

Amstrad

PCW10
PERSONAL COMPUTER
WORD PROCESSOR
SERVICE MANUAL

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TECHNICAL SPECIFICATION

Memory	:	512k RAM
Disk Drive	:	1 x 3.5" 720k, (facility to add second drive)
Display	:	Paper white 12" monochrome screen with 90 columns x 32 lines displayed
Keyboard	:	Full size, with 82 keys
Supplied Software	:	LocoScript 1.5 word processing software, CP/M Plus, (Mallard BASIC, GSX graphics enhancement, Dr Logo educational training language)

DOT MATRIX PRINTER

General	:	9 pin dot matrix printer
Speed	:	Up to 20 cps (high quality), 90 cps (draft mode)
Accessories supplied as standard	:	Detachable tractor feed, single sheet loading system. Note: No other printer can be used with the PCW10.

DIMENSIONS

Size	:	W: 310mm, D: 360mm, H: 350mm.
Weight	:	14.5Kg.
Power Consumption	:	93 Watts max.

Amstrad reserves the right to supply selective components
Information printed latest available at time of publication
Date of publication June 1992

SAFETY TEST

Please note: When any work is carried out on a recorder, the following safety tests must be carried out to ensure continued electrical safety.

1). Flash Test

Test at 4kV between the live and neutral of the mains lead joined together and ALL accessible metal points on the exterior of the set.

2). Insulation Resistance Test

Test between the live and neutral of the mains lead joined together and ALL accessible metal points of the set to show a resistance of at least 4M0hm.

PLEASE NOTE: When any work is carried out on this unit, correct safety tests must be carried out to ensure continued electrical safety.

PLEASE NOTE: All parts shown with the part number prefix are safety items and must be replaced with similar items having an identical safety specification.

All those items may be purchased direct from AMSTRAD plc.

In keeping with our policy of continually improving our service, and the technical quality of our products, we reserve the right to change component types, manufacturers, sources of supply or technical specification at any time.

AMSTRAD PLC

BRENTWOOD HOUSE, 169 KINGS ROAD, BRENTWOOD, ESSEX CM14 4EF.

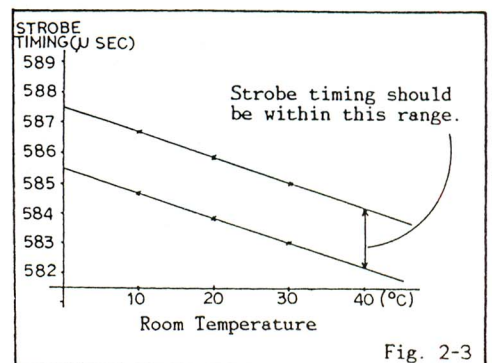
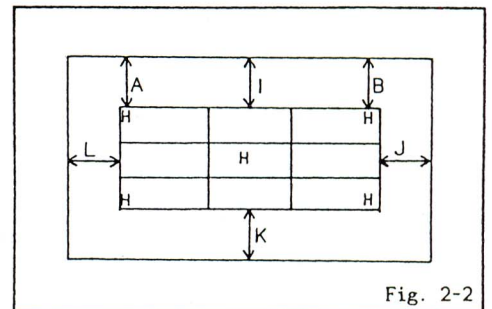
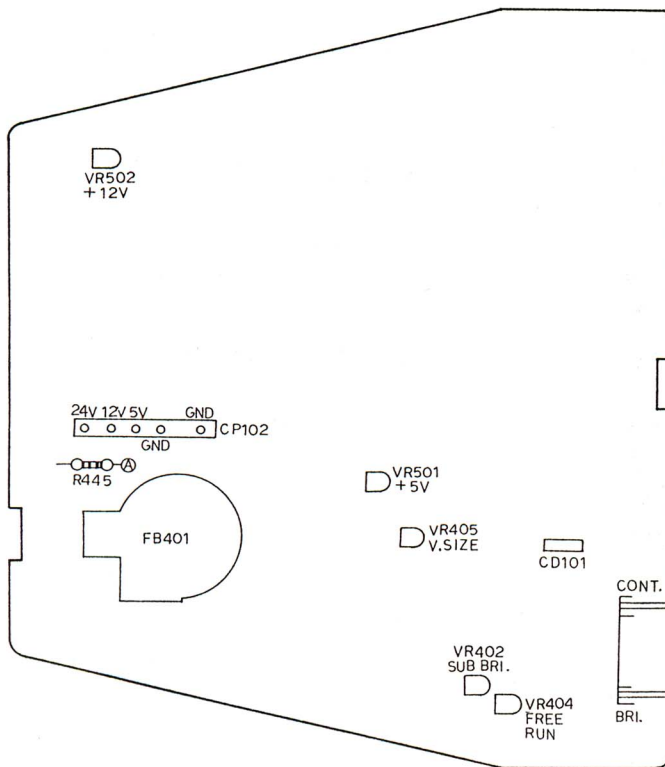
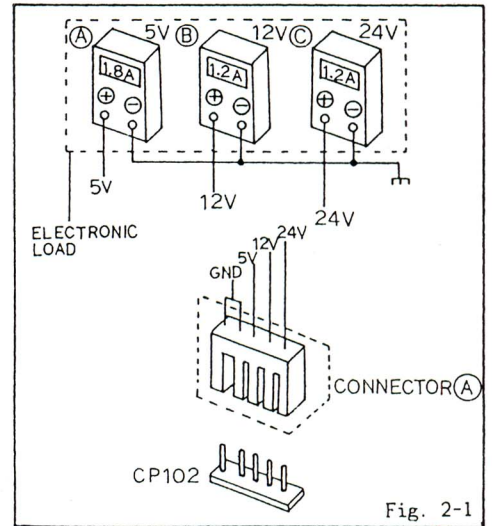
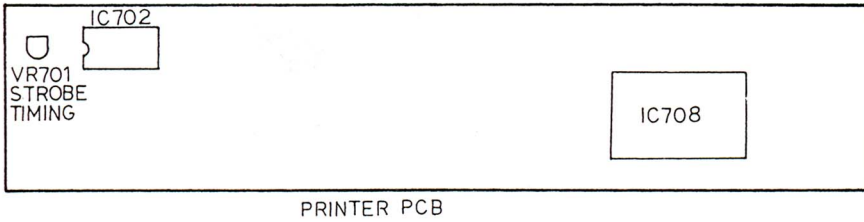
ALIGNMENT CHART FOR THE MONITOR

Equipment required: Digital Voltmeter; Oscilloscope; Frequency Counter; Test Pattern Generator; RP3 or Pattern Disc.

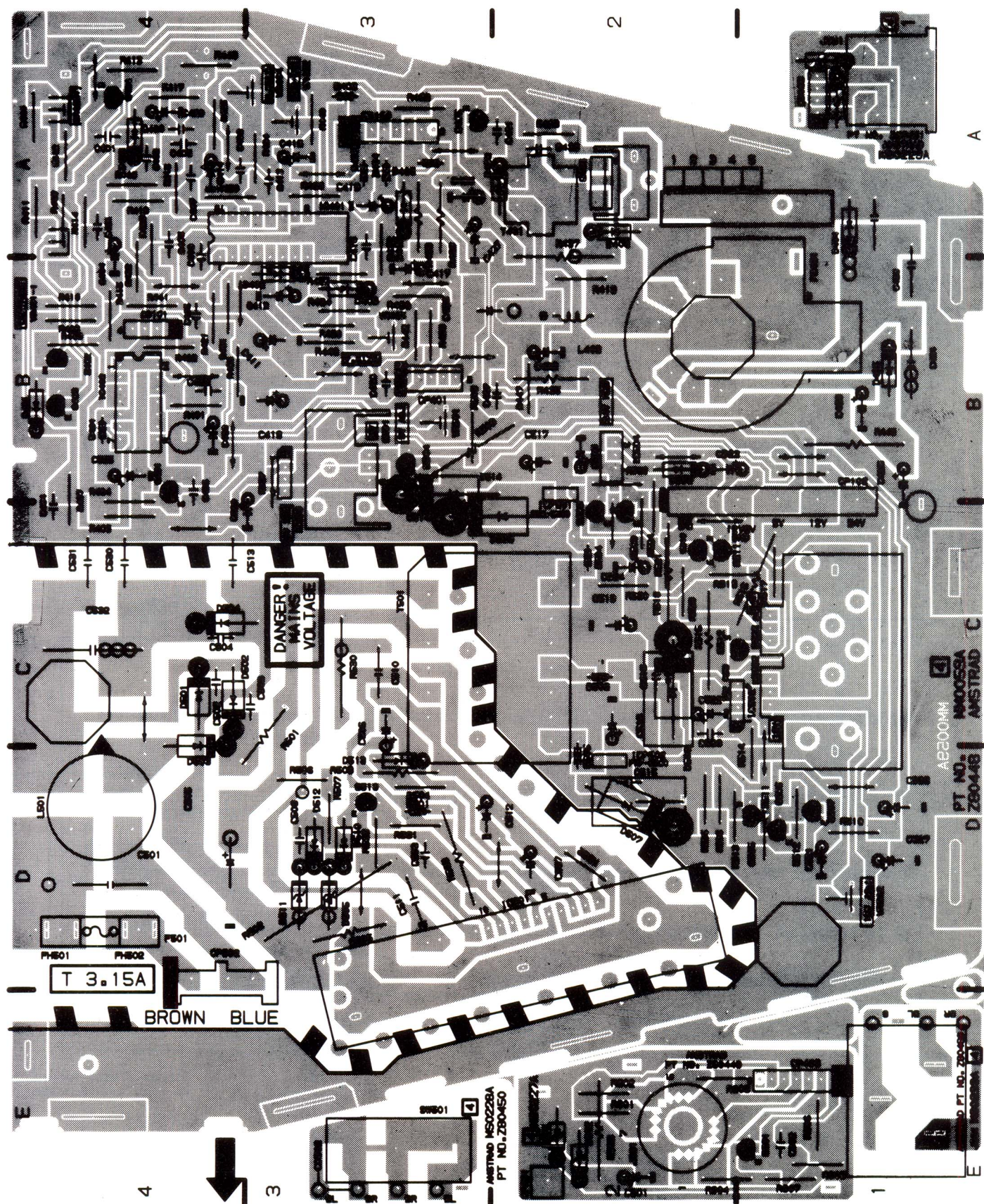
ALIGNMENT INSTRUCTIONS

STEP	FUNCTION	SIGNAL IN	SIGNAL OUT	METHOD	REMARKS
1.	D.C. 24V Adjustment.	Connector 'A'.	D.V.M.	Check if $24V \pm 1V$.	Disconnect CP101 to perform the test. Replace after tests. Ref. Fig. 2-1.
2.	D.C. 12V Adjustment.	Connector 'A'.	D.V.M.	Adjust VR502 to read $12V \pm 0.01V$. Set VR401 to max.	Disconnect CP101 to perform the test. Replace after tests. Ref. Fig. 2-1.
3.	D.C. 5V Adjustment.	Connector 'A'.	D.V.M.	Adjust VR501 to read $5V \pm 0.05V$. Set VR401 to max.	Disconnect CP101 to perform the test. Replace after tests. Ref. Fig. 2-1.
4.	V. Size Adjustment.	RP3 or Pattern Disk.	Monitor Screen.	Adjust VR405 for full size. $I = K = 10 \pm 2mm$.	Adjust Brightness control as required. Ref. Fig 2-2.
5.	Linearity Adjustment.	RP3 or Pattern Disk.	Monitor Screen.	Adjust DY to get Up/Down space from the centre of the screen in the test pattern. $A-B \leq 3mm$, $J-K \leq 3mm$, $L-J \leq 3mm$.	Adjust Brightness control as required. Ref. Fig 2-2.
6.	H. Hold Adjustment.	Free run no input.	Pin 5/CP401.	Adjust VR404 to read frequency 15625kHz.	
7.	Sub. Brightness Adjustment.	RP3 or Pattern Disk.	Monitor Screen.	Set Brightness, Contrast controls to min. position. Adjust VR402 for dim pattern.	Try till satisfied.
8.	Strobe Timing Adjustment.	RP3. Select Printer Test.	Monitor Screen.	Turn Pot. VR701 clockwise & anticlockwise till strobe timing "OK" command appears on the screen.	Strobe timing should not be too long or too short.

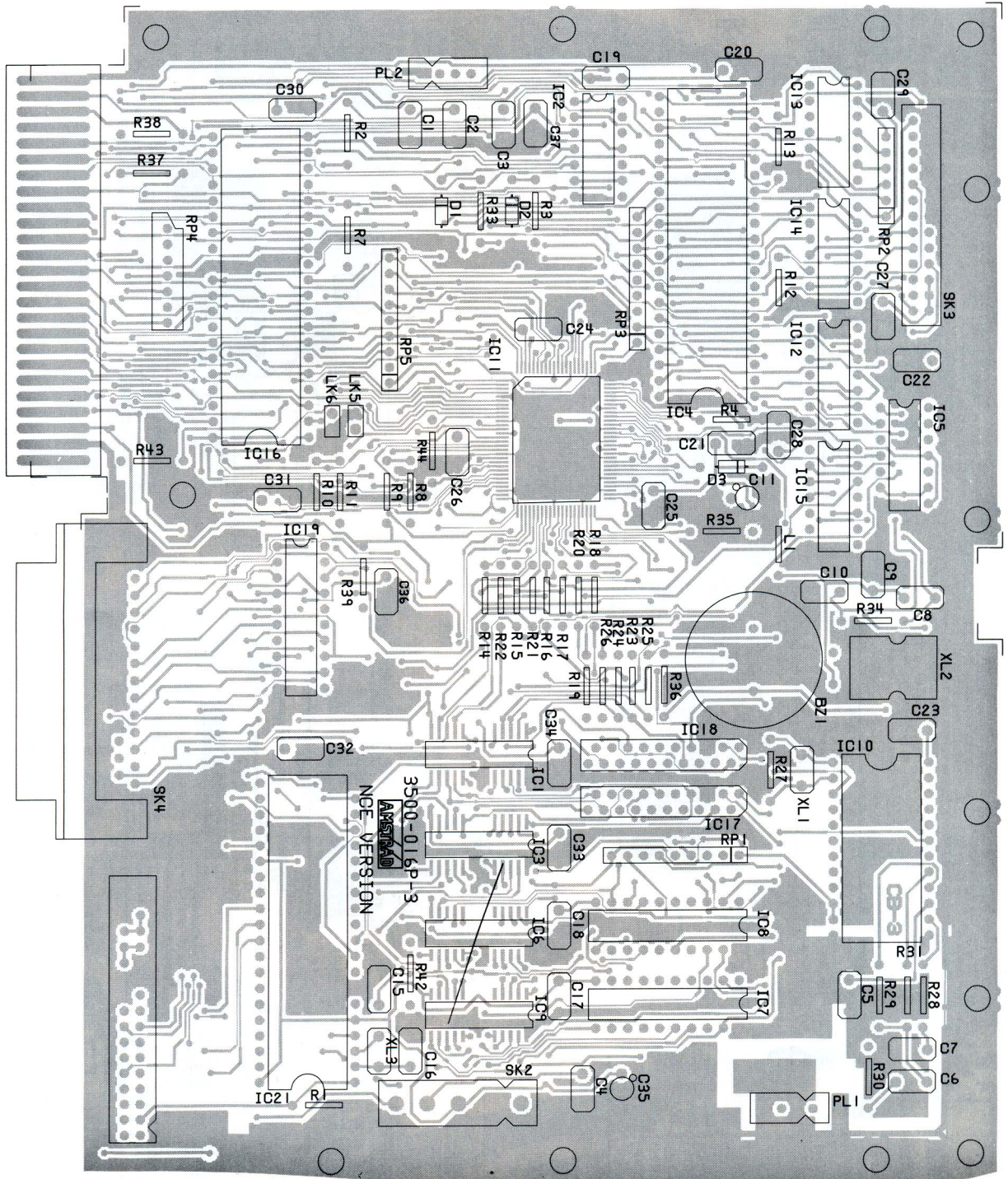
COMPONENT LOCATIONS



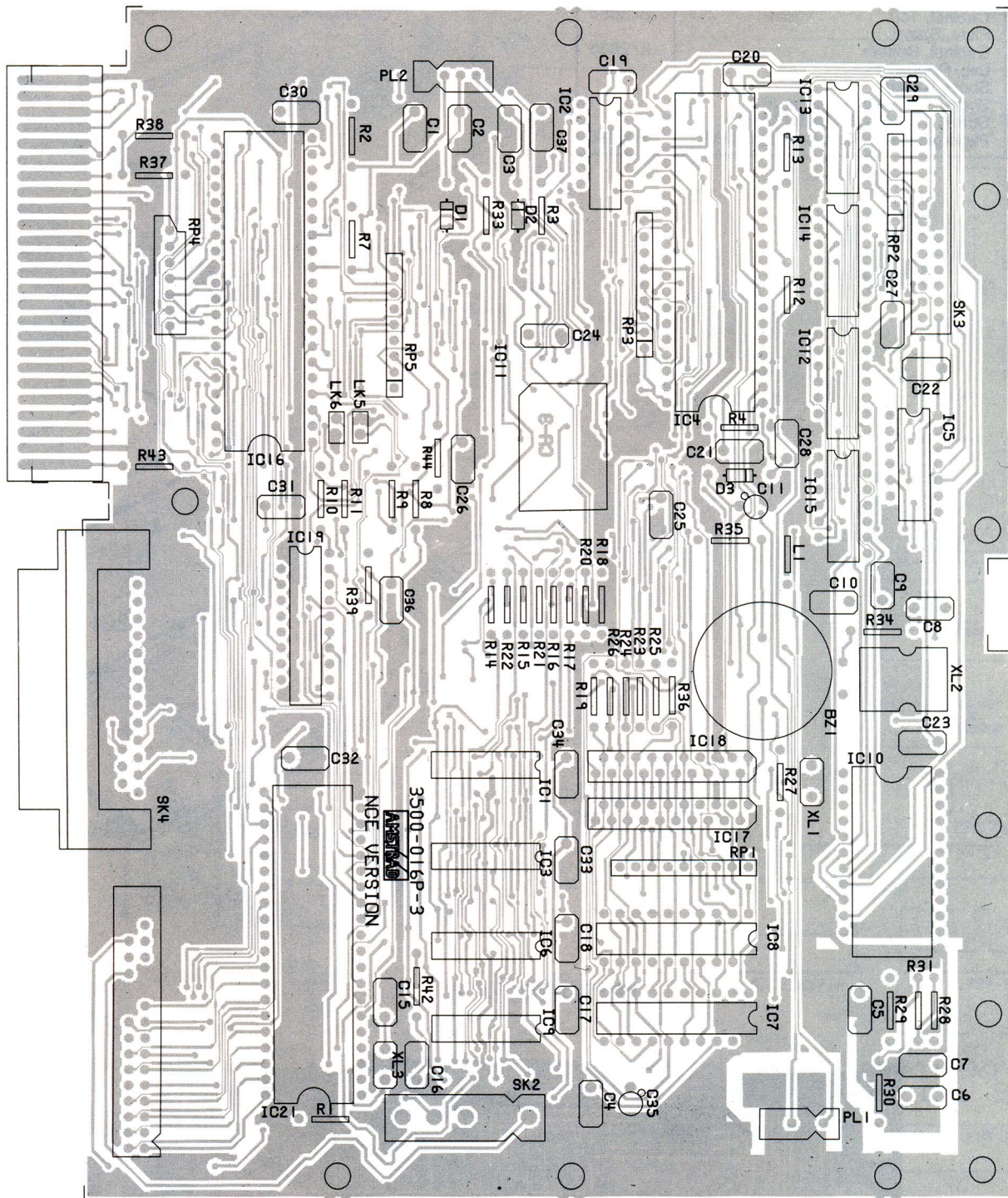
MONITOR/CRT P.C.B. COMPONENT LAYOUT



CPU P.C.B. COMPONENT LAYOUT TOP VIEW



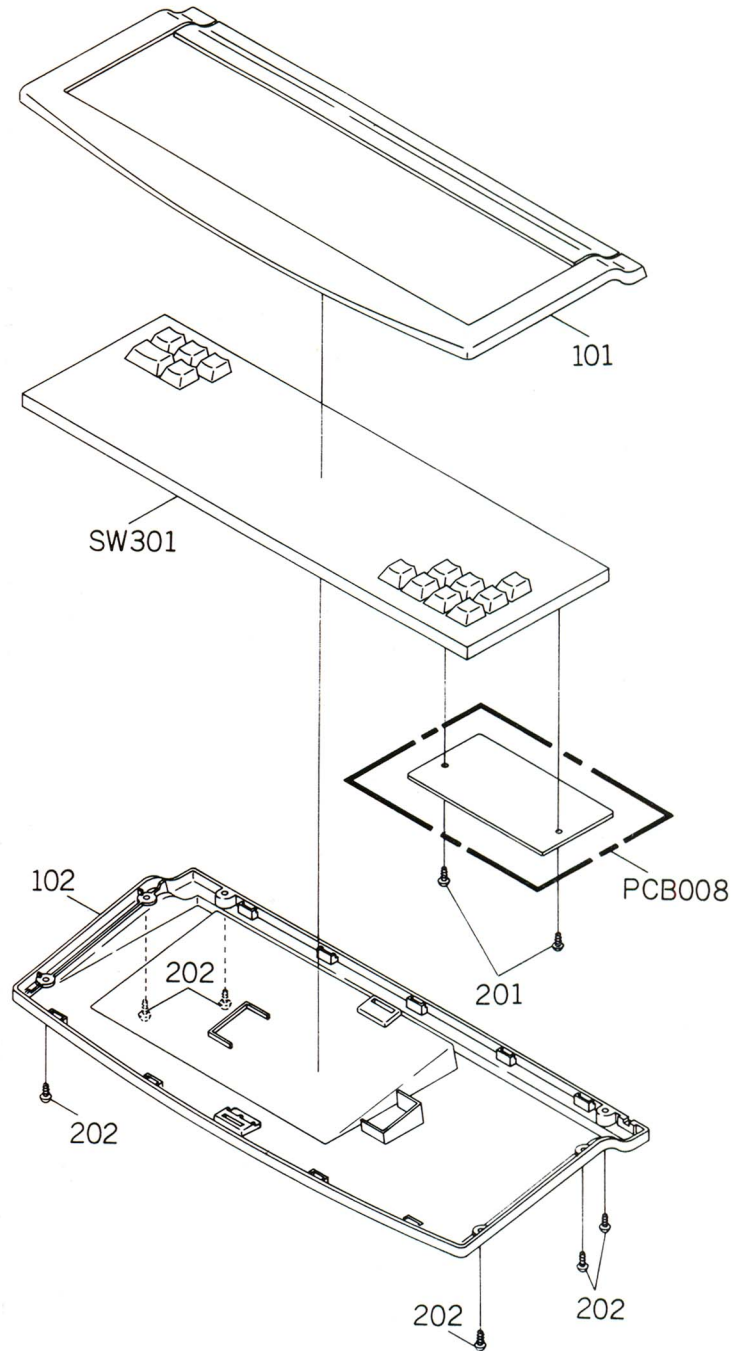
CPU P.C.B. COMPONENT LAYOUT BOTTOM VIEW



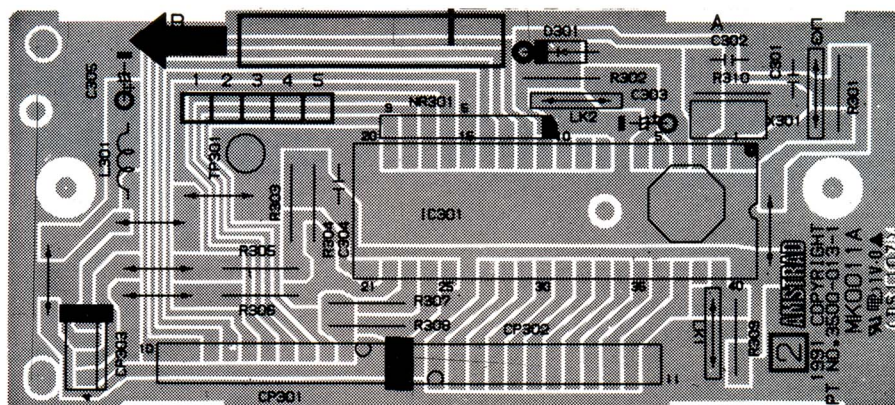
KEYBOARD EXPLODED VIEW

PCW10 KEYBOARD CABINET PARTS LIST

Ref.	Description	Part No.
101	Cabinet, Top Plate, Brand	273866
102	Cabinet, Bottom Leg, Rubber Sheet, Rating	272635
201	Screw, Tap Tite(P) Brazier 3*8	272766
202	Screw, Tap Tite(P) Brazier 3*10 Package, Left & Right Keyboard (Set)	



KEYBOARD P.C.B.

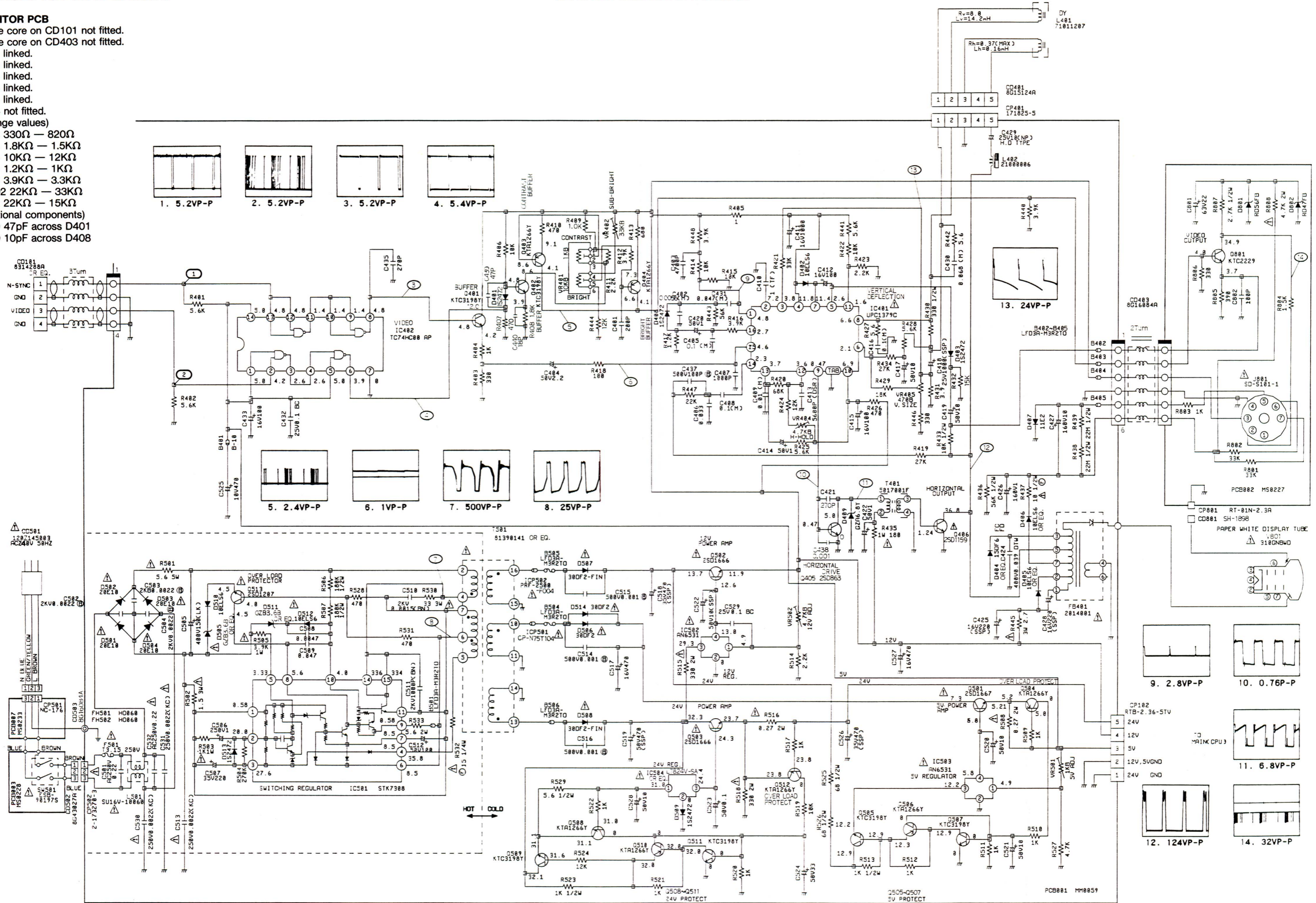


CHANGES TO PCW10 CIRCUITS

MONITOR SCHEMATIC DIAGRAM

MONITOR PCB

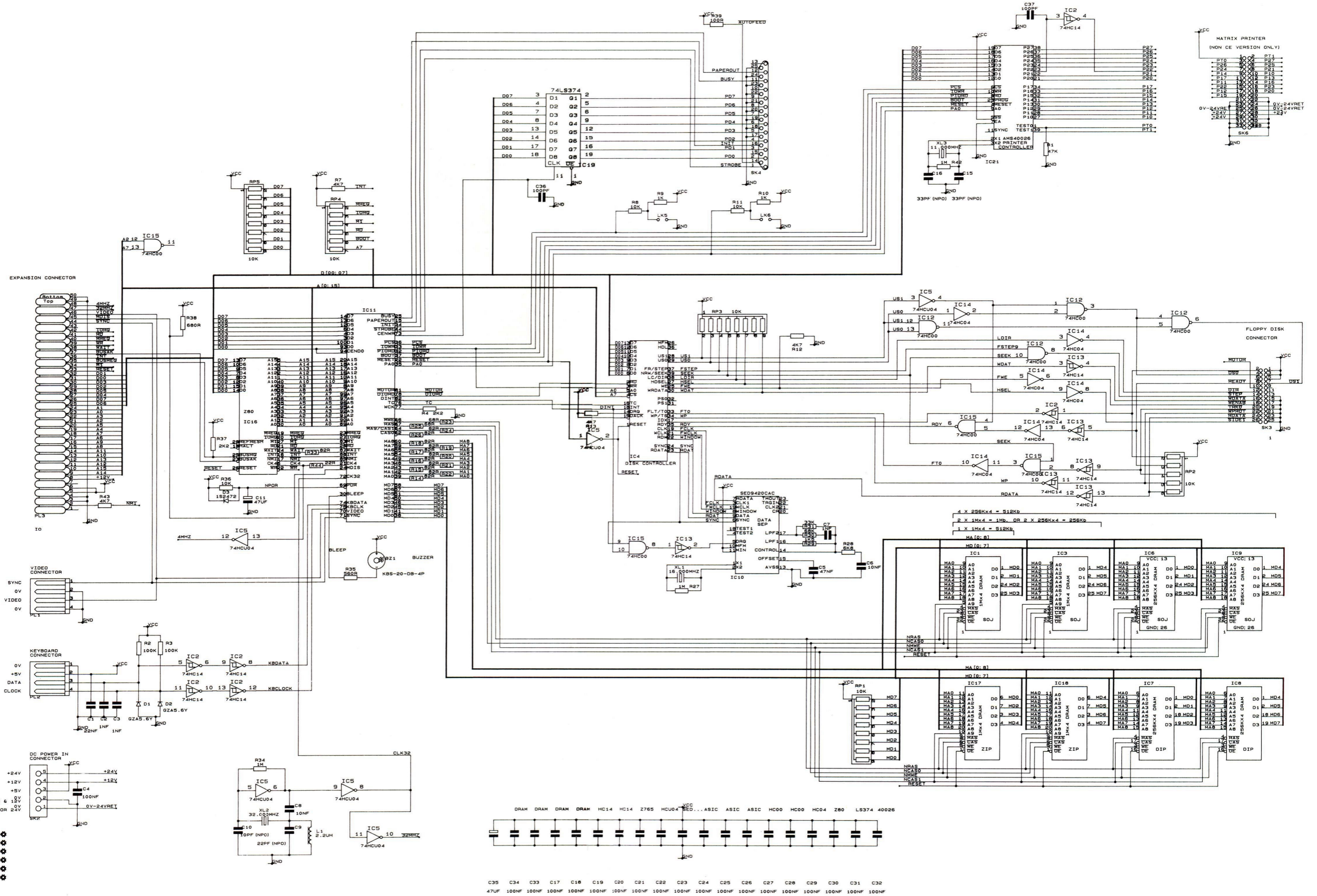
- Ferrite core on CD101 not fitted.
- Ferrite core on CD403 not fitted.
- B401 linked.
- B406 linked.
- B506 linked.
- B504 linked.
- B505 linked.
- C434 not fitted.
- (Change values)
- R403 330Ω — 820Ω
- R408 1.8KΩ — 1.5KΩ
- R444 10KΩ — 12KΩ
- R409 1.2KΩ — 1KΩ
- R448 3.9KΩ — 3.3KΩ
- VR402 22KΩ — 33KΩ
- R432 22KΩ — 15KΩ
- (additional components)
- C439 47pF across D401
- C440 10pF across D408



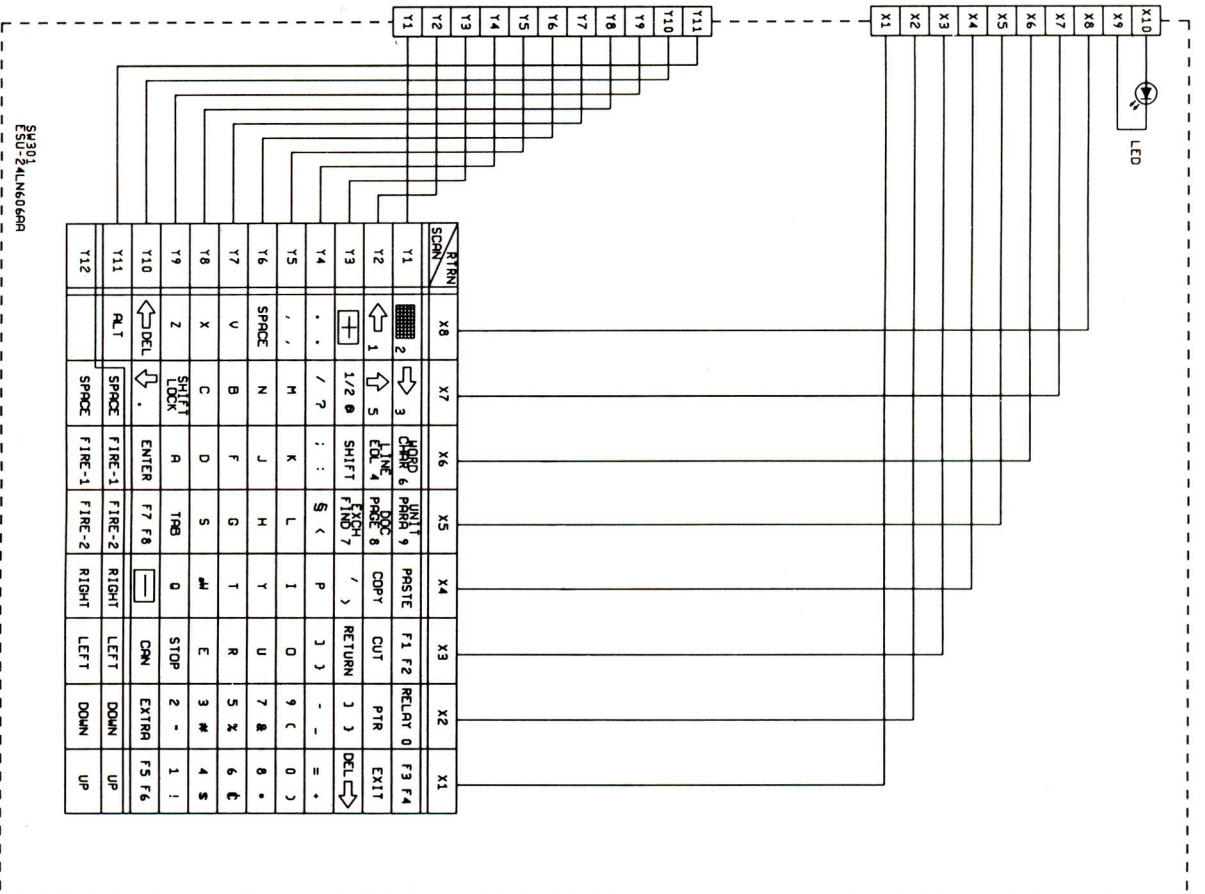
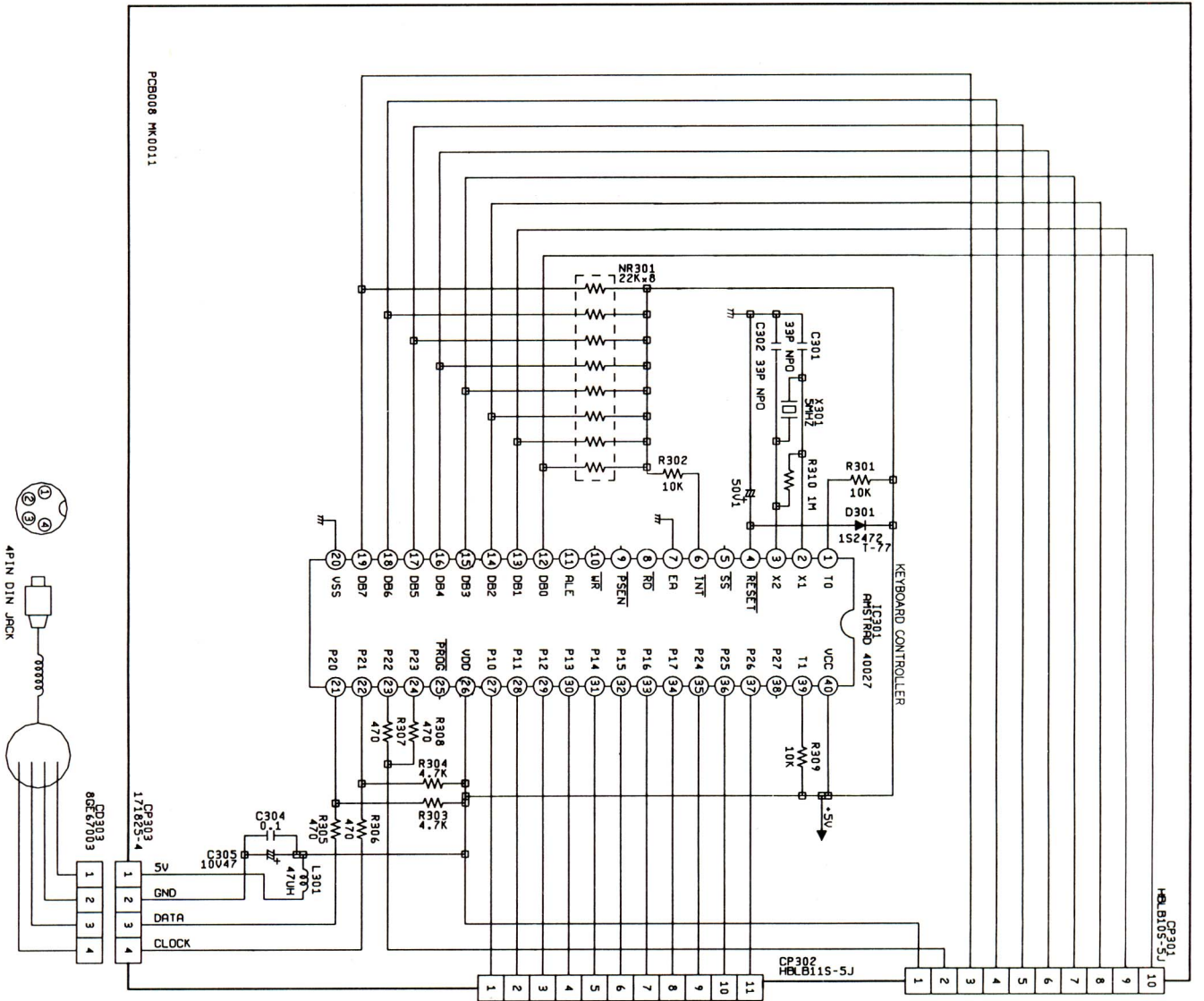
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

CAUTION: SINCE THESE PARTS MARKED BY Δ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED ON PARTS LIST ONLY.

CPU P.C.B. SCHEMATIC DIAGRAM



KEYBOARD P.C.B. SCHEMATIC DIAGRAM

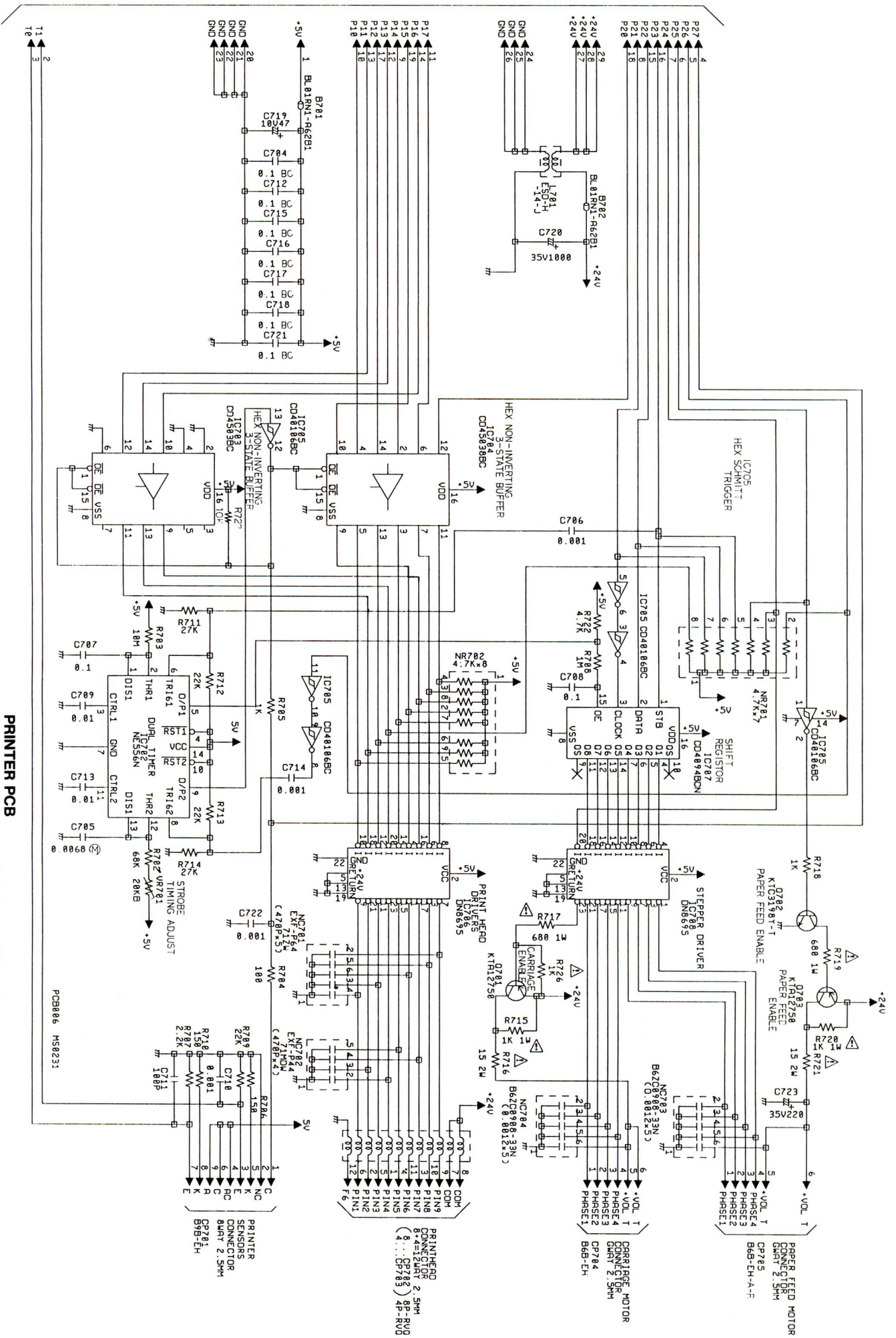


RYRN	X8	X7	X6	X5	X4	X3	X2	X1
SCREEN	2	3	4	5	6	7	8	9
Y1	←	→	HOME	PRINT	PASTE	F1 F2	RELAT 0	F3 F4
Y2	↑	↓	EDIT	PROC	COPY	CUT	PR	EXIT
Y3	+	0	SHIFT	FIND	RETURN	RETURN	DEL	DEL
Y4	.	/ ?	S <	P >	RETURN	RETURN	DEL	DEL
Y5
Y6	SPRCE	N	J	H	I	O	9 C	0 *
Y7	V	B	F	G	T	R	5 %	6 &
Y8	X	C	D	S	M	E	3 #	4 \$
Y9	Z	SHIFT	R	TRG	O	STOP	2 -	1 i
Y10	← DEL	↑	ENTER	F7 F8	ENTER	EXTRN	F5 F6	
Y11	ALT	SPRCE	FIRE-1	FIRE-2	RIGHT	LEFT	DOWN	UP
Y12		SPRCE	FIRE-1	FIRE-2	RIGHT	LEFT	DOWN	UP

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

PRINTER CONTROL P.C.B. SCHEMATIC DIAGRAM

CD706
8BR13001



NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

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PRINTER PCB

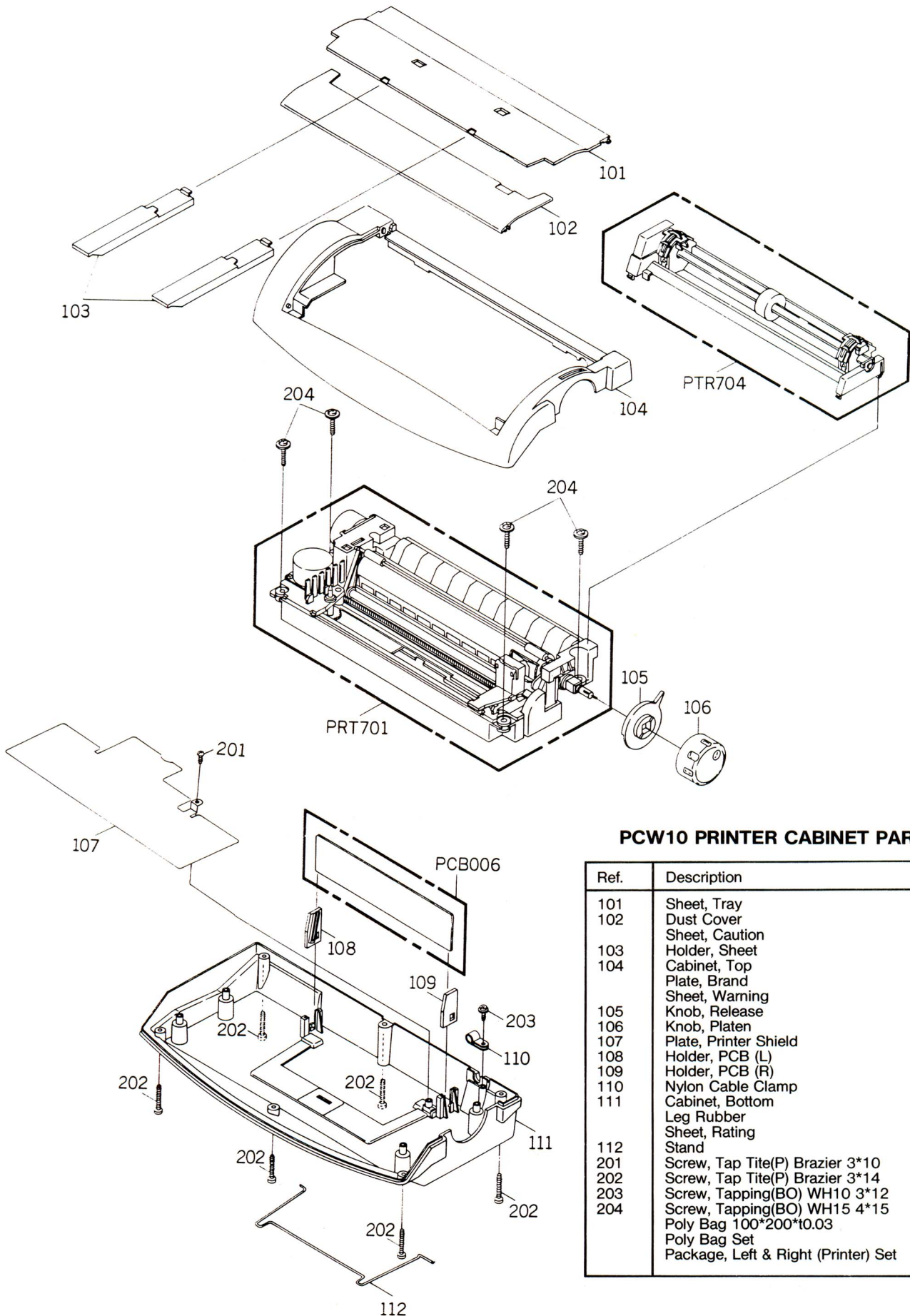
L701, B701, B702 — linked, non CE version.

NC701, NC702, NC703, NC704 — fitted on CE version.

Extra GND connections & ribbon cable for non CE version at CD706.

R727, 10K Ω resistors — IC703 pin 1 & 5 to +5V.
Change resistor circuit reference, R705 (100 Ω), R705 — R704 (1K Ω)

