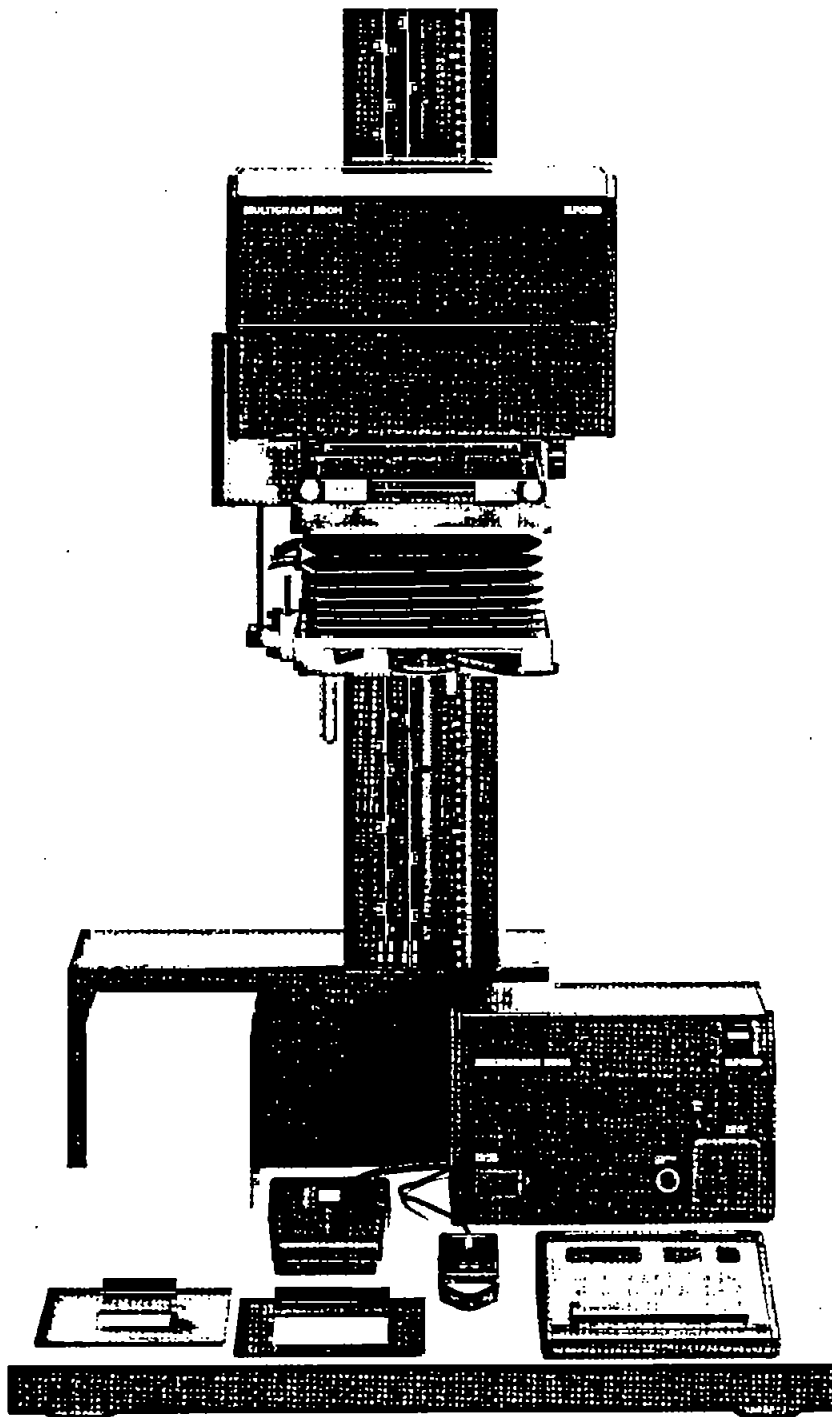


ILFORD MULTIGRADE 500

ENLARGER HEAD AND CONTROL SYSTEM
INCORPORATING MEMORY FACILITY. FOR
SMALL TO MEDIUM FORMAT ENLARGERS.



CE



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AMENDMENT RECORD SHEET

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	Initial issue	November 1991
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APPROVED ABBREVIATIONS

The following is a list of abbreviations used in the parts lists and circuit diagrams:

