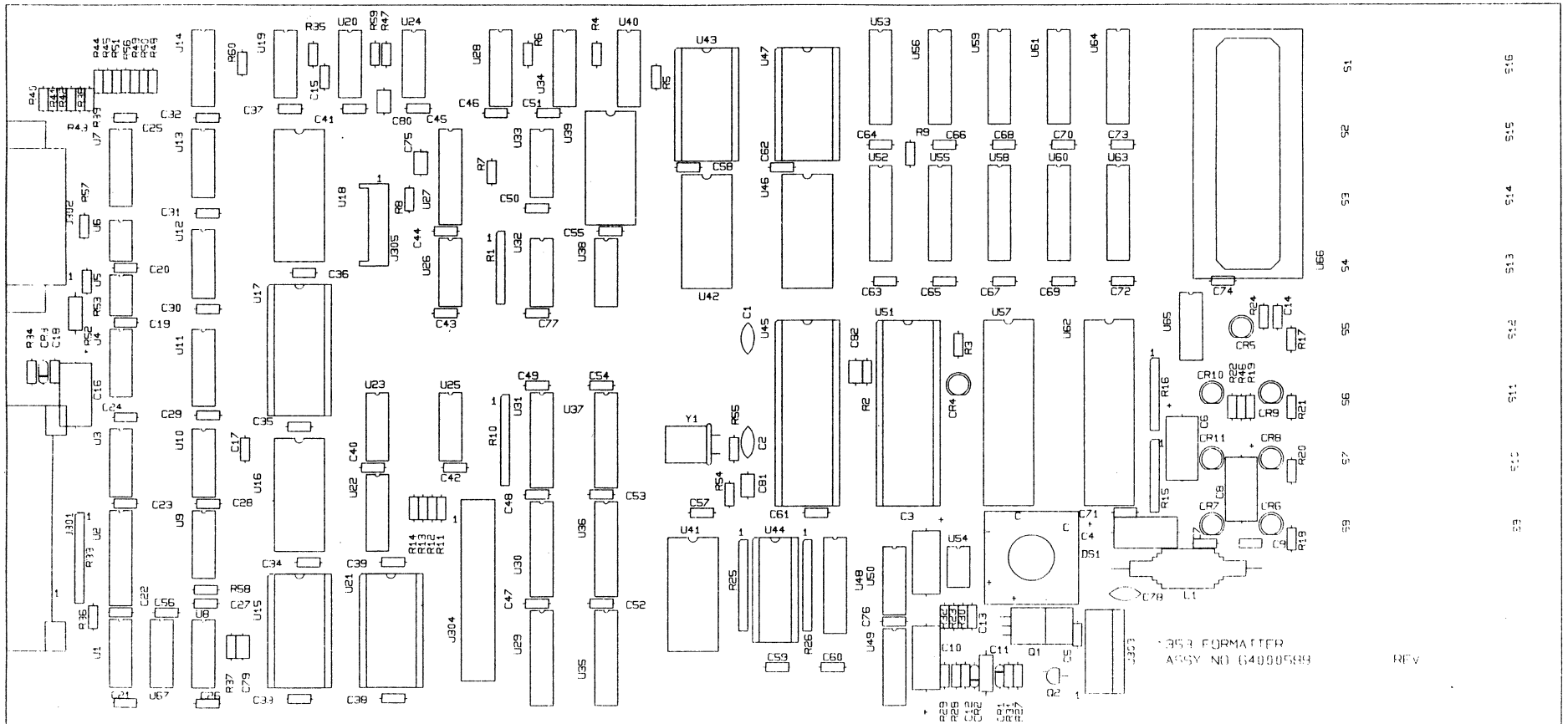


Figure 6-2. FORMAT CONTROLLER 64000588 REV. C

PC BOARD ASSEMBLY FORMAT CONTROLLER
64000588-4001 REV. C4

<u>Item</u>	<u>Part Number</u>	<u>Description</u>
1	64000588-4000 Rev. C.2	PCB Assy. Format Controller
2	64000588-6001 Rev. C	PROM Kit, PCBA Format Controller

LIST OF MATERIALS
PC BOARD ASSEMBLY FORMAT CONTROLLER
64000588-4000 REV. C2
(Reference Figure 6-2)

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
C3	22105002-1001	Capacitor, Elctlt, 1uF, 25V
C4,C6,C8,C16	22206002-1001	Capacitor, Elctlt, 20uF, 25V
C5,C7,C9,C12,C13,C19, C20,C21,C22,C23,C24, C25,C26,C27,C28,C29, C30,C31,C32,C33,C34, C35,C36,C37,C38,C39, C40,C41,C42,C43,C44, C45,C46,C47,C48,C49, C50,C51,C52,C53,C54, C55,C56,C57,C58,C59, C60,C61,C62,C63,C64, C65,C66,C67,C68,C69, C70,C71,C72,C73,C74, C76,C77	21104005-1001	Capacitor, TBAX, .1uF, 50V
C10	22205000-1001	Capacitor, Elctlt, 2uF, 25V
C11	21475000-1001	Capacitor, Cer. Disc, 47uF, 50V, 20%
C14,C15,C18	21102002-1001	Capacitor, TBAX, 1000pF
C17,	20102000-1001	Capacitor, Tube, RDL, 1000pF, 600V, 5%
C75,C80	21471003-1001	Capacitor, Cer. Disc, 470pF, 1KV 20%
C78	21101001-1001	Capacitor, Cer. Disc, 100pF, 1KV, 20%
C79	21103003-1001	Capacitor, Cer. Disc, .01uF, 1KV, 20%
CR1	38100904-1001	Diode, TBAX, IN4148
CR2	38055256-1001	Diode, IN5256
CR3	38040020-1001	Diode, TBAX, IN4002
CR4,CR6,CR7,CR8,CR9, CR10,CR11	38005752-1001	LED, w/Leads

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
CR5	38100234-1001	LED, w/Leads
DS1	32000001-1001	Buzzer, Mintr., Elec., 6V
J301	31230025-1002	Connector, 36 Posn., Rt. Angle
J302	31230198-1007	Connector, RCPT., Rt. Angle 25 Posn.
J303	31301029-1006	Header, LKG., 6 Posn.
J304	31240052-1003	Header, ENCL., 3 Posn., Solder Pin
J305	31343027-1009	Connector, PC, 9 Posn., Top Entry
L1	30410014-1009	Inductor, TBAX, 250, MH
Q1	38200300-1900	Transistor, PNP, w/Mica, TIP 30
Q2	38239040-1001	Transistor, GP, 2N3904
R1	40681266-1029	Resistor, Network 8P, 4.7K Ohms, 1.1W, 2%
R2,R4,R5,R6,R7,R27, R47,R48,R53,R57	41103925-1001	Resistor, Carbon, 10K Ohms, .25W, 5%
R3	41222925-1001	Resistor, Carbon, 2.2K Ohms, .25W, 5%
R8,R18,R19,R20,R21, R22,R24,R46,R60	41331925-1001	Resistor, Carbon, 330 Ohms, .25W, 5%
R9,R30	41102925-1001	Resistor, Carbon, 1K Ohms, .25W, 5%
R10	40681218-1017	Resistor, Network, 10P, 4.7K Ohms, .75W, 2%
R12,R14,R51,R55	41000926-1001	Resistor, Carbon, 0 Ohm, .25W, 10%
R15,R16	40681266-1033	Resistor, Network 8P, 10K Ohms, 1.1W, 2%
R17	41121926-1001	Resistor, Carbon, 120 Ohms, .25W, 10%
R23	41394925-1001	Resistor, Carbon, 390K Ohms, .25W, 5%
R25,R26	40681218-1022	Resistor, Network, 10P, 10K Ohms, .75W, 2%
R28	41152925-1001	Resistor, Carbon, 1.5K Ohms, .25W, 5%
R29	41101925-1001	Resistor, Carbon, 100 Ohms, .25W, 5%
R31	41104925-1001	Resistor, Carbon, 100K Ohms, .25W, 5%
R32	41473925-1001	Resistor, Carbon, 47K Ohms, .25W, 5%
R33	40681218-1009	Resistor, Network, 10P, 1K Ohms, .75W, 2%
R34	41243925-1001	Resistor, Carbon, 24K Ohms, .25W, 5%

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
R35,R36	41471925-1001	Resistor, Carbon, 470 Ohms, .25W, 5%
R37,R58	41472925-1001	Resistor, Carbon, 4.7K Ohms, .25W, 5%
R38,R40,R42,R44,R49	41202925-1001	Resistor, Carbon, 2K Ohms, .25W, 5%
R39,R41,R43,R45,R50	41302925-1001	Resistor, Carbon, 3K Ohms, .25W, 5%
R52	41104945-1001	Resistor, Carbon, 100K Ohms, .50W, 5%
U1	35474320-1001	IC, OR, 2-Input, Quad
U2	35574374-1001	IC, FF, D-Type, Octal
U3	35474080-1001	IC, AND, 2-Input, Quad
U4	35474100-1001	IC, NAND, 3-Input, Triple
U5,U6	35596360-1001	IC, DRVR Line, Dual Program
U7,U14	35212632-1001	IC, RCVR Line, Diff., Quad
U8,U26,U32,U33,U67	35577474-1001	IC, FF, D-Type, Dual
U9,U25,U50	35577408-1001	IC, AND, 2-Input, Quad
U10	35674122-1001	IC, Monostable MV, DL
U11	35574175	IC, FF, D-Type, Quad
U12,U19	35674125-1001	IC, EXCL-NOR, Quad
U13	35577404-1001	IC, Inverter, Hex
U16,U41,U42,U46	35514802-1001	IC, SRAM, 2Kx8
U18	35578251-1001	IC, Communication Interface
U20	35674014-1001	IC, Inverter, Hex, ST.
U22	35674139-1001	IC, Decoder, 2-4, Dual
U23	35577400-1001	IC, NAND, 2-Input
U24	35577486-1001	IC, EXCL-OR, 2-Input, Quad
U27,U30,U31,U36,U37	35674244-1001	IC, BFR/DRVR, Octal
U28,U34,U40	35674138-1001	IC, Decoder, 3-8
U29,U35,U48	35674245-1001	IC, RCVR, Bus, Octal

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
U38	35577432-1001	IC, OR, 2-Input, Quad
U39	35578212-1001	IC, Input/Output, 8-Bit
U44	35523400-1001	IC, EAROM, 1Kx4
U45	35578085-1001	IC, Microprocessor, 8-Bit
U49	35474123-1001	IC, Monostable MV, Dual
U52,U53,U55	35672569-1001	IC, Binary Counter, Up/Down
U54	35205550-1001	IC, Timer, Linear
U56,U58,U59,R60,U61 U63,U64	35674273-1001	IC, FF, D-Type, Octal
U57,U62	35578156-1001	IC, Timer +I/O, Ram
U65	35474060-1001	IC, BFR/DRVR, Inverter, Hex
U66	37210004-1001	LCD, Alpha/Numeric, DSPL.
Y1	37810692-1001	Crystal, 6.144 mHz

----- PARTS NOT SHOWN IN FIGURE 6-2 -----

<u>Part Number</u>	<u>Description</u>	<u>Quantity</u>
64000590-2001	Control Panel Assy	1
36200069-2001	Latch, Grommet .25 Dia.	1
36200071-2001	Latch, Grommet .187 Dia.	2
36200070-2001	Latch, Plunger .25 Dia.	1
36200072-2001	Latch, Plunger .187 Dia.	2
34000651-2004	Nut, Hex, M3x0.5x2.4 THK, SST	1
33713715-2010	Screw, SLTP #4B SST 5/16L	2
34000353-2033	Screw, Panhead, Slted., M3x0.5x8, SST	1
31400011-1001	Socket, IC, Dip Line, 25 Pin	2
31410762-1022	Socket, IC, 22 Pin	1
31410762-1024	Socket, IC, 24 Pin, Solder Dip .600	5
31410762-1028	Socket, IC, 28 Pin, Solder Dip .600	1
31410762-1040	Socket, IC, 40 Pin, Solder Dip .600	2
36600021-2003	Standoff, Male, Female .187 Hex	2
34000451-2004	Washer, Lock Int., Tooth, M3	1
34000453-2004	Washer, Fl., M3x7x0.5 THK, SST	1
34900006-2001	Washer, Fl., 4x0.28 Teflon	3

LIST OF MATERIALS
PROM KIT PCBA FORMAT CONTROLLER
64000588-6001 REV. C

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
U15	35522732-1D13	IC, PROM CHAR GEN 3531D13.000
U17	35552100-1A03	FPLA353A.000
U21	35522716-1B81	IC, PROM CHAR GEN 353 STD 7x9
U43	35522732-1L14	IC, PROM F0353L.000
U47	35522732-1L15	IC, PROM F0353L.000
U51	35578755-1L58	IC, PROM, F0353.000

NOTE: Current Rev. level of software when manual was printed; contact factory representative for latest Rev. level of software.

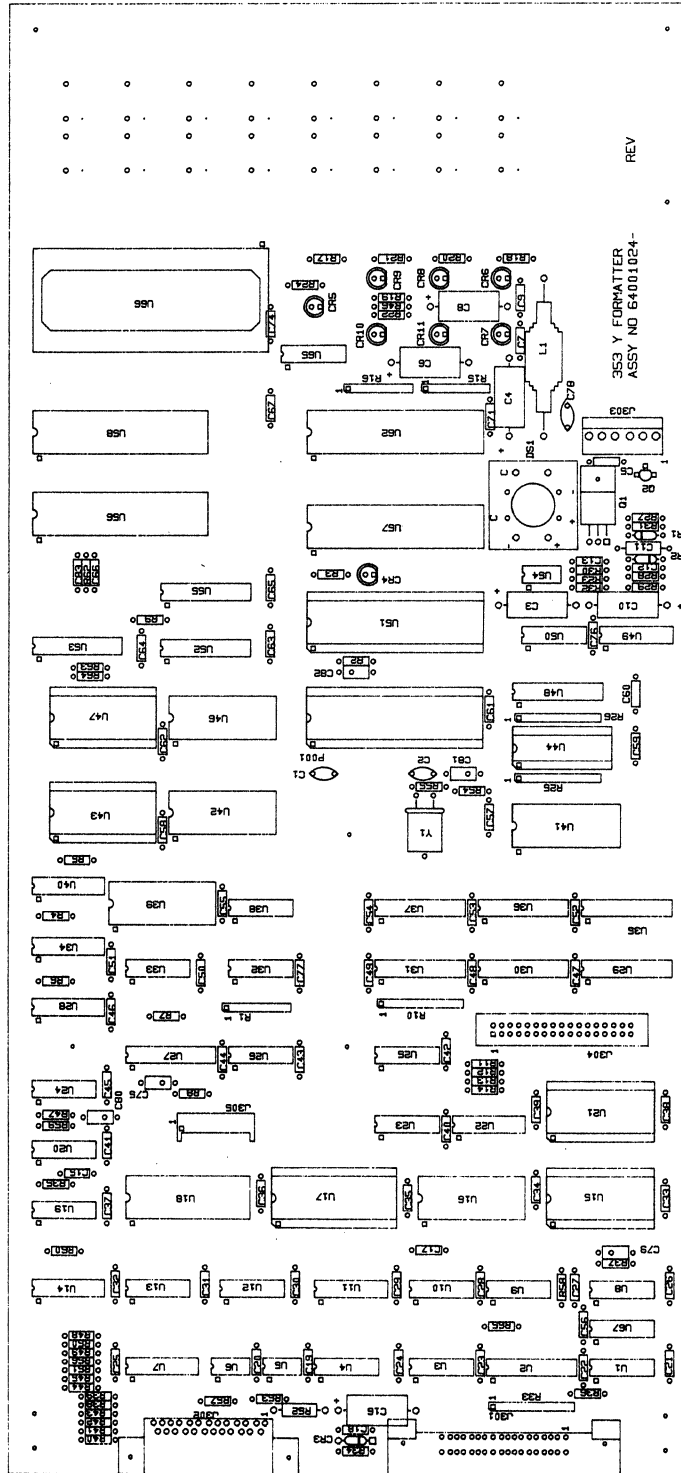


Figure 6-3. FORMAT CONTROLLER 64001024 REV. A

PC BOARD ASSEMBLY
 FORMAT CONTROLLER WITH MEM BOARD
 64001024-4001 REV

<u>Item</u>	<u>Part Number</u>	<u>Description</u>
1	64001024-4000	PCB Assy. Format Controller

LIST OF MATERIALS
 PC BOARD ASSEMBLY
 64001024-4000 REV. A2

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
C3	22105002-1001	Cap, Elect, 1uF, 25V
C4,C6,C8,C16	22206002-1001	Cap, Elect, 20uF, 25V
C5,C7,C9,C12,C13,C19 thru C67,C71,C74,C76, C77,C82	21104005-1001	Cap, TBAX .1uF, 50V
C10	22205000-1001	Cap, Elect, 2uF, 25V
C11	21475000-1001	Cap, Cer. TBAX .47uF 50V, 20%
C15,C18	21102002-1001	Cap, TBAX, 1000pF, 100V
C17	20102000-1001	Cap, Tube RDL, 1000pF, 600V, 5%
C75,C80,C83	21471003-1001	Cap, Cer. Disc, 470pF, 1KV, 20%
C78	21101001-1001	Cap, Cer. Disc, 100pF, 1KV, 20%
C79	21103003-1001	Cap, Cer. Disc, .01uF, 1KV, 20%
CR1	38100904-1001	Semicond Diode TBAX IN4148
CR2	38055256-1001	Semicond Diode IN5256
CR3	38040020-1001	Semicond TBAX, IN4002
CR4,CR6,CR7,CR8,CR9, CR10,CR11	38005752-1001	Semicond LED w/Leads 5752
CR5	38100234-1001	Semicond LED w/Leads TIL234-1
DS1	32000001-1001	Buzzer Mintr Eleck 6V
J301	31230025-1002	Conn 36 Posn RT Angle
J302	31230198-1007	Conn Rcpt 25 Posn

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
J303	31301029-1006	Header Locking 6 Posn
J304	31240052-1003	Header Encl 34 Posn Solder P
J305	31343027-1009	Conn PC 9 Posn, Top Entry
L1	30410014-1009	Inductor TBAX 250 MH
Q1	38200300-1900	Semi Xstr PNP w/Mica Tip 30
Q2	38239040-1001	Semicond Xstr GP 2N3904
R1	40681266-1029	Res Ntwk, 8P 4.7K Ohms, 1.1W, 2%
R2,R27,R47,R48,R53,R57	41103925-1001	Res Carbon 10K Ohms, .25W, 5%
R3	41222925-1001	Res Carbon 2.2K Ohms, .25W, 5%
R4,R5,R6,R7	41203925-1001	Res Carbon 20K Ohms, .25W, 5%
R8,R18,R19,R20,R21, R22,R24,R46,R60	41331925-1001	Res Carbon 330 Ohms, .25W, 5%
R9,R30	41102925-1001	Res Carbon 1K Ohms, .25W, 5%
R10	40681218-1017	Res Ntwk, 10P 4.7K Ohms, 2% LP
R12,R14,R51,R55,R63	41000926-1001	Res Carbon 0 Ohms, .25W, 10%
R15,R16	40681266-1033	Res Ntwk, 8P 10K Ohms, 1.1W, 2%
R17	41121926-1001	Res Carbon 120 Ohms, .25W, 5%
R23	41394925-1001	Res Carbon 390K Ohms, .25W, 5%
R25,R26	40681218-1022	Res Ntwk, 10K Ohms, 10 Pin, 2% LP
R28	41152925-1001	Res Carbon 1.5K Ohms, .25W, 5%
R29	41101925-1001	Res Carbon 100 Ohms, .25W, 5%
R31	41104925-1001	Res Carbon 100K Ohms, .25W, 5%
R32	41473925-1001	Res Carbon 47K Ohms, .25W, 5%
R33	40681218-1009	Res Ntwk, 1K Ohms, 10 Pin 2% LP
R34	41243925-1001	Res Carbon 24K Ohms, .25W, 5%
R35,R36	41471925-1001	Res Carbon 470 Ohms, .25W, 5%
R37, R58	41472925-1001	Res Carbon 4.7K Ohms, .25W, 5%
R38,R40,R42,R44,R49, R65	41202925-1001	Res Carbon 2K Ohms, .25W, 5%

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
R39,R41,R43,R45,R50	41302925-1001	Res Carbon 3K Ohms, .25W, 5%
R62	41105925-1001	Res Carbon 1 Meg, .25W, 5%
U1	35474320-1001	IC, OR, 2-Input, Quad R
U2	35574374-1001	IC, D-Type, Octal
U3	35474080-1001	IC, AND, 2-Input, Quad R
U4	35474100-1001	IC, NAND, Triple, 3-Input
U5,U6	35596360-1001	IC, DRVR Line, Dual Pgrm
U7,U14	35212632-1001	IC, RCVR Line, Diff, Quad
U8,U26,U32,U33,U67	35577474-1001	IC, FF, D-Type, Dual
U9,U25,U50	35577408-1001	IC, AND, 2-Input, Quad
U10	35674122-1001	IC, Monostable MV, DL
U11	35574175-1001	IC, FF, D-Type, Quad R
U12,U19	35674125-1001	IC, Excl-NOR, Quad R
U13	35577404-1001	IC, Inverter, Hex
U16,U41,U42,U46,U47	35514802-1001	IC, SRAM, 2Kx8
U18	35578251-1001	IC, INTFC, Comm
U20	35674014-1001	IC, Inverter, Hex, St
U22	35674139-1001	IC,DLDR, 2-4, Dual
U23	35577400-1001	IC, NAND, 2-Input, Quad
U24	35577486-1001	IC, Excl-OR, 2-Input, Quad
U27,U30,U31,U36,U37	35674244-1001	IC, BFR/DRVR, Octal
U28,U34,U40	35674138-1001	IC, Decoder, 3-8
U29,U35,U48	35674245-1001	IC, Xcvr, Bus, Octal
U38	35577432-1001	IC, OR, 2-Input, Quad R
U39	35578212-1001	IC, Input/Output, 8-Bit

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
U44	35523400-1001	IC, EAROM, 1Kx4
U49	35474123-1001	IC, Monostable MV, Dual
U52,U53,U55	35672569-1001	IC, Counter, Binary, Up/Down
U54	35205550-1001	IC, Timer, Linear
U56,U58	35535453-1001	IC, Drivers, LCD
U57,U62	35578156-1001	IC, Timer, Ram + I/O
U65	35474060-1001	IC, BFR/DRVR, Inv, Hex
U66	37210006-1001	DSPL, Alpha/Num (LCD)
Y1	37810692-1001	Crystal 6.144 MHZ

----- PART REFERENCE BY ITEM TO FIGURE 6-3 -----

<u>Item</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty.</u>
1	64001024-2001	PCB, Format Controller, 353Y	1
2	64000590-2001	Assembly, Control Panel	1
118	31400011-1027	Socket, IC, Dip Line Strip, 27 Pin (XU6)	2
119	31410762-1022	Socket, 22 Pin, Solder Sip .600 (XU41)	1
120	31410762-1024	Socket, 24 Pin, Solder Dip (XU15,XU21,XU43, U47)	4
121	31410762-1028	Socket, 28 Pin, Solder Dip .600 (XU17)	1
122	31410762-1040	Socket, 40 Pin, Solder Dip .600 (XU51,XU56, XU58)	3
124	36200071-2001	Latch, Grommet .187 Dia.	2
125	36200072-2001	Latch, Plunger .187 Dia.	1
126	36200069-2001	Latch, Grommet .25 Dia.	1
127	36200070-2001	Latch, Plunger, .25 Dia.	1
128	34000353-2003	Screw, Panhead, Slotted, M3x0.5x8 SST	1
129	34000453-2004	Washer, Flat, M3x7 0.5 Thk SSt	1
130	34000451-2004	Washer, Lock, Intl Tooth, M3	1
131	34000651-2004	Nut, Hex, M3x0.5x2.4 Thk SST	1
132	34900006-2001	Washer, Flat, 4x0.28 Teflon	3
133	314105012-1012	Socket, 40 Pin Dip Mach Cont	1
136	33713715-2010	Screw, SLTP B #4 SST 5/16 L	2
137	36600021-2003	Standoff, Male/Female .187 Hex	2

PC BOARD ASSEMBLY
 FORMAT CONTROLLER w/MEMORY BOARDS & PROMS
 64001024-4500 REV. A3

<u>Item</u>	<u>Part Number</u>	<u>Description</u>
1	64001024-4400	PCB Format Controller w/Memory Board
2	64001024-6500	PROM Kit, Format Controller

PC BOARD ASSEMBLY
 FORMAT CONTROLLER w/MEMORY BOARD
 64001024-4400 REV. A2

<u>Item</u>	<u>Part Number</u>	<u>Description</u>
1	64001024-4000	PCB Assy. Format Controller
2	64001020-4000	PCB Assy. Format Controller Memory Board

LIST OF MATERIALS
 PROM KIT, FORMAT CONTROLLER 353Y
 64001024-6500 REV. A2

<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>
*U4	35512764-1C07	PROM, IC2764, F353YC.000
U15	35522732-1D13	PROM, IC CHAR GEN 353ID13.000
U17	35552100-1A03	PROM, FPLA 353A.000
U21	35522716-1B81	PROM, CHAR GEN 353 STD 7x9
U43	35522732-1C36	PROM, F353YC.000
U51	35578755-1C62	PROM, F353YC.000

- NOTES: 1. Located on 64001020-4000 Board.
 2. Current Rev. level of software when manual was printed; contact factory representative for latest Rev. level of software.

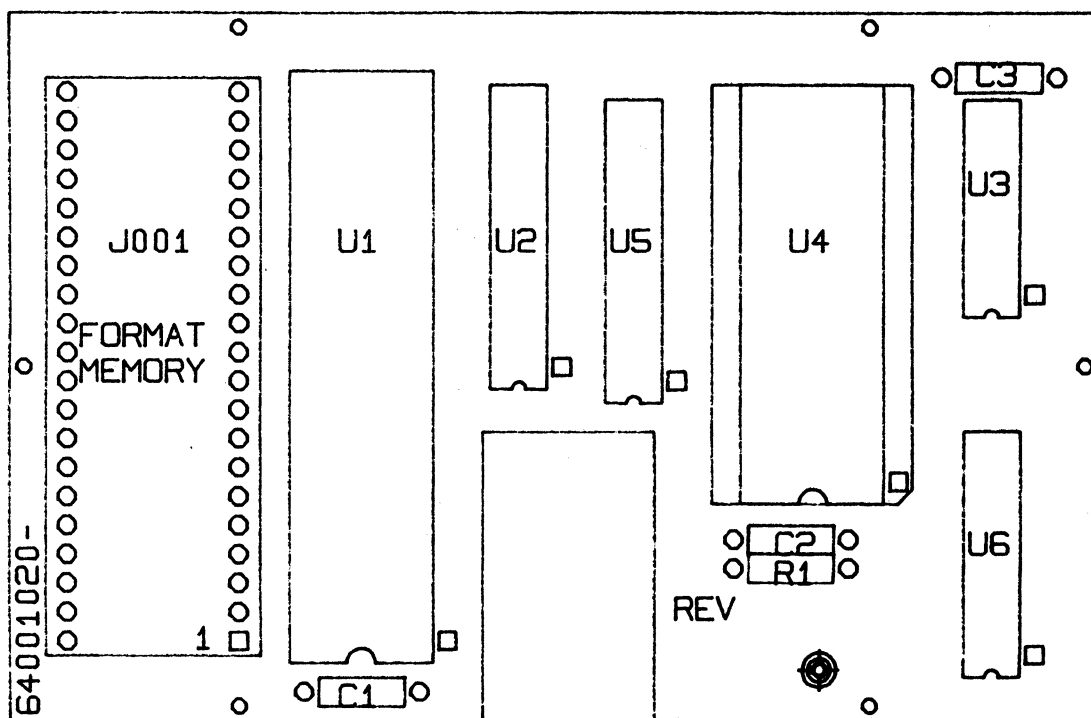


Figure 6-4. FORMAT CONTROLLER MEMORY BOARD 64001020 REV. A

PC BOARD ASSEMBLY
 FORMAT CONTROLLER MEMORY BOARD
 64001020-4000 REV. A2
 (Refer to Figure 6-4)

<u>Item</u>	<u>Reference Designator</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty.</u>
	C1,C2,C3	21104005-1001	Capacitor, TBAX, .1uF, 50V, 20/80%	3
	C4	21471003-1001	Capacitor, Cer. Disc, 470pF, 1KV, 20%	1
	R1	41472925-1001	Resistor, Carbon, 4.7K Ohms, .25W, 5%	
	U1	35578085-1002	IC, Microprocessor, 8-Bit 8085A-2	1
	U2	35674245-1001	IC, Transceiver, Bus Octal 74LS245	1
	U3	35577411-1001	IC, Pos AND Triple 3 Input 74LS11	1
	U5	35674373-1001	IC, FF, D-Type, Octal 74LS373	1
	U6	35674368-1001	IC, Inv., Tristate Buffer, 74LS368	1
3	J001	31312973-2006	Connector, Adaptor Plug, 40 Pin	1
10		31410246-2002	IC, Socket, 28 Pin, Solder Dip .600	1
13		36624306-2040	Spacer, .25D, 4-40 THD .38L Nyl	1
14		34517087-2001	Screw, Panhead, Rec. 4-40x.25L	1
15		34818005-2001	Washer, Lock, Split, #4, SST	1
16		34912087-2001	Washer, Flat, 4x.25, .032 Thk	1

SECTION 7
NUMERICAL INDEX

<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>FIGURE NO.</u>	<u>INDEX NO.</u>
007401615	Screw	2-5	A4
008300814	Screw	2-6	A8
014400522	Screw, Set	2-3	A2
017501215	Screw	2-7	A2
021300105	Nut	2-6	A6
021500105	Nut	2-6	A1
025040235	Washer, Flat	2-6	A3
025050135	Washer	2-4	A2
025060135	Washer	2-4 2-9	A1 A2
025080135	Washer	2-15	A1
028050243	Washer, Spring	2-6 2-7	A2 A3
037260812	Screw	2-5 2-9	A5 8
047201642	Spring Pin	2-9	8
048030345	Ring, Snap	2-6	A5
048050345	Ring, Snap	2-3 2-9	A1 A1
048060345	Ring, Snap	2-9	A3
072069680	Bearing, 696ZZ	2-4	1
120370001	Clip	2-15	4
215080001	Screw	2-5	A3
215081001	Screw	2-2 2-3 2-5 2-7 2-8 2-10	A1 A3 A1 A7 A1 A3
32810013-2001	Fan Blade	2-13	17
33000022-2001	Clip	2-15	8

<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>FIGURE NO.</u>	<u>INDEX NO.</u>
33725718-2011	Screw Self Tapping	2-14	B2
34000119-2001	Thumb nut - Slotted	2-1	A2
34000451-2056	Washer, Ext. Tooth	2-14	A5
34000452-2007	Flat Washer	2-14	B1
34000455-2004	Lockwasher	2-14	C3
34000652-2004	Hex Nut	2-14	C4
34000662-2004	Washer, Lock	2-13	A7
34000663-2004	Washer, Flat	2-13	A8
34000664-2021	Screw	2-13	A6
34000773-2048	Screw Assembly	2-13	A2
34000773-2043	Screw Assembly	2-14	C1
34000775-2003	Screw Assembly, Optic Sensor Mounting	2-5	A7
34000775-2043	Screw Assembly	2-13 2-14	A1 A3
34000775-2044	Screw Assembly	2-7	A8
34000775-2045	Screw Assembly	2-14 2-13	A1 A11
34000775-2046	Screw Assembly	2-7 2-12	A9 A1
34000775-2085	Screw Assembly	2-13 2-14	A3 A4
34240164-2001	Screw, Nylon	2-13	A5
34900007-2001	Lockwasher, Int-Ext Tooth	2-12	A2
34913125-2001	Flat Washer	2-14 2-14	A2 C2
34934207-2001	Washer Flat #8x.625x.063 THK	2-13	A4
35000004-2007	Washer, Shoulder, Nylon	2-13	A10
35200350-1002	Power Supply, 350 Ser.	2-13	3
36150029-2009	Cable Clamp .27 Dia.	2-13	10
36200018-2016	BMPR, ADH, MTG.	2-14	7
36200040-2002	Clamp	2-1	10
36200040-2003	Clamp	2-1	11
36350005-2001	O-Ring .924 ID	2-7 2-11	10 5
36614506-2040	Spacer, Washer	2-13	A9
39030033-1027	Fuse Gl. 4A 115V	2-14	B1A
39030036-1007	Fuse Gl. 2A 230V	2-14	B1B
39098122-1001	Switch, ON/OFF	2-14	5
39099012-1001	Sensor, Optic (w/Cable and connector)	2-5	14
39620021-1003	Power Cord 115V	2-14	10A

<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>FIGURE NO.</u>	<u>INDEX NO.</u>
39620021-1001	Power Cord 220V	2-14	10B
39695333-2001	Strap Cable adj. LKg .625 BDL	2-13	14
403370001	Washer, Flat	2-6	A7
503090001	Washer	2-9	A5
512462001	Spring	2-6	9
516442001	Collar	2-10	9
525743001	Screw, Set	2-4	A4
527023001	Screw	2-10	A2
530728001	Collar	2-5	5
531335001	Belt, Timing 132-6.4	2-3	2
531494000	Edging	2-15	9
531572001	Stud Screw	2-10	10
533562001	Ring, Snap	2-9	A6
53591001	Screw	2-2	A2
533655001	Screw	2-7	A11
		2-15	A3
533816001	Clip	2-15	5
533834001	Washer	2-5	A8
535210001	Stopper, Carriage	2-7	2
535610001	Screw	2-9	A4
535772001	Screw	2-5	A6
537235001	Screw	2-10	A1
541157001	Screw, Stud	2-6	A4
541950001	Spring	2-10	2
542632001	Spring	2-6	10
553968000	Edging	2-15	10
63180247-4001	Format Controller - 352	2-12	4
63180254-4001	Head Adapter Board	2-11	3
63180285-4001	Head Flex Cable Assembly	2-11	4
63180300-4001	Format Control Cable Assembly	2-12	2
63180308-4001	Format Controller - 353	2-12	4
63180313-5001	Mounting Bracket Assy., Formatter	2-14	9
63180315-5001	Print Head Assembly	2-11	2
63180330-5001	Rack, Paper, Outlet	2-1	7
63180331-2001	Rack, Paper, Inlet	2-1	8

<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>FIGURE NO.</u>	<u>INDEX NO.</u>
63180348-5000	Bezel Assembly - 353	2-1	9
64000115-2001	Strain Relief	2-7	9
64000128-5001	Bezel Assembly - 351	2-1	9
64000128-5002	Bezel Assembly - 352	2-1	9
64000160-4001	Print Controller - 352	2-12	3
64000193-4001	Format Controller - 351	2-12	4
64000250-6001	Ribbon Cassette	2-11	1
64000311-4001	Connector Assy. 220V	2-13	4A
64000312-4001	Connector Assy. 110V	2-13	4B
64000366-5001	Bracket, Fan	2-13	11
64000368-5001	Base, Subassembly	2-13	9
64000375-5001	Cover, Power Supply, Shield Subassembly	2-13	1
64000376-2001	Linear, Power Supply	2-13	2
64000395-4001	Cable Assy. Power Supply/Controller	2-13	15
64000399-5015/5016	Power Supply, 350 Series	2-12	1A/1B
64000509-5001	Barrier Assembly	2-14	8
64000511-2011	Control Panel Support	2-14	2
64000514-4001	Motor Assembly, 350 Power Supply	2-13	12
64000520-6001	Ribbon Cassette	2-11	1
64000523-3001	Label, Dangerous Voltage	2-13	7
64000524-3001	Label, 60 Hz	2-13	6A
64000524-3002	Label, 50 Hz	2-13	6B
64000528-4001	Cable Assy. Power Supply/Formatter	2-13	16
64000564-4001	Print Controller 350/352/353	2-12	3
64000579-2001	Gasket, RFI Power Supply	2-14	4
64000580-2001	Gasket, RFI Mech.	2-14	6

<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>FIGURE NO.</u>	<u>INDEX NO.</u>
64000585-4001	Format Controller - 353	2-12	4
64000588-4000	Format Controller - 353	2-12	4
64000594-2001	Cover Dip Switch	2-15	12
64000801-4001	Line Filter Assembly	2-13	8
64000818-4001	Print Controller 350/352/353	2-12	3
64000819-2001	Demand Document Window	2-1	5C
64000837-2001	Bottom Cover Assembly	2-14	1
64000850-5001	Harness/Bracket Assembly, ESD AC Power	2-14	B2
64000852-3001	Label, Power Supply	2-13	5
64000955-2001	Plate, Parallel	2-14	C3
64000956-2001	Plate, Serial	2-14	C2
64000957-2001	Support Bracket	2-14	C1
64000999-2001	Stay Bracket	2-10	03
64001148-2001	Upper Mount Sheet Feeder	2-10	01
64001175-5001	Dust Shield/Dip Switch Assy.	2-15	12
64001188-4001	PCB Assy, PWR/SPLY/Brownout	2-13	3A
64001190-5001	Line Locator Fan	2-4	6
64001197-2001	Shield, Fan Motor Assembly	2-13	13
64002072-2001	Optical Sensor Assembly, Right	2-10	04
64002072-2002	Optical Sensor Assembly, Left	2-10	02
64003136-2001	Spring, ESD	2-10	05
64003186-2001	Shield, Mech Inlet	2-5	16
64003228-3001	Label, Head Cable Caution	2-15	13
U20008001	Cover, Body	2-1	1
U20011001	Cover, Top	2-1	3
U20013001	Cover, Clear w/o Magnet	2-1	5
U20014001	Cover, Rear	2-1	6
U20016001	Screw, Shoulder	2-15	A2
U20017001	Spacer, Rubber	2-15	1
U20018001	Screw	2-1	A1
U20025001	Paper Feed Roller A Unit	2-4	11
U20029001	Bushing, Holder	2-4	2
U20030001	Pulley Unit, Paper Feed	2-3	3
U20033000	Bushing	2-4	9
		2-9	1
U20034001	Collar	2-4	10
U20038000	Guide, Roller, PF	2-10	5
U20041001	Cutter, Arm, Paper R. Unit	2-4	7
U20046001	Cutter, Arm, Paper L. Unit	2-4	4

<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>FIGURE NO.</u>	<u>INDEX NO.</u>
U20054000	Guide Link, R.	2-6	7
U20055001	Screw, Shoulder	2-4	3
U20056000	Guide Link, L.	2-6	4
U20060001	Drive Cam, L.	2-6	3
U20061001	Cam, Pin, L.	2-6	1
U20062000	Cam, Drive, R.	2-6	6
U20063001	Cam, Pin, R.	2-6	8
U20064001	Link, Shaft Unit	2-10	4
U20067001	Holder, Link Shaft, L.	2-10	3
U20068001	Holder, Link Shaft, R.	2-10	7
U20070001	Motor, Paper Feed	2-3	8
U20072001	Cover, Paper Feed Motor	2-3	9
U20073001	Pin Tractor, L. Unit	2-9	6
U20074001	Pin Tractor, R. Unit	2-9	4
U20075001	Shaft, Tractor Drive	2-9	3
U20076000	Gear Tractor	2-3 2-9	1 9
U20077001	Shaft, Tractor Guide	2-9	2
U20078001	Spacer	2-9	7
U20099001	Screw Assembly	2-3 2-5	A4 A3
U20100001	Chassis, Complete Unit	2-15	11
U20117001	Carriage Assembly, Complete Unit	2-7	6
U20129000	Guide, Upper Paper	2-10	6
U20130001	Lock Plate, Carriage	2-10	1
U20131001	Cam, Push Link	2-6	2
U20132001	Guide Bar, Rear	2-7	3
U20133001	Ring, Snap	2-7	A5
U20134001	Ring, Snap	2-7	A6

<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>FIGURE NO.</u>	<u>INDEX NO.</u>
U20135001	Guide Bar, Front	2-7	4
U20136001	Ring, Snap	2-7	A4
U20137001	Ring, Snap	2-7	A1
U20138001	Holder, Motor	2-5	1
U20139001	Belt, Timing 144-12.7	2-5	3
U20143001	Belt, Timing 515-9.5	2-5	4
U20144001	Pulley, Idle, A Unit	2-5	6
U20156000	Collar	2-5	11
U20157000	Wheel, Encoder	2-5	10
U20158001	Cover, Encoder	2-5	12
U20163001	Sleeve, Carriage	2-7	5
U20164001	Permawick Lid	2-7	12
U20166001	Motor, Ribbon Drive Assy.	2-8	1
U20176001	Spring	2-4	8
U20181000	Rod, Mechanism Support	2-1	2
U20182001	Bushing, Rubber	2-15	6
U20184001	Platen, Unit	2-10	8
U20187001	Carriage Motor Pulley Unit Assembly	2-5	9
U20188001	Tension Roller Holder Unit	2-3	7
U20191001	Screw, Stud	2-4	A3
U20193000	Clip	2-5	16
U20195001	Pulley, Paper Feed Motor	2-3	5
U20196001	Gear, Paper Feed Motor	2-3	4
U20197001	Flange, Paper Feed Motor Pulley	2-3	6

<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>FIGURE NO.</u>	<u>INDEX NO.</u>
U20206001	Cutter, Paper Spot Assy.	2-4	5
U20217001	Plate Unit, Paper Set	2-6	5
U20235001	Head Knob, Stopper Unit	2-7	A10
U20241001	Magnet, Interlock Unit	2-1	4
U20242001	Switch Unit, Interlock (w/cable)	2-2	1
U20246000	Sheet, Insulating	2-2	2
U20247001	Holder, Switch	2-2	3
U20255001	Copula, Holder A	2-5	13
U20256001	Copula, Holder B	2-5	15
U20264001	Plate, Head Adjusting	2-7	8
U20266001	Cam, Head Adjusting	2-7	1
U20267001	Knob, Body Cover	2-14	3
U20274001	Holder, Idle Pulley	2-5	8
U20275001	Shaft, Idle Pulley	2-5	7
U20276001	Clip	2-15	7
U20277000	Felt	2-7	11
U20278001	Clip	2-15	3
U20289001	Lever, Head Adjusting	2-7	7
U20298001	Spacer	2-5	18
U21011001	Screw	2-5	A2
U21014001	PE Switch Unit (w/Harness)	2-9	5
U21023001	Cover, Clear w/Magnet	2-1	5
U21151001	Drive Pulley Unit Assembly	2-5	2
U21155001	C Drive Pulley Shaft	2-5	17

SECTION 8

CHRONOLOGY OF PCB REVISIONS

8.1 INTRODUCTION

Each PCB described in Sections 3 through 6 went through a number of revisions before reaching its latest, most enhanced stage of development. Every time a board was revised a new rev. level number was assigned to identify the change. That number was then stamped on all boards manufactured during that stage of revision. Thus, the rev. level marking found on a PCB changed as improved versions of the board were put into production. Accordingly, any one of a number of rev. level markings may be found on a particular PCB in use today.

Section Eight tracks the boards that appear in Sections Three through Six. Each PC board is introduced by a table that summarizes the revision levels of that PC board.

Table 8-1. PC Board 64000160- Revision Level Summary

ECO	-2001	-4001			-8001	-9001
	Artwork	PC Board			Assy Diagram	Schematic
001253	A	A		-	A	A
001282	B	A1	B	-	B	B
001307	C	A2	B1	0	C	C
001307A	-	-	-	C	-	-
001307B	-	A3	B2	-	-	-
001369	-	A4	B3	C1	C1	-
001382	-	A5	B4	C2	-	C1
001403	-	A6	B5	C3	C2	C2
001449	-	A7	B6	C4	C3	C3
001458	-	A8	B7	C5	-	C4
001519	-	A9	B8	C6	-	-
001666	-	-	-	C7	C4	-
001734	-	A10	B9	C8	-	-
001771	-	A11	B10	C9	-	-
001846	-	A12	B11	C10	-	-

8.2 LOGIC BOARD ASSEMBLY P/N 64000160

8.2.1 ECO 001253 Engineering release to production.

8.2.2 ECO 001282 Improved access time to C-RAM and CHAR. GEN and added a red connector.

Replaced: R181 P/N 40000181-1003 with 47475211-1001 (Resistor, Met. Film, 47.5K Ohms, .125W, 1%).

Added: J210 P/N 31301029-1102.

Delete: Etch connecting U17-11 to U9 pins 1 & 19 and U29 pins 1 & 19.

Leave: Etch connecting U17-11 to U18 pin 19.

Added: Jumper U9 pins 1 & 19 to ground.

Added: Jumper U29 pins 1 & 19 to ground.

8.2.3 ECO 001307 RF1, Noise and Electrostatic Suppression.

Replaced: R156, R157 P/N 41103925-1001 with 41202925-1001 (Resistor, Carbon, 2K Ohms, .25W, 5%).

Added: R71 P/N 41122925-1001 (Resistor, Carbon, 1.2K Ohms, .25W, 5%).

Added: R266, R201 P/N 41511925-1001 (Resistor, Carbon, 510 Ohms, .25W, 5%).

Added: R169, R213 P/N 4152925-1001 (Resistor, Carbon, 1.5K Ohms, .25W, 5%).

Added: R119 P/N 47422021-1001 (Resistor, Met. Film, 422 Ohms, .125W, 1%).

Added: R121 P/N 47110121-1001 (Resistor, Met. Film, 1.1K Ohms, .25W, 1%).

Added: R122 P/N 47150321-1001 (Resistor, Met. Film, 150K Ohms, .25W, 1%).

Added: R118, R120 P/N 47100321-1001 (Resistor, Met. Film, 100K Ohms, .25W, 1%).

Added: R123 P/N 4724321-1001 (Resistor, Met. Film, 274K Ohms, .25W, 1%).

Added: R180 P/N 47392321-1001 (Resistor, Met. Film, 392K Ohms, .25W, 1%).

8.2.3 (cont)

- Added: R178 P/N 41471925-1001 (Resistor, Carbon, 470 Ohms, .25W, 5%).
- Added: R212 P/N 41104925-1001 (Resistor, Carbon, 100K Ohms, .25W, 5%).
- Added: R209 P/N 41221925-1001 (Resistor, Carbon, 220 Ohms, .25W, 5%).
- Replaced: C17 with 20273000-1001 (Capacitor, Poly, .027 mf, 200V, 2%).
- Added: C16 P/N 21103002-1001 (Capacitor Cer. Disc. .010uf, 16V, 20%).
- Added: C82, C83, C84, C85, C86 P/N 21104005-1001 (Capacitor, TBAX, .1uf, 50V -20 + 80%).
- Added: C15 P/N 21101001-1001 (Capacitor, Cer. Disc, 100pf, 1KV, 20%).
- Added: C79 P/N 21102002-1001 (Capacitor, TBAX, GLS/Epoxy 100pF).
- Deleted: Crystal input at P2 of U7 (microprocessor).

8.2.4 ECO 001369 Improved printing of underline and head drag.)

- Added: 18 AWG jumper P/N 39648505-0008-9 on the non-component side.

8.2.5 ECO 001382 Improvement of printer operation.)

- Replaced: U21 P/N 3552271-1001 with 35522716-1A80.
- Replaced: U27 P/N 35512764-1004 with 35512764-1A01.
- Replaced: R118, R120 P/N 47100321-1001 with 47100311-1001 (Resistor, Met. Film, 100K Ohms, .25W, 1%).
- Replaced: R119 P/N 47422021-1001 with 47422011-1001 (Resistor, Met. Film, 422 Ohms, .125W, 1%).
- Replaced: R121 P/N 47110121-1001 with 47110111-1001 (Resistor, Met. Film, 1.1K Ohms, .125W, 1%).
- Replaced: R122 P/N 47150321-1001 with 47150311-1001 (Resistor, Met. Film, 150K Ohms, .125W, 1%).
- Replaced: R123 P/N 4724321-1001 with 47274311-1001 (Resistor, Met. Film, 274K Ohms, .125W, 1%).
- Replaced: R180 P/N 47392321-1001 with 47392311-1001 (Resistor, Met. Film, 392K Ohms, .125W, 1%).

8.2.6 ECO 001403 Change was cancelled.

8.2.7 ECO 001449 Improved video pulse by adding a filter and updating firmware.

- Replaced: U27 P/N 35512764-1A01 with 35512764-1B01.

8.2.7 (cont)

Replaced: F4, F5, F6, F7, F8 P/N 39030020-1006 with 39030030-1009, F9, F10, F11, F12 (Fuse, Ins, .093, 5A, PC Mtg.).

Remove: C3, C43, C19 (Capacitor, Cer. Disc., .01uf, 16V, 20%).

Remove: R47, R50 (Resistor, 2.7K Ohms, .25W, 5%).

Added: Delay Filter P/N 64000802-4001.

8.2.8 ECO 001458 Update firmware to meet specification change.

Replaced: U27 P/N 35512764-1B01 with 35512764-1C01.

Replaced: RN1 P/N 40681203-1001 with 40681204-1037 (Resistor, Network, 10P, 22K Ohms, 1.5W, ± 2%).

8.2.9 ECO 001519 Improvement of cut sheet graphics.

Replaced: U27 P/N 35512764-1C01 with 35512764-1D01.

8.2.10 ECO 001666 Firmware updated to correct for drift and downstream load.

Replaced: U27 P/N 35512764-1D01 with P/N 35512764-1F01 PROM C0350F.000.

8.2.11 ECO 001734 Updated firmware to correct horizontal offset switch adjustment.

Replaced: U27 P/N 35512764-1F01 with P/N 35512764-1G01 PROM C0350G.000.

8.2.12 ECO 001771 To correct rework instructions of ECO 001734.

8.2.13 ECO 001846 Updated firmware to correct for drift problems and single step paper motion during multipass.

Replaced: U27 P/N 35512764-1G01 with P/N 35512764-1H01 PROM C0350H.000.

Table 8-2. PC Board 64000564- Revision Level Summary

ECO	-2001	-4001		-8001		-9001
	Artwork	PC Board		Assy Diagram		Schemetic
001375	A	A	-	A		A
001402	B	A1	B	-	B	B
001449	-	A3	B2	-	B1	B1
001458	-	A4	B3	-	-	B2
001519	-	A5	B4	-	-	-
001582	-	A6	B5	-	-	-
001622	-	A7	B6	-	-	-
001647	-	A8	B7	-	-	-
001666	-	A9	B8	A2	B2	B3
001698	-	A10	B9	A3	B3	B4
001734	-	A11	B10	-	-	-
001755	-	A12	B11	A4	B4	B5
001846	-	A13	B12	-	-	-
002048	-	A14	B13	A5	B5	B6

- 8.3 LOGIC BOARD ASSEMBLY P/N 64000564
- 8.3.1 ECO 001375 Engineering release to production.
- 8.3.2 ECO 001402 Corrections to Rev. A production; missing etches.
- Added: Three jumpers, Kynar P/N 39610003-0001.
A. from R64 to C33
B. from R83 to U35-11
C. from R132 to U133
- 8.3.3 ECO 001449 Added a filter to improve video input and added fuses to head driver circuitry.
- Replaced: U27 P/N 35512764-1A01 with 35512764-1B01.
Replaced: F4, F5, F6, F7, F8, F9, F10, F11, F12 P/N 39030030-1006 with 39030030-1009 (Fuse, Ins., .093, 5A, PC Mtg.).
- Added: Group Delay Filter P/N 64000802-4001.
Removed: C3, C4, C9 (Capacitor, Cer. Disc., .01uf, 16V, 20%).
Removed: R47, R50 (Resistor, Carbon, 2.7K Ohms, .25W, 5%).
Removed: R48, R49 (Resistor, Carbon, 300 Ohms, .25W, 5%).
- 8.3.4 ECO 001458 Updated firmware to new specifications.
- Replaced: U27 P/N 35512764-1B01 with 35512764-1C01.
- Replaced: RN1 P/N 40681203-1001 with 40681204-1037 (Resistor, Network, 10P, 22K Ohms, 1.5W, + 2%).
- 8.3.5 ECO 001519 Improved cut sheet graphics operations.
- Replaced: U27 P/N 35512764-1C01 with 35512764-1D01.
- 8.3.6 ECO 001582 Updated firmware to improve self test function.
- Replaced: U27 P/N 35512764-1D01 with 35512764-1E01.
- 8.3.7 ECO 001622 Restructure of documentation.
- 8.3.8 ECO 001647 Reduced failures due to electrostatic discharges.
- 8.3.9 ECO 001666 Changed firmware to check drift and improve downstream load.
- Replaced: U27 P/N 35512764-1E01 with P/N 35512764-1F01 PROM C0350F.000.
- 8.3.10 ECO 001698 Updated firmware to correct for FALSE restarts, faulty PRINT STROBE, erratic carriage SPEED and faulty OSC CKT.
- Delete: R75 P/N 41511925-1001, .510 Ohms.
Delete: U12 P/N 35474040-1001, 1C Hex 7404.
Delete: C6 P/N 21102002-1001 - TBAX Gloss/Epoxy.
Replaced: R119 P/N 47422011-1001 with P/N 46101501-1002 - Pot., .5W, 10%.

Replaced: R181 P/N 47475211-1001 with R216 P/N 46503003-1001 - Pot., .5W, 50K Ohms.

Add: C6 P/N 21102002-1001 - TBAX Glass/Epoxy.

Add: R75 P/N 41102095-1001 - 1K Ohms, .25W.

Add: R76 P/N 41392925-1001 - 3.9 Ohms, .25W.

Add: U12 P/N 35577404-1001 - 1C4LS04.

Add: R181 P/N 41472925-1001 - 4.7K Ohms .5W.

- 8.3.11 ECO 001734 Updated firmware to correct horizontal offset switch adjustment and print head vibration.

Replaced: U27 P/N 35512764-1F01 with 35512764-1G01.

- 8.3.12 ECO 001755 Improved performance in the carriage and paper motion circuits.

Deleted: R86, R95, R105, R114, R132, R135 P/N 41512925-1001 (resistor 5.1K Ohms).