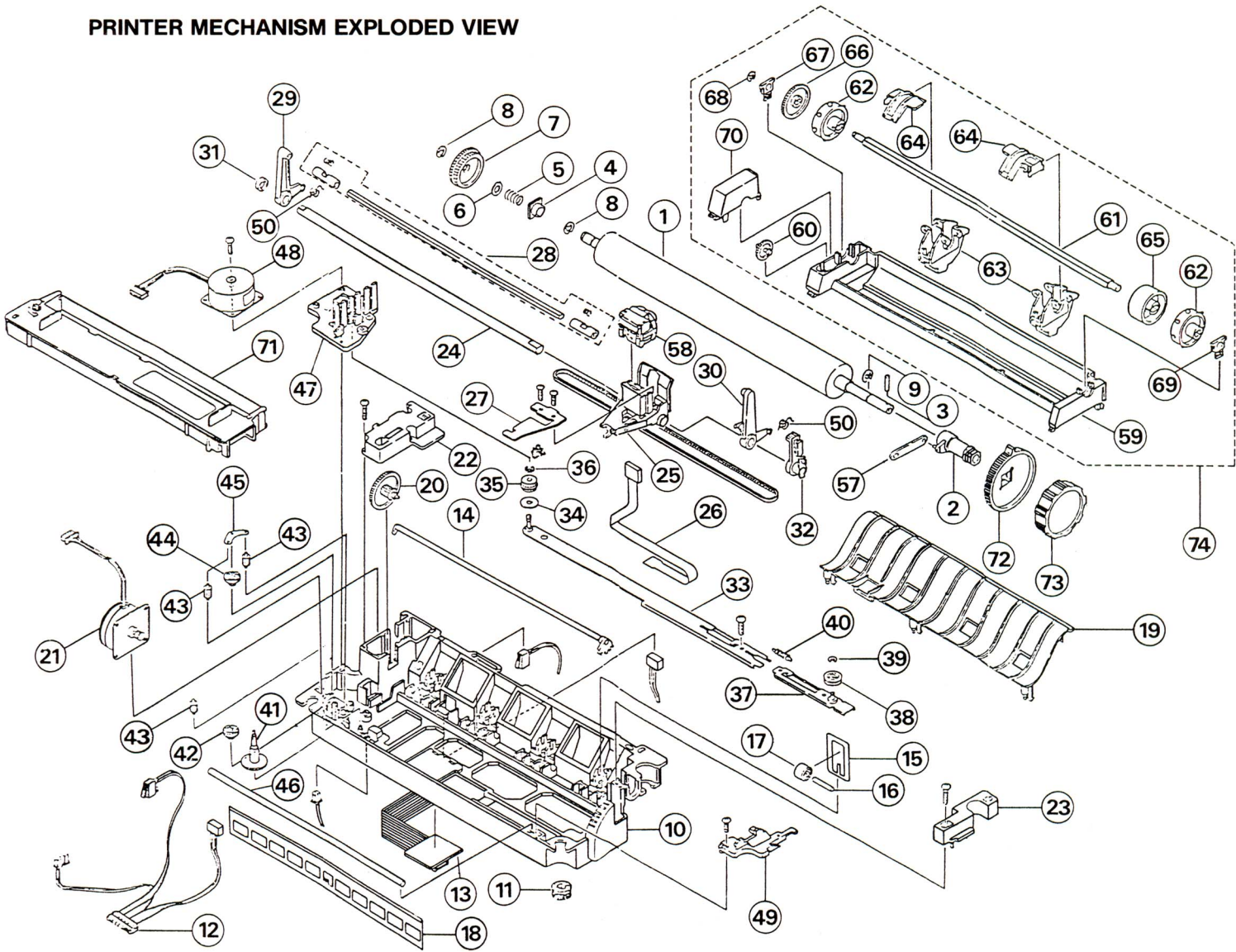
PRINTER EXPLODED VIEW



PCW10 PRINTER CABINET PARTS LIST

Ref.	Description	Part No.
101	Sheet, Tray	272754
102	Dust Cover	273535
	Sheet, Caution	
103	Holder, Sheet	171123
104	Cabinet, Top	273537
	Plate, Brand	
	Sheet, Warning	
105	Knob, Release	273539
106	Knob, Platen	273538
107	Plate, Printer Shield	
108	Holder, PCB (L)	273540
109	Holder, PCB (R)	273541
110	Nylon Cable Clamp	272761
111	Cabinet, Bottom	273542
	Leg Rubber	
112	Sheet, Rating	
	Stand	272763
201	Screw, Tap Tite(P) Brazier 3*10	
202	Screw, Tap Tite(P) Brazier 3*14	
203	Screw, Tapping(BO) WH10 3*12	
204	Screw, Tapping(BO) WH15 4*15	
	Poly Bag 100*200*t0.03	
	Poly Bag Set	
	Package, Left & Right (Printer) Set	272764

PRINTER MECHANISM EXPLODED VIEW



PRINTER MECHANISM PARTS LIST

Ref.	Description	Part No.	Ref.	Description	Part No.
1	Platen	171701	34	Set Collar	171735
2	Release Sleeve	171702	35	Carriage Gear	171736
3	Spring Pin	171703	36, 39	E Ring 2oz	171737
4	LF Bearing	171704	37	Set, Carriage Bracket B	171738
5	LF Spring	171705	38	Pulley	171739
6	Poly Slider	171706	40	Tension Spring	171740
7	LF Gear B	171707	41	RF Gear B	171741
8	E Ring 6oz	171708	42	RF Gear A	171742
9	E Ring 5oz	171709	43	Switch Gear	171743
10	Frame	171710	44	RF Gear C	171744
11	Rubber Foot	171711	45	RF Plate	171745
12	Set, Sensor	171712	46	Carriage Sub Shaft	171746
13	Set, Head, P.C.B.	171713	47	RF Gear Cover	171748
14	Release Shaft	171714	48	Set, Carriage Motor	171749
15A/B	Pressure Spring	171715A/B	49	Cover B	171750
16	P Shaft	171716	50	Bail Arm Spring	171751
17	Set, Pressure Roller	171717	57	Release Link	171752
18	Paper Press	171718	58	Print Head	171753
19	Paper Guide	171719	59	Tractor Frame	171754
20	LF Gear A	171720	60	Tractor Gear B	171755
21	Set, LF Motor	171721	61	Tractor Shaft	171756
22	LF Gear Cover	171722	62	Sprocket	171757
23	Cover A	171724	63	Tractor Bracket	171758
24	Carriage Shaft	171725	64	Tractor Cover	171759
25	Set, Carriage	171726	65	Idle	171760
26	Set, Head Cable	171727	66	Tractor Gear A	171761
27	Head Bracket	171728	67, 69	Tractor Bearing	171762
28	Set, Bail Shaft	171729	68	E Ring 4oz	171763
29	Bail Arm L	171730	70	Tractor Gear Cover	171764
30	Bail Arm R	171731	71	Ribbon	
31	Carriage Sleeve A	171732	72	Release Knob	171765
32	Set, Gap Lever	171733	73	Platen Knob	171766
33	Set, Carriage Bracket A	171734	74	Tractor Assembly	171211

PCW10 CABINET PARTS LIST

Ref.	Description	Part No.
101	Cabinet Front Assembly	273521
	Cabinet Front	
	Plate, Brand	
	Plate, FDD	
102	Button, Power	272737
103	Frame, CRT (L)	272738
104	Frame, CRT (R)	272739
105	Cover, Power Switch	272740
106	Knob, Control	272741
107	Holder, PCB (L)	272742
108	Holder, PCB (R)	272743
109	Plate, Shield	
110	Frame, FDD	272744
111	Sheet, Shield FDD	272745
112	Shield, Top	272746
113	Shield, Bottom	272747
114	Cabinet, Bottom	273525
	Leg Rubber	
115	Cabinet, Back	273526
	Sheet, Rating	
116	Cover, Hole	272749
117	Screw, Cap	272750
118	Cover, Card Edge	272751
119	Spring, Earth	
120	Sheet, CRT Support	
121	Cord Clamp No. PEC-034-0 D1A3	
122	Card, Spacer	
201	Screw/Washer (A)M3*5	
202	Screw/Washer (C)M4*6	
203	Screw, Tap Tite(S) Flat 3*6	
204	Screw, Tap Tite(P) Brazier 3*8	
205	Screw, Tap Tite Brazier 3*14	
206	Screw, Tap Tite(P) 3*16	
207	Screw, Tap Tite(P) Bind 4*12	
208	Screw, Tap Tite(P) Bind 4*16	
209	Screw, Tap Tite(P) Pan GW14 4*30	
210	Screw, Tapping(BO) Pan 3*6	
211	Screw, Tapping(BO) WH12 3*8	
212	Screw, Tapping(BO) Flat 3*18	
213	Screw, Tap Tite(P) Brazier 3*6	
214	Lock Lug Dia 4 L=22	
215	Speed Nut USN 4004	
	Guarantee Card, New Registration	272753
	Card, User Club Brochure (pack)	273509
	Package Set, Top & Bottom	
	Gift Box	

MONITOR CABINET EXPLODED VIEW