Replaced: R87, R94, R106, R112, R133, R136 P/N 41101925-1001 with P/N 41302925-1001 (resistor, 3K Ohms, .25W, 5%).

Replaced: R88, R96, R107, R113, R134, R137 P/N 41512925-1001 with P/N 41104925-1010 (resistor, carbon, 100K Ohms, .25W, 5%).

- 8.3.13 ECO 001846 Updated firmware to prevent the carriage from hitting the right side during a high speed prime, and carriage drift caused by the offset switches.

Replaced: U27, PROM, P/N 35512764-1G01.

Added: U27, PROM, P/N 35512764-1H01 CO350H.000.

- 8.3.14 ECO 002048 Improved the stepper motor and carriage motor drive circuits to prevent power transistor malfunction. A pull-up resistor was added to U6 to normalize the LCD display.

Replaced: R87, R94, R106, R112, R113 and R136 with P/N 41472925-1001 Resistor, 4.7K Ohms, .25W, 5%.

Replaced: R88, R90, R93, R96, R107, R108, R111, R113, R134, R137, R138 and R141 with P/N 41512925-1001 Resistor, 5.1K Ohms, .25W, 5%.

Replaced: R91, R92, R109, R110, R139 and R140 with P/N 41511925-1001 Resistor, 15K Ohms, .25W, 5%.

Replaced: C28 with P/N 21471003-1001 Capacitor, Ceramic, 470 pF, 1KV, 20%.

Added: R86, R95, R105, R114, R132 and R135 P/N 41511925-1001 Resistor 5.1K Ohms, .25W, 5%.

Added: R223 P/N 41153925-1001 Resistor, 15K Ohms, .25W, 5%.

Added: R217, R218, R219, R220, R221, R222 P/N 41103925-1001 Resistor, 10K Ohms, .25W, 5%.

Table 8-3. PC Board 64000818- Revision Level Summary

ECO	-2001	-4001	-8001	-9001
	Artwork	PC Board	Assy Diagram	Schematic
001625	A	A	A	A
001666	-	A1	A1	A1
001757	-	A2	-	-
001760	-	A3	A2	A2
001755	-	A4	A3	A3
001844	-	A5	A4	A4
001764	-	A6	A5	-
001880A	-	A7	A6	-
001880B	-	A8	A7	A5
001999	-	A10	A8	A6
002004	-	A11	-	-

- 8.4 LOGIC BOARD ASSEMBLY (P/N 64000818) REVISIONS
- 8.4.1 ECO 001625 Engineering release to production.
- 8.4.2 ECO 001666 Updated firmware to check drift and improve downstream load.
- Replaced: U27 P/N 35512764-1A02 with P/N 35512764-1B02 - PROM C1350B.000.
- Replaced: C91 P/N 24103000-1001 with 24103000-1002 (Rect. RDL .014F 100V 2%).
- 8.4.3 ECO 001757 Restructure of documentation.
- Added: PROM Kit 64000818-6001.
- 8.4.4 ECO 001760 Reworked board to correct start up; head drive circuit malfunction and to adjust head carriage speed.
- Replaced: C6 P/N 211020021-1001 with P/N 21104005-1001 TBAX .1uf, 50V -20 +80%.
- Replaced: C96 P/N 21102002-1001 with P/N 21202001-1001 Cer. Disc., 2K pF, 1KV, 20%.
- Replaced: R75 P/N 41511925-1001 with P/N 41471925-1001, Carbon 470 Ohms, .25W, 5%.
- Replaced: R76 P/N 41271925-1001 with P/N 41471925-1001, 470 Ohms, .25W, 5%.
- Replaced: R119 P/N 47100311-1001 with P/N 46101501-1002 Potentiometer, 1K Ohms.
- Replaced: R219 P/N 41512925-1001 with P/N 41510925-1001 Carbon, 51 Ohms, .25W, 5%.
- Add: C103 P/N 21470000-1001 Cer. Disc., 47pF, 1KV, 10%.
- Add: CR44 P/N 38040020-1001 TBAX, IN4002.
- Add: R229 P/N 41680925-1001 Carbon, 68 Ohms, .25W, 5%.
- 8.4.5 ECO 001755 Improved performance in the carriage and paper motion circuits.
- Deleted: R86, R95, R105, R114, R132, R135 P/N 41512925-1001 (resistor 5.1K Ohms).
- Replaced: R87, R94, R112, R133, R136 P/N 41101925-1001 with P/N 41302925-1001 (resistor, carbon, 3K Ohms, .25W, 5%).
- Replaced: R88, R96, R113, R134 P/N 41512925-1001 with P/N 41104925-1010 (resistor, carbon, 100K Ohms, 25W, 5%).

- 8.4.6 ECO 001844 Updated firmware to improve high speed carriage return and improve proper feed stepper motor control during multipass. An additional feature included the reading of paper feed sensors.
- Hardware changes were incorporated to prevent pin fire and head movement on power up and the carriage motor circuit was changed to provide a faster turn off preventing current spikes.
- Replaced: PROM 35512764-1C02 with 35512764-1D02, PROM kit 64000818-6001 rev changed from A to A1.
- Replaced: R91, R92, R109, R110, R139 and R140 with P/N 41511925-1001 Resistor, 510 Ohms, .25W, 5%.
- Replaced: R86, R88, R90, R93, R95, R96, R105, R107, R108, R111, R113, R114, R132, R134, R135, R137, R138 and R141 with P/N 41512925-1001 Resistor, 5.1K, .25W, 5%.
- Replaced: R87, R94, R106, R112, R133 and R136 with P/N 41472925-1001 Resistor, 4.7K Ohms, .25W, 5%.
- Replaced: C28 with Cap. 470 pF, 1KV, 20%.
- Added: CR43 P/N 38160904-1001 diode IN4148.
- 8.4.7 ECO 001764 Hardware changes only; included revising method of securing transistors to heatsinks, revised method of mounting I/O connectors and replace locking pc header with a non-locking pc header.
- 8.4.8 ECO 001880A Documentation changes.
- 8.4.9 ECO 001880B Changed hardware and firmware to achieve precise stepper motor phase alignment on power up and enhance elongated character print quality.
- Replaced: PROM 35512764-1E02 with 35512764-1F02, PROM kit 64000818-6001 rev changed from A3 to A4.
- Replaced: R220 with P/N 47143311-1001, Resistor, 143K Ohms, .25W, 1%.
- 8.4.10 ECO 001999 Improved stepper motor circuit to prevent fuse and power transistor (3011) failures.
- Added: R250, R251, R252, R253, R254 and R255 P/N 41103925-1001 Resistor, Carbon, 10K Ohms, .25W, 5%.
- 8.4.11 ECO 002004 A pull up resistor was added to U6 to prevent intermittent erroneous displays to appear on the LCD.
- Added: R256 P/N 41153925-1001 15K Ohms, .25W, 5%.

Table 8-4. PC Board 64000920- Revision Level Summary

ECO	-2001	-4001	-8001	-9001
	Artwork	PC Board	Assy Diagram	Schematic
001782	A	A	A	A
001864	-	A1	A1	A1
001764	-	A2	A2	A2
001883	-	A3, A4	A4	-
001999	-	A5	A5	A3
002004	-	A6	A6	A4

8.5 LOGIC BOARD ASSEMBLY (P/N 64000920) REVISIONS

8.5.1 ECO 001782 Engineering release to production.

8.5.2 ECO 001764 Hardware only; changes included revising method of securing transistors to heatsinks, revising method of mounting I/O connectors and replacing a locking pc header with a non-locking pc header.

8.5.3 ECO 001844 Updated firmware to improve high speed carriage return and improve paper feed stepper motor control during multipass. An additional feature included the reading of paper feed sensors.

Hardware changes now incorporated to prevent pin fire and head movement on power up and the carriage motor circuit was changed to provide a faster turn off preventing current spikes.

Replaced: PROM 35512764-1C02 with 35512764-1D02 PROM kit 64000818-6001 Rev. changed from A to A1.

Replaced: R91, R92, R109, R110, R139 and R140 with P/N 41511925-1001 resistor, 510 Ohms, .25W, 5%.

Replaced: R86, R88, R90, R93, R95, R96, R105, R107, R108, R111, R113, R114, R132, R134, R135, R137, R138 and R141 with P/N 41512925-1001 resistor, 5.1K, .25W, 5%.

Replaced: R87, R94, R106, R112, R133 and R136 with P/N 41472925-1001 resistor, 4.7K Ohms, .25W, 5%.

Replaced: C28 with Cap. 470 pF, 1KV, 20%.

Added: CR43 P/N 38160904-1001 Diode IN4148.

8.5.4 ECO 00183 Updated firmware to achieve precise stepper motor phase alignment during start up and enhance elongated character print quality.

Replaced: U27 PROM with P/N 35512764-1D03 PROM Kit P/N 640000920-6001 Rev. changed from A1 to A2.

Replaced: R220 with P/N 47143311-1001 Resistor, 143K Ohms, .25W, 1%.

8.5.5 ECO 001999 Improved stepper motor circuit to prevent fuse and power transistor (3011) failures.

Added: R250, R251, R252, R253, R254 and R255 P/N 41103925-1001 Resistor, Carbon, 10K Ohms, .25W, 5%.

8.5.6 ECO 002004 A pull-up resistor was added to U6 to prevent intermittent erroneous display to appear on the LCD.

Added: R256 P/N 41153925-1001 15K Ohms, .25W, 5%.

Table 8-5. PC Board 64000193- Revision Level Summary

ECO	-2001	-4001	-8001	-9001
	Artwork	PC Board	Assy Diagram	Schematic
001480	A	A	A	A
001523	-	A1	-	-
001526	-	A2	-	-
001535	-	A3	-	A1
001558	-	A4	A1	A2
001537	-	A5	-	-
001583	-	A6	A2	A3
001605	-	A8	-	-
001629	-	A8	-	-
001624	-	A9	A3	A4
001633	-	A10	A4	-
001644	-	A11	A5	A5
001647	-	A12	A6	-
001708	-	A14, A15, A16	A8, A9	A6
001764	-	A18		
001795	-	A19	A10	A7
001755	-	A20	A11	A8
001849	-	A21	A12	A9
001764	-	A22, A24	A13, A15	A10
001879	-	A23	A14	A11
001904	-	A25	A16	A12
001973	-	A27	A17	-
001999	-	A28	A18	-
002025	-	A29	-	A13
002049	-	A30	A19	A14

- 8.6 LOGIC BOARD ASSEMBLY (P/N 64000193)
- 8.6.1 ECO 001480 Engineering release to production.
- 8.6.2 ECO 001523 Dual line driver improvement.
Replaced: U22, U23 with P/N 35596360-1001 (9396A).
- 8.6.3 ECO 001526 Firmware update, to stabilize initialization.
Replaced: U53 P/N 35522732-1A17 with 35522732-1B17.
Replaced: U54 P/N 35522732-1A18 with 35522732-1B18.
Replaced: U55 P/N 35522732-1A16 with 35522732-1B16.
- 8.6.4 ECO 001535 Firmware update; to relocate initialization procedure.
Replaced: U53 P/N 35522732-1B17 with 35522732-1C17.
Replaced: U54 P/N 35522732-1B18 with 35522732-1C18.
Replaced: R158 P/N 4115925-1001 with 4112925-1001 (Resistor, Carbon, 1K Ohms, .25W, 5%).
- 8.6.5 ECO 001558 Firmware update and component changes to correct carriage drift and carriage motor overheating.
Replaced: U53 P/N 35522732-1C17 with P/N 35522732-1D17.
Replaced: U54 P/N 35522732-1C18 with P/N 35522732-1D18.
Replaced: U38, U39 P/N 35577474-1001 with 35474274-1001.
Replaced: U41 P/N 35577400-1001 with 35477400-1001.
Replaced: C120 P/N 21104005-1001 with 21202001-1001 (Capacitor, Cer. Disc., 2KpF, 1KV, 20%).
Replaced: R64 P/N 47324111-1001 with 47499111-1001 (Resistor, Met. Film, 4.99K Ohms, .125W, 1%).
Added: U50 P/N 35577474-1001 (Dual, D-Type, FF 74LS74).
- 8.6.6 ECO 001537 Updated resistor network to meet new specifications.
Replaced: R154, R155, R175, R177, R178, R211 P/N 40681514-1001 with 40681218-1009 (Resistor, Network, 10P, 1K Ohms, .75W, 2%).
Replaced: R90 P/N 40681120-1001 with 40681204-1008 (Resistor, Network, 10P, 120 Ohms, 1.5W, 2%).
Replaced: R201 P/N 40681103-1001 with 40681218-1022 (Resistor, Network, 10P, 10K Ohms, .75W, 2%).
- 8.6.7 ECO 001583 Updated firmware to check drift and to add multipass function.
Replaced: U53 P/N 35522732-1D17 with 35522732-1E17.
Replaced: U4 P/N 35522732-1D18 with 35522732-1E18.

Replaced: R215, R216 P/N 41752925-1001 with 41331925-1001 (Resistor, Carbon, 330 Ohms, .25W, 5%).

Replaced: R217, R218 P/N 41203925-1001 with 41272925-1001 (Resistor, Carbon, 2.7K Ohms, .25W, 5%).

Added: C135, C136 P/N 21202001-1001 (Capacitor, Cer. Disc, 2KpF, 1KV, 20%).

Added: U56 P/N 35522732-1A21.

Added: Control panel label P/N 64000862-3001.

8.6.8 ECO 1605 Updated firmware to correct faulty interlock circuit.

Replaced: U53 P/N 35522732-1E17 with P/N 35522732-1F17.

Replaced: U54 P/N 35522732-1E18 with P/N 35522732-1F18.

Replaced: U56 P/N 35522732-1A21 with P/N 35522732-1B21.

8.6.9 ECO 001629 Update firmware to correct erroneous line feeds in the graphics mode.

Replaced: U53 P/N 35522732-1F17 with P/N 35522732-1G17

Replaced: U54 P/N 35522732-1F18 with P/N 35522732-1G18

Replaced: U56 P/N 35522732-1B21 with P/N 35522732-1C21

8.6.10 ECO 001624 Removed all PROMs from basic board.

Added Group Delay Filter to logic board.

Added new Control Panel Assembly.

Deleted: R217, R218 P/N 41272925-1001 - 2.7K Ohms.

Deleted: R215, R216 P/N 41331925-1001 - 330 Ohms.

Deleted: C135, C136 P/N 21202001-1001 - 2KpF.

Deleted: Control Panel Overlay P/N 64000862-2001.

Deleted: Control Panel Keyboard 64000589-2002 with Control Panel Assembly 64000709-2001.

Added: Group Delay Filter 64000862-4002.

Removed: All PROMs from basic board (-4000).

8.6.11 ECO 001633 Changed character set PROM for better formation on letters during multipass.

Replaced: U56 P/N 35522732-1C21 with P/N 35522732-1D21.

8.6.12 ECO 1644 Improved Speed Control Circuit.

Replaced: R63 P/N 41244925-1001 240K Ohms with P/N 41304925-1001 300K Ohms, .25W, 5%.

Added: U37 P/N 35578254-1002, IC Interval Timer 8254-2.

8.6.13 ECO 001647 Replaced connector.

Replaced: J502 P/N 31230199-1003 with P/N 31230198-1003.

- 8.6.14 ECO 001708 Firmware update to correct the data link communications system and character set deficiencies.
- Replaced: U55 P/N 35572732-1B16 with P/N 35522732-1C16, Prop. 7x9 Char. Gen.
- Replaced: U54 P/N 35522732-1G18 with P/N 35533732-1H18, PROM FC351H.000.
- Replaced: U53 P/N 35522732-1G17 with P/N 35522732-1H17, PROM FC351H.000.
- Replaced: U56 P/N 35522732-1D21 with P/N 35522732-1E21, PROM FC351E.000 + 1D21.000.
- 8.6.15 ECO 001795 Improved current loop circuit.
- Soldered a jumper wire from U13-9 to right of R137 to remove U13 (inverter) from circuit.
- 8.6.16 ECO 001755 Improved performance in the carriage and paper motion circuits.
- Deleted: R86, R95, R105, R114, R132, R135 P/N 41512925-1001 (Resistor 5.1K Ohms).
- Replaced: R87, R94, R106, R112, R133, R136 P/N 41101925-1001 with P/N 41302925-1001 (resistor, carbon 3K Ohms, .25W, 5%).
- Replaced: R88, R96, R107, R113, R134, R137, P/N 41512925-1001 with P/N 41104925-1001 (resistor, carbon, 100K Ohms, .25W, 5%).
- 8.6.17 ECO 001849 Modified stepper and carriage motor circuits to prevent margin drift.
- Added: R1, R4, R12, R15, R18, R21 P/N 41102925-1001 (resistor, carbon 1K Ohms, .25W, 5%).
- Deleted: R2, R5, R11, R14, R17, R20 P/N 41302925-1001 (resistor, carbon, 3K Ohms, .25W, 5%).
- Deleted: R3, R6, R10, R13, R19 P/N 41104925-1001 (resistor, carbon, 300K .25W, 5%).
- Added: R2, R5, R11, R14, R17, R20, R3, R6, R10, R13, R16, R19 P/N 41472925-1001 (resistor, carbon 4.7K Ohms .25W, 5%).
- Replaced: R22, R23, R24, R26, R34, R38 P/N 41682925-1001 with P/N 41512925-1001 (resistor, carbon, 5.1K .25W, 5%).
- Replaced: R25, R27, R29, R30, R37 P/N 41202925-1001 with P/N 41511925-1001 (resistor, carbon, .25W, 5%).
- 8.6.18 ECO 001764 Cost improvement: Standardized hardware for all boards and changed transistors and heatsinks. Change header to improve the removal of the optics connector.
- 8.6.19 ECO 001769 Firmware update per marketing requests, mono-multipass.
- Replaced: U53 P/N 35522732-1H17 with P/N 35522732-1J17, PROM FC351J.000.
U54 P/N 35522732-1H18 with P/N 35522732-1J18, PROM FC351J.000.
- Replaced: U56 P/N 35522732-1E21 with P/N 35522732-1F21, PROM FC351F.000.

- 8.6.19 ECO 001879 Updated firmware to improve carriage positioning and flashing SELECT light caused by erroneous interlocks.
- Replaced: R144 with P/N 47143311-1001 Resistor, 143K Ohms, .25W, 1%.
- Replaced: U53 with P/N 35522732-1K18 PROM FC351K.000.
- Replaced: U54 with P/N 35522732-1K17 PROM FC351K.000.
- 8.6.20 ECO 001904 A change of resistors on the pcb improved print head performance and print quality.
- Replaced: R9 with P/N 47162111-1001 Resistor, 1.62K Ohms, .25W, 1%.
- 8.6.21 ECO 001973 Updated firmware to improve print quality and an occasional erroneous video error indication.
- Replaced: U53 with P/N 35522732-1L18 PROM FC351L.000.
- Replaced: U54 with P/N 35522732-1L17 PROM FC351L.000.
- 8.6.22 ECO 001999 Improved stepper motor circuit to prevent fuse and power transistor (3011) failures.
- Added: R225, R226, R227, R228, R229, R230 with P/N 41103925-1001 Resistor Carbon, 10K Ohms, .25W, 5%.
- 8.6.23 ECO 002025 Updated firmware to correct timing in the stepper motor circuit.
- Replaced: U53 with P/N 35522732-1M18 PROM FC351M.000.
- Replaced: U54 with P/N 35522732-1M17 PROM FC351M.000.
- 8.6.24 ECO 002049 Changed board components to prevent occurrences of erroneous ACK signals and improve legibility of printout.
- Replaced: R98 with P/N 41392925-1001 Resistor, 3.9K Ohms, .25W, 5%.
- Replaced: C88 with P/N 211102002-1001 Capacitor, TBAX, 1000 pF.

Table 8-6. PC Board 64001101- Revision Level Summary

ECO	-2001	-4001	-8001	-9001
	Artwork	PC Board	Assy Diagram	Schematic
001805	A	A	A	A
001871	A	A1		A1
001999	-	A2	A2	A2
002049	-	A3	A2	A3
002059	-	A4	A3	-
002063	-	A5	A4	A4

- 8.7 LOGIC BOARD ASSEMBLY (P/N 64001101) REVISIONS
- 8.7.1 ECO 001805 Engineering release to production.
- 8.7.2 ECO 001871 Corrected margin drift with component changes.
- Replaced: C100 with P/N 21220001-1001 Capacitor, Cer. Disc., 22pF, 1KV, 20%.
- Replaced: C76, C116 with P/N 21471003-1001 Capacitor, Cer. Disc., 470 pF, 1KV, 20%.
- Replaced: R67 with P/N 41203925-1001 Resistor, Carbon, 20K Ohms, .25W, 5%.
- 8.7.3 ECO 001999 Improved stepper motor circuit to prevent fuse and power transistor (3011) failures.
- Added: R225, R226, R227, R228, R229 and R230 with P/N 41103925-1001 Resistor, Carbon, 10K Ohms, .25W, 5%.
- 8.7.3 ECO 002049 Changed board components to prevent occurrence of erroneous ACK signals and improve legibility of printout.
- Replaced: R98 with P/N 41392925-1001 Resistor, 3.9K Ohms, .25W, 5%.
- Replaced: R144 with P/N 47143311-1001 Resistor, 143K Ohms, .25W, 1%.
- Replaced: C88 with P/N 21102002-1001 Capacitor, TBAX, 1000 pF.
- 8.7.4 ECO 002059 Made a cut out in the board to prevent logic supply from shorting. Updated list of materials to reflect proper resistor identification.
- Updated description of: R22, R23, R24, R26, R34, R38 P/N 41512925-1001 Resistor, Carbon, 5.1K Ohms, .25W, 5%.
- 8.7.5 ECO 002063 Reduced excessive speed to prevent pin drag.
- Replaced: R68.
- Added: R9, R68 P/N 47162111-1001 Resistor, Met. Film, 1.62K Ohms, .25W, 1%.

Table 8-7. PC Board 63180247- Revision Level Summary

ECO	-2001 Artwork	-4001 PC Board	-8001 Assy Diagram	-9001 Schematic
001253	A	A	A	A
001294	-	A1,A2,A3	A1	A1
001404	-	A4	-	-
001454	-	A5	A2	A2
001477	-	A6	-	-
001488	-	A7	A3	-
001523	-	A8	-	-
001537	-	A9	-	-
001576	-	A10	A4	-
001606	-	A11	-	-
001598	-	A12	-	-
001622	-	A13	-	-
001659	-	A14	-	-
001647	-	A15	A5	-
001670	-	A16	A6	-
001772	-	A17	-	A3
001963		A18	-	-

- 8.8 LOGIC BOARD ASSEMBLY (P/N 63180247)
- 8.8.1 ECO 001253 Eng. release to production.
- 8.8.2 ECO 1294 Updated firmware to improved power-on-indication and top-of-form indication.
- Replaced: U19 P/N 35522716-1A71 with 35522716-1B71.
- Replaced: U20 P/N 35522716-1A70 with 35522716-1B70.
- Replaced: U28 P/N 35578755-1A53 with 35578755-1B53.
- Replaced: CR2 P/N 38100234-1004 with 38100234-1001 (LED, Green).
- Replaced: R24 P/N 41105925-1001 with 41394925-1001 (Resistor, Carbon, 390K Ohms, .25W, 5%).
- As Required: DS1 P/N 32000002-1001 (Buzzer, Elek, 7V).
- Added: DS1 P/N 21101001-1001 (Capacitor, Cer. Disc, 100pF, 1KV 20%).
- 8.8.3 ECO 001294A Updated firmware for noise improvement.
- Replaced: U2 P/N 35577404-1001 with 3567014-1001 (I.C., Hex Inverter, 74LS14).
- Replaced: U19 P/N 35522716-1B71 with 35522716-1C71.
- Replaced: U20 P/N 35522716-1B70 with 35522716-1C70.
- Replaced: U28 P/N 35578755-1B53 with 35578755-1C53.
- Added: C56 P/N 21471003-1001 (Capacitor, Cer. Disc, 470 pF, 1KV, 20%).
- Added: C54, C55 P/N 22206002-1001 (Capacitor, Elctlt, 20uF, 25V, -10 +75%).
- Added: C57 P/N 21103003-1001 (Capacitor, Disc, .01uF, 1KV, 20%).
- 8.8.4 ECO 001294 C Updated firmware to improved noise suppression and added an alert condition.
- Replaced: U20 P/N 35522716-1C70 with 35522716-1D70.
- Replaced: U19 P/N 35522716-1C711 with 35522716-1D71.
- Replaced: U28 P/N 35578755-1C53 and 35578755-1D53.
- Replaced: U29 P/N 35674374-1001 with 35574374-1001 (IC, Octal, D-type FF 74S374).
- Replaced: C1 P/N 21330001-1001 with 21102000-1001 (Capacitor, Cer. Disc, 001 uF, 1KV, 20%).
- Added: C58, C59 P/N 21104005-1001, (Capacitor, TBAX, 1uF, 50V, -10 +80%).

- Added: C60, C61, C62 P/N 21103003-1001 (Capacitor, Cer. Disc. .01uF, 1KV, 20%).
- Added: U54 P/N 35577474-1001 (IC, Dual D-Type FF 74LS74).
- 8.8.5 ECO 001404 Updated firmware to improve graphics on short lines and modified interlock circuit.
- Replaced: U19 P/N 35522716-1D71 with 35522716-1E71.
- Replaced: U20 P/N 35522716-1D70 with 35522716-1E70.
- Replaced: U28 P/N 35578755-1D53 with 35578755-1E53.
- 8.8.6 ECO 001454 Improved static discharge and top-of-form circuits.
- Replaced: Control panel 63180242-5001 with 64000589-2001.
- Replaced: R32 P/N 41511925-1001 with 41101925-1001 (Resistor, Carbon, 100 Ohms, .25W, 5%).
- Replaced: C51 P/N 21103004-1001 with 21102000-1001 (Capacitor, Cer. Disc, 1KpF, 1KV, 20%).
- Added: C1 P/N 21330001-1001 (Capacitor, Cer. Disc, 33pF, 1KV, 20%).
- 8.8.7 ECO 001477 Improved CHAR SET and filtered unwanted noise.
- Replaced: C56 P/N 21103004-1001 with 21471003-1001 (Capacitor, Disc, 470pF, 1KV, 20%).
- 8.8.8 ECO 001488 Improved circuit susceptibility to noise.
- Added: Jumper on non-component side from U13-17 to SP1-1 to provide a better grd.
- 8.8.9 ECO 001523 Improved driver performance.
- Replaced: U9, U10 with P/N 35596360-1001 (IC, Dual, Ln, Dr. 9636A)
- 8.8.10 ECO 001537 Updated resistor networks to meet specifications.
- Replaced: R43 P/N 40681514-1001 with 40681218-1009 (Res., Network, 10P, 1K Ohms, .75W, 2%).
- Replaced: R45, R47 P/N 40681103-1001 with 40681218-1022 (Resistor, Network, 10P, 10K Ohms, .75W, 2%).
- 8.8.11 ECO 001576 Updated firmware to improve underlining and correct the screw length problem on conn. J302.
- Replaced: U19 P/N 35522716-1E71 with 35522716-1F71.
- Replaced: U20 P/N 35522716-1E70 with 35522716-1F70.
- Replaced: U28 P/N 35578755-1E53 with 35578755-1F53.
- Replaced: Scr. P/N 34000359-2086 with 34000359-2087 (Scr, Stld, M2.5 x .45 x 10).

- 8.8.12 ECO 001606 Updated resistor networks to meet new specifications.
- Replaced: R43 P/N 40681514-1001 with 40681218-1009 (Resistor, Network, 10P, 1K Ohms, .75W, 2%).
- Replaced: R45, R47 P/N 40681103-1001 with 40681218-1022 (Resistor, Network, 10P, 10K Ohms, .75W, 2%).
- 8.8.13 ECO 001598 Changed IC Sockets.
- Replaced: Socket P/N 31470763-1040 with Socket P/N 31410762-1040 - 40 Pin SLDR DIP .600.
- Replaced: Socket P/N 31470763-1028 with Socket P/N 31410762-1028 - 28 Pin SLDR DIP .600.
- Replaced: Socket P/N 31470763-1024 with Socket P/N 31410762-1024 - 24 Pin SLDR DIP .600.
- 8.8.14 ECO 001622 Restructure of documentation.
- 8.8.15 ECO 001658 Updated firmware to improve character shape.
- Replaced: U19 P/N 35522716-1E71 with P/N 35522716-1F71 - PROM F0352F.000.
- Replaced: U20 P/N 35522716-1E70 with P/N 35522716-1F70 - PROM F0352F.000.
- Replaced: U28 P/N 35578755-1E53 with P/N 35578755-1F53 - PROM F0352F.000.
- Replaced: C2 P/N 21102000-1001 with P/N 20102000-1001 - Tube RDL, 100pF, 600V, 5%.
- 8.8.16 ECO 001647 Modified power input circuitry and input connector to prevent failures caused by electrostatic discharges.
- 8.8.17 ECO 001670 Updated connector to meet new specifications.
- Replaced: J502 P/N 41230199-1003 with P/N 31230198-1003 - Rt. Angle, 25 Posn
- 8.8.18 ECO 001772 Updated firmware and modified circuitry to improve the busy signal.
- Delete: U21 P/N 35522716-1B69 PROM, Char. Gen, 353 Std.
- Delete: U28 P/N 35578755-1G53 PROM FO 352 G.000.
- Delete: U20 P/N 35522716-1G70 PROM FO 352 G.000.
- Delete: U19 P/N 35522716-1G71 PROM FO 352 G.000.
- Delete: U12 P/N 35552100-1A02 PROM FPLA.000.
- Added: P/N 63180247-6001 PROM Kit Std. Basic
- Cut Etch: From U46-4 to U46-10.
- Add Jumpers: From U46-4 to U32-8.
From U32-9 to U11-1.
From U32-10 to U11-4.

8.8.19 ECO 001963 Updated firmware to prevent ribbon smear on perforation.

Replaced: U19 with P/N 35522716-1J71 PROM FO352J.000.

Replaced: U20 with P/N 35522716-1H70 PROM FO352J.000.

Replaced: U28 with P/N 35578755-1J53 PROM FO352J.000. (PROM kit 64000247-6001 Rev. changed from A to A1).

Table 8-8. PC Board 64000585- Revision Level Summary

ECO	-2001	-4001		-8001		-9001	
	Artwork	PC Board		Assy Diagram		Schemetic	
001489	A	A	A	A		A	
001537	-	A1	-	-		-	
001576	B	A2	B	A1	B	A1	B
001598	-	A3	B1	-	-	-	-
001622	-	A4	B2	-	-	-	-
001659	-	A5	B3	A2	B1	A2	B1
001647	-	A6	B4	A3	B2	-	-
001670	-	A7	B5	A4	B3	-	-
001757	-	A8	B6	-	-	-	B2
001772	-	A9	B7	A5	B4	A3	B2
001764	-	-	B8	-	B5	-	-
001919	-	-	B9	-	-	-	-
001963	-	A10	B10	-	-	-	-

- 8.9 LOGIC BOARD ASSEMBLY (P/N 64000585).
- 8.9.1 ECO 001489 Engineering release to production.
- 8.9.2 ECO 001537 Updated Resistor Networks to meet new specifications.
- Replaced: R43 P/N 40681514-1001 with P/N 40681218-1009 - Res. Ntwk., 1K Ohms, .75W, 2%.
- Replaced: R45, R47 P/N 40681103-1001 with P/N 40681218-1022 - Res. Ntwk, 10K Ohms, .75W, 2%.
- 8.9.3 ECO 001576 Updated firmware to improve underlining and correct screw length problem on connector J302.
- Replaced: U28 P/N 35578755-1E53 with P/N 35578755-1F53 - PROM F0352F.000.
- Replaced: U20 P/N 35522716-1E70 with P/N 35522716-1F70 - PROM F0352F.000.
- Replaced: U19 P/N 35522716-1E71 with P/N 35522716-1F71 - PROM F0352F.000.
- Replaced: Screws P/N 34000359-2086 with P/N 34000359-2087 - CHZ, STLD, M2.5 x 45 x 10.
- 8.9.4 ECO 001598 Changed IC sockets.
- Replaced: Socket P/N 31410763-1024 with P/N 31410762-1024 - 24 Pin, SLDR DIP, .600.
- Replaced: Socket P/N 31410763-1040 with P/N 31410762-1040 - 40 Pin, SLDR DIP, .600.
- Replaced: Socket P/N 31410763-1028 with P/N 31410762-1028 - 28 Pin, SLDR DIP, .600.
- 8.9.5 ECO 001622 Restructure of documentation.
- 8.9.6 ECO 001654 Changed firmware to improve character formation.
- Replaced: U21 P/N 35522716-1A69 with P/N 35522716-1B69 - PROM, Char. Gen. 352 STD.
- Replaced: U28 P/N 35578755-1F53 with P/N 35578755-1G53 - PROM, Char. Gen., F0352G.000.
- Replaced: U20 P/N 35522716-1F70 with P/N 35522716-1G70 - PROM, F0352G.000.
- Replaced: U19 P/N 35522716-1F71 with P/N 35522716-1G71 - PROM, F0352G.000.
- Replaced: C2 P/N 21102002-1001 with P/N 20102000-1001 - Tube RDL, 100pF, 600V, 5%.
- Add: C56 P/N 21104005-1001 - TBAX, 0.1uF, 50V.
- 8.9.7 ECO 001647 Modified power input circuitry and power input connector to prevent failures caused by electrostatic discharges.

- 8.9.8 ECO 001670 Updated connector to meet new specifications.
 Replaced: J302 P/N 31230199-1003 with P/N 31230198-1003 - RCPT. RT Angle, 25 Posn.
- 8.9.9 ECO 001757 Restructure of documentation.
 Added: PROM Kit 64000585-6001.
- 8.9.10 ECO 001772 Updated firmware and modified circuitry to improve the Busy Signal.
 Delete: U12 P/N 35552100-1A02 PROM FPLA.000.
 Delete: U19 P/N 355522716-1G71 PROM FO352G.000.
 Delete: U20 P/N 355522716-1G70 PROM FO352G.000.
 Delete: U21 P/N 355522716-1B69 PROM Char. Gen. 352, Std.
 Delete: U28 P/N 35578755-1G53 PROM FO352G.000.
 Cut Etch: From U46-4 to U46-10.
 Add Jumpers: From U46-4 to U32-8.
 From U32-9 to U11-1.
 From U32-10 to U11-4.
 From U43-7 to C25. Top, ground.
 From U39-10 to C67 Top, ground.
 From U52-18 to C22, Bottom, +5V.
- 8.9.11 ECO 001764 Cost improvement standardized hardware for all boards and changed transistors and heatsinks. Change header to improve the removal of the optics connector.
- 8.9.12 ECO 001919 Cost improvement standardized connector.
 Replaced: J304 with P/N 31240052-1003 HDR ENCL 34 posn.
- 8.9.13 ECO 001963 Updated firmware to prevent ribbon smear on perforation.
 Replaced: U19 with P/N 35522716-1J71 PROM FO352J.000.
 Replaced: U20 with P/N 35522716-1J70 PROM FO352J.000.
 Replaced: U28 with P/N 35578755-1J53 PROM FO352J.000.

Table 8-9. PC Board 63180308- Revision Level Summary

ECO	-2001	-4001	-8001	-9001
	Artwork	PC Board	Assy Diagram	Schematic
001429	A	A	A	A
001455	-	A1	-	-
001458	-	A2	-	-
001477	-	A3	-	-
001481	-	A4	-	-
001492	-	A5	-	-
001518	-	A6	-	-
001523	-	A7	-	-
001537	-	A8	-	-
001572	-	A9	A1	-
001598	-	A10	-	-
001622	-	A12	-	-
001659	-	A13	-	-
001669	-	A14	-	-
001647	-	A15	-	-
001670	-	A16	A3	-
001772	-	A17	A4	A1
001997	-	A18	-	-

- 8.10 LOGIC BOARD ASSEMBLY P/N 63180308.
- 8.10.1 ECO 001429 Eng. release to production.
- 8.10.2 ECO 001455 Updated firmware to improve multipass function.
- Replaced: U43 P/N 35522732-1A14 with 35522732-1B14.
- Replaced: U47 P/N 35522732-1A15 with 35522732-1B15.
- Replaced: U51 P/N 35578755-1A58 with 35578755-1B58.
- 8.10.3 ECO 001458 Updated components to meet new purchase specifications.
- Replaced: R15, R16 P/N 40681219-1014 with 40681266-1033 (Resistor, Network, 8P, 10K Ohms, 1.1W, 2%).
- Replaced: R1 P/N 40681219-1012 with 40681266-1029 (Resistor, Network, 8P, 4.7K Ohms, 1.1W, 20%).
- Replaced: Q1 P/N 38200300-1001 with 38200300-1900 (Transistor, PNP, W/Mica, TIP30)
- 8.10.4 ECO 001477 Updated firmware for new character set and to eliminate unwanted paper motion.
- Replaced: U43 P/N 3552732-1B14 with 35522732-1C14.
- Replaced: U47 P/N 35522732-1B15 with 35522732-1C15.
- Replaced: U51 P/N 35578755-1B58 with 35578755-1C58.
- Replaced: C80 P/N 21103003-1001 with 21471003-1001 (Capacitor, Cer. Disc., 470 pF, 1KV, 20%).
- 8.10.5 ECO 001481 Updated firmware to improve cut sheet mode.
- Replaced: U43 P/N 35522732-1C14 with 35522732-1D14.
- Replaced: U47 P/N 35522732-1C15 with 35522732-1D15.
- Replaced: U51 P/N 35578755-1C58 with 35578755-1D58.
- 8.10.6 ECO 001492 Updated firmware to improve character set and underlining.
- Replaced: U43 P/N 35522732-1D14 with 35522732-1E14.
- Replaced: U47 P/N 35522732-1D15 with 35522732-1E15.
- Replaced: U51 P/N 35578755-1D58 with 35578755-1E58.
- 8.10.7 ECO 001518 Updated firmware to improve paper empty function in the serial mode.
- Replaced: U43 P/N 35522743-1E14 with 35522732-1F14.
- Replaced: U47 P/N 35522732-1E15 with 35522732-1F15.
- Replaced: U51 P/N 35578755-1E58 with 35578755-1F58.

8.10.8 ECO 001523 Changed line drivers.

Replaced: U5, U6 with P/N 35596360-1001 (IC, dual, Ln, Dr., 9636A).

8.10.9 ECO 001537 Updated resistor networks to meet new specifications.

Replaced: R25, R26 P/N 40681103-1001 with 40681218-1022 (Resistor, Network, 10P, 10K Ohms, .75W, 2%).

Replaced: R10 P/N 40681221-1001 with 40681218-1017 (Resistor, Network, 10P, 4.7K Ohms, .75W, 2%).

Replaced: R33 P/N 40681514-1001 with 40681218-1009 (Resistor, Network, 10P, 1K Ohms, .75W, 2%).

8.10.10 ECO 001572 Updated firmware to improve the cut sheet mode and power-up sequence.

Replaced: U43 P/N 35522732-1F14 with 35522732-1G14.

Replaced: U47 P/N 35522732-1F15 with 35522732-1G15.

Replaced: U51 P/N 35578755-1F58 with 35578755-1G58.

8.10.11 ECO 001598 Improved mechanical integrity of IC sockets.

Replaced: IC Socket P/N 31410763-1022 with 31410762-1022 (SKT IC, 22 Pin, 400TP).

Replaced: IC Socket P/N 31410763-1024 with 31410762-1024 (SKT IC, 24 Pin, Solder Dip).

Replaced: IC Socket P/N 31410763-1028 with 31410762-1028 (SKT IC, 28 Pin, Solder Dip, .600).

Replaced: IC Socket P/N 31410763-1040 with 31410762-1040 (SKT IC, 40 Pin, Solder Dip, .600).

8.10.12 ECO 001622 Restructure of documentation.

8.10.13 ECO 001659 Changed firmware to improve character shape.

Replaced: U21 P/N 35522716-1A81 with P/N 35522716-1B81 PROM Char. Gen, 353 STD 7x9.

Replaced: U51 P/N 35578755-1G58 with P/N 35578755-1H58 PROM F353H.000.

Replaced: U43 P/N 35522732-1G14 with P/N 35522732-1H14 PROM F353H.000.

Replaced: U47 P/N 35522732-1G15 with P/N 35522732-1H15 PROM F0353H.000.

Replaced: C17 P/N 21102000-1001 with P/N 20102000-1001 - Tube RDL, 1000pF, 600V, 5%.

- 8.10.14 ECO 001669 Changed firmware to correct "SELECT" circuit and character formation.
- Replaced: U15 P/N 35522732-1B13 with P/N 35522732-1C13 - PROM, Char. Gen., 353 Multipass.
- Replaced: U51 P/N 35578755-1H58 with P/N 35578755-1J58 - PROM F353J.000.
- Replaced: U43 P/N 35522732-1H14 with P/N 35522732-1J14.
- Replaced: U47 P/N 35522732-1H15 with P/N 3552272-1J15 - PROM F0353J.000.
- 8.10.15 ECO 001647 Modified power input circuitry and input connector to prevent failures caused by electrostatic discharges.
- 8.10.16 ECO 001670 Updated connector to meet new specifications.
- Replaced: J502 P/N 31230199-1003 with P/N 31230198-1003 - Rt. Angle, 25 posn.
- 8.10.17 ECO 01772 Updated firmware and modified circuitry to improve the busy signal.
- Delete: U15 P/N 35522932-1C13 PROM Char. Gen. Multipass.
- Delete: U17 P/N 35552100-1A03 PROM FPLA353A.000.
- Delete: U21 P/N 35522716-1B81 PROM Char. Gen. 353, Std 7x9.
- Delete: U43 P/N 35522732-1J14 PROM FO353J.000.
- Delete: U47 P/N 35522732-1J15 PROM FO353J.000.
- Added: P/N 63180308-6001 PROM Kit Std. AH PRFM Format (353).
- Cut Etch at U8-6.
- Add Jumpers: From U1-9 to U4-8.
From U4-5 to U4-9, 10 and 11.
- 8.10.18 ECO 001997 Updated firmware to:
- a. Prime the head before any END OF PRINT paper motion.
 - b. Allow DESELECT in serial operation after sheet is ejected with data in buffer.
 - c. Display error code #13 on the LCD if the head test failed.
 - d. Clear LCD legend on input prime.
 - e. Same CPI change when printer goes into graphics mode.
 - f. Allow 12 CPI multipass if 12 MP is set to "1".
 - g. Use wire test printout protocol.
- Replaced: U15 with 35522732-1D13 PROM, Char Gen 3531D13.000.
- Replaced: U43 with 35522732-1L14 PROM, FO353L.000.
- Replaced: U47 with 35522732-1L15 PROM, FO353L.000.
- Replaced: U51 with 35578755-1L58 PROM, FO353L.000.

Table 8-10. PC Board 63180588- Revision Level Summary

ECO	-2001	-4001		-8001		-9001	
	Artwork	PC Board		Assy Diagram		Schematic	
001559	A	A		A	A	A	
001572	-	A1		-	-	-	
001598	B	A2	B	A1	B	A1	B
001620	-	A3	B1	-	-	-	-
001622	-	A4	B2	-	-	-	-
001659	-	A5	B3	A2	B1	-	-
001669	-	A6	B4	A3	-	-	-
001647	-	A7	-	A4	-	-	-
001670A	-	A9	B5	A5	-	-	-
001671	C	-	C	-	C	-	C
001757	-	A10	C1	-	-	-	-
001772	-	-	C2	-	C1	-	-
001764	-	-	C3	-	C2	-	-
001997	-	-	C4	-	-	-	-

- 8.11 LOGIC BOARD ASSEMBLY (P/N 64000588)
- 8.11.1 ECO 001559 Engineering release to production.
- 8.11.2 ECO 001572 Updated firmware to improve the cut sheet mode and power-up sequence.
- Replaced: U51 P/N 35578755-1F58 with P/N 35578755-1G58 - PROM F0353G.000.
- Replaced: U43 P/N 35522732-1F14 with P/N 35522732-1G14 - PROM F0353G.000.
- Replaced: U47 P/N 35522732-1F15 with P/N 35522732-1G15 - PROM F0353G.000.
- 8.11.3 ECO 001598 Improved mechanical integrity of IC sockets.
- Replaced: Socket P/N 31410763-1024 with Socket P/N 31410762-1024 - 24 Pin, SLDR DIP .600.
- Replaced: Socket P/N 31410763-1040 with Socket P/N 31410762-1040 - 40 Pin, SLDR DIP .600.
- Replaced: Socket P/N 31410763-1028 with Socket P/N 31410762-1028 - 28 Pin, SLDR, DIP .600.
- 8.11.4 ECO 001620 Changed firmware to improve character formation.
- Replaced: U15 P/N 35522732-1A13 with P/N 35522732-1B13 - PROM Char. Gen., 353 Multipass.
- 8.11.5 ECO 001622 Restructure of documentation.
- 8.11.6 ECO 001659 Changed firmware to improve character formation.
- Replaced: U21 P/N 35522716-1A81 with P/N 35522716-1B81 PROM Char. Gen., 353 STD 7x9.
- Replaced: U51 P/N 35578755-1G58 with P/N 35578755-1H58 PROM F353H.000.
- Replaced: U43 P/N 35522732-1G14 with P/N 35522732-1H14 PROM F353H.000.
- Replaced: U47 P/N 35522732-1G15 with P/N 35522732-1H15 - PROM F353H.000.
- Replaced: U15 P/N 35522732-1A13 with P/N 35322732-1B13, PROM Char. Gen, 353 Multipass.
- Replaced: C17 P/N 21102002-1001 with P/N 20102000-1001, Tube RDL, 100pF, 600V, 5%.
- 8.11.7 ECO 001669 Updated firmware to correct select circuit and improve printing on multipass.
- Replaced: U15 P/N 35522732-1B13 with P/N 35522732-1C13, PROM Char. Gen. 353 Multipass.
- Replaced: U43 P/N 35522932-1H14 with P/N 35522732-1J14, PROM F353J.000.
- Replaced: U47 P/N 35522732-1H15 with P/N 35522732-1J15, PROM F353J.000.
- Replaced: U51 P/N 35578755-1H58 with P/N 35528755-1J58, PROM F353J.000.

- 8.11.8 ECO 001647 Modified power input circuitry and input connector to prevent failures caused by electrostatic discharges.
- 8.11.9 ECO 001670 and ECO 001670A Updated connector to meet new specifications. Corrected revision levels.
- 8.11.10 ECO 001671 Reworked board etches and changed connector.
- Replaced: J302 P/N 31230199-1003 with P/N 31230198-1003 - Conn, Recept. 25 Posn.
- 8.11.11 ECO 1757 Restructure of documentation.
- Introduced PROM kits.
- Delete: U15 P/N 35522732-1C13 IC PROM Char. Gen. 353 Multipass.
- Delete: U17 P/N 35552100-1A03 IC PROM FPLA 353A.000.
- Delete: U21 P/N 35522716-1B81 IC PROM Char. Gen. 353 Std. 7x9.
- Delete: U43 P/N 35522732-1J14 IC PROM FO353J.000.
- Delete: U47 P/N 35522732-1J15 IC PROM FO353J.000.
- Delete: U51 P/N 35578755-1J58 IC PROM FO353J.000.
- Added: P/N 64000588-6001 PROM Kit PCB A BSC Formatter.
- 8.11.12 ECO 001772 Modified circuitry to improve the busy signal.
- Cut etch at U8-6.
- Add jumpers: From U1-9 to U4-8.
From U4-5 to U4-9, 10 and 11.
From U65-7 to large etch in front of U65-P1 end.
From U49-16 to C76, bottom, +5V.
- 8.11.13 ECO 001764 Hardware only: Changes included - revising method of securing transistors to heatsinks, revised method of mounting I/O connectors and replaced a locking pc header with a non-locking pc header.
- 8.11.14 ECO 001977 Updated firmware to:
- a. Prime the head before END OF PRINT paper motion.
 - b. Allow DESELECT in serial operation after sheet is ejected with data in buffer.
 - c. Display error code #13 on the LCD if the head test failed.
 - d. Clear LCD legend on input prime.
 - e. Same CPI change when printer goes into graphics mode.
 - f. Allow 12 CPI multipass if 12 MP is set to "1".
 - g. Use wire test printout protocol.
- Replaced: U15 with 35522732-1D13 PROM Char Gen 3531D13.000.
- Replaced: U43 with 35522732-1L14 PROM, FO353L.000.
- Replaced: U47 with 35522732-1H15 PROM, FO353L.000.
- Replaced: U51 with 35578755-1L58 PROM, FO353L.000.

Table 8-11. PC Board 64001101-1037 Revision Level Summary

ECO	-2001	-4001	-8001	-9001
	Artwork	PC Board	Assy Diagram	Schematic
001899	A	A	A	A
001927	-	A1	-	-
001936	-	A2	A1	A1
001958	-	A3	-	-
001999	-	A4	A2	A2
002019	-	A5	A3	A3
002035	-	A6	-	-
002061	-	A7	A4	A4

- 8.12 LOGIC BOARD ASSEMBLY (P/N 64001037) REVISIONS
- 8.12.1 ECO 001899 Engineering release to production.
- 8.12.2 ECO 001927 Updated firmware to improve poor print quality by lengthening the PIN STROBE to 260 usec.
- Replaced: U20 PROM with P/N 35512764-1C05 (PROM kit P/N 64001037-6001 Rev. A1).
- 8.12.3 ECO 001936 The RESET signal to the format controller during power up was not of sufficient duration to reset the format controller. A pull up resistor was added to the RESET circuit to rectify this problem.
- Added: R186 P/N 41751925-1001 Resistor, 750 Ohms, .25W, 5%.
- 8.12.4 ECO 001958 Updated firmware to correct erratic carriage movement and erroneous power fail signal.
- Replaced: U20 PROM with P/N 35512764-1D05 PROM kit P/N 64001037-6001 Rev. changed from A1 to A2.
- U20 PROM with P/N 35512764-1C06 PROM kit P/N 64001037-6003 Rev. changed from A1 to A2.
- 8.12.5 ECO 001999 Improved stepper motor circuit to prevent fuse and power transistor (3011) failures.
- Added: R190, R191, R192, R193, R194 and R195 P/N 41103925-1001 Resistor Carbon, 10K Ohms, .25W, 5%.
- 8.12.6 ECO 002019 A resistor change in the head driver circuit decreased the current level to eliminate excessive heat in the drive transistor and print head.
- Replaced: R143 with P/N 40681218-1018 Resistor Network, 10P, 5.1K Ohms, 2%.
- 8.12.7 ECO 002035 Updated firmware to accomodate changes in the Auto Sheet Feeder unit and to correct malfunctions that appeared when certain conditions (i.e., paper out, carriage return, buffer empty, CSF mode) occurred together.
- Replaced: U20 PROM with P/N 35512764-1E05 PROM kit 64001037-6001 Rev. changed from A2 to A3.
- 8.12.8 ECO 002061 Updated firmware to allow printing on extreme left edge when using sheet feeder. Eliminated pin fire on power up and failure of self test due to noise by changing components and adding a filter.
- Replaced: R143 with P/N 40681218-1017 Resistor Ntwk 10P, 4.7K Ohms, 1.5W, 2%.
- Added: R196 P/N 41101925-1001 Resistor Carbon, 100 Ohms, .25W, 5%.
- Added: CR50 P/N 38102700-1001 Diode, TBAX, IN270.
- Added: C115 P/N 21151001-1001, Capacitor, Cer. Disc, 150pF, 1KV, 10%.
- Deleted: U27 P/N 35474274-1001, FF, Dual, D Type.

Table 8-12. PC Board 64001020- Revision Level Summary

ECO	-2001	-4001	-8001	-9001
	Artwork	PC Board	Assy Diagram	Schematic
001974	A	A	A	A
002044	-	A1	A1	A1
002058	-	A2	-	-

8.13 LOGIC BOARD ASSEMBLY (P/N 64001020) REVISIONS

8.13.1 ECO 001974 Engineerng release to production.

8.13.2 ECO 002044 Modified memory board to correct error message on power up and to prevent loss of data.

Deleted: C3.

Added: C4 P/N 21471003-1001 Capacitor, Cer. Disc., 470pF, 1KV, 20%.

8.13.3 ECO 002058 Updated firmware to correct sheet feeder operations involving envelopes.

Replaced: U4 with P/N 35512764-1C07 PROM, F353YC.000.

Table 8-13. PC Board 64001101- Revision Level Summary

ECO	-2001	-4001	-8001	-9001
	Artwork	PC Board	Assy Diagram	Schematic
001974	A	A	A	A
002035	A	A1	-	-
002044	A	A2	A1	A1

8.14 LOGIC BOARD ASSEMBLY (P/N 64001024)

8.14.1 ECO 001974 Engineering release to production.

8.14.2 ECO 002035 Updated firmware to accommodate changes in the Auto Sheet Feeder unit and to correct malfunctions that appeared when certain conditions (i.e., paper out, carriage, return, buffer empty, CSF mode) occurred together.

Replaced: U4 with P/N 35512764-1E05 PROM C2350E.000.

8.14.3 ECO 002044 Reworked memory board to correct error message on power up and to prevent loss of data.

Reworked board with jumpers from pins 6 & 8 of U6 to left and right side of C50.



OPTIONS/ACCESSORIES ORDER FORM (350 SERIES PRINTERS)

CENTRONICS PART NUMBER	OPTION / ACCESSORY DESCRIPTION	QUANTITY ORDERED	LIST PRICE	ITEM TOTAL
37403510-9001	Technical Manual, Model 351		\$ 45	
37403520-9001	Technical Manual, Model 352		\$ 45	
37403530-9001	Technical Manual, Model 353		\$ 45	
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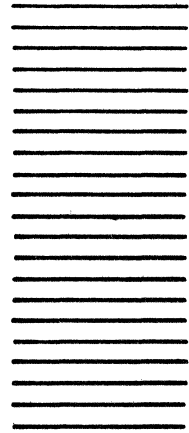
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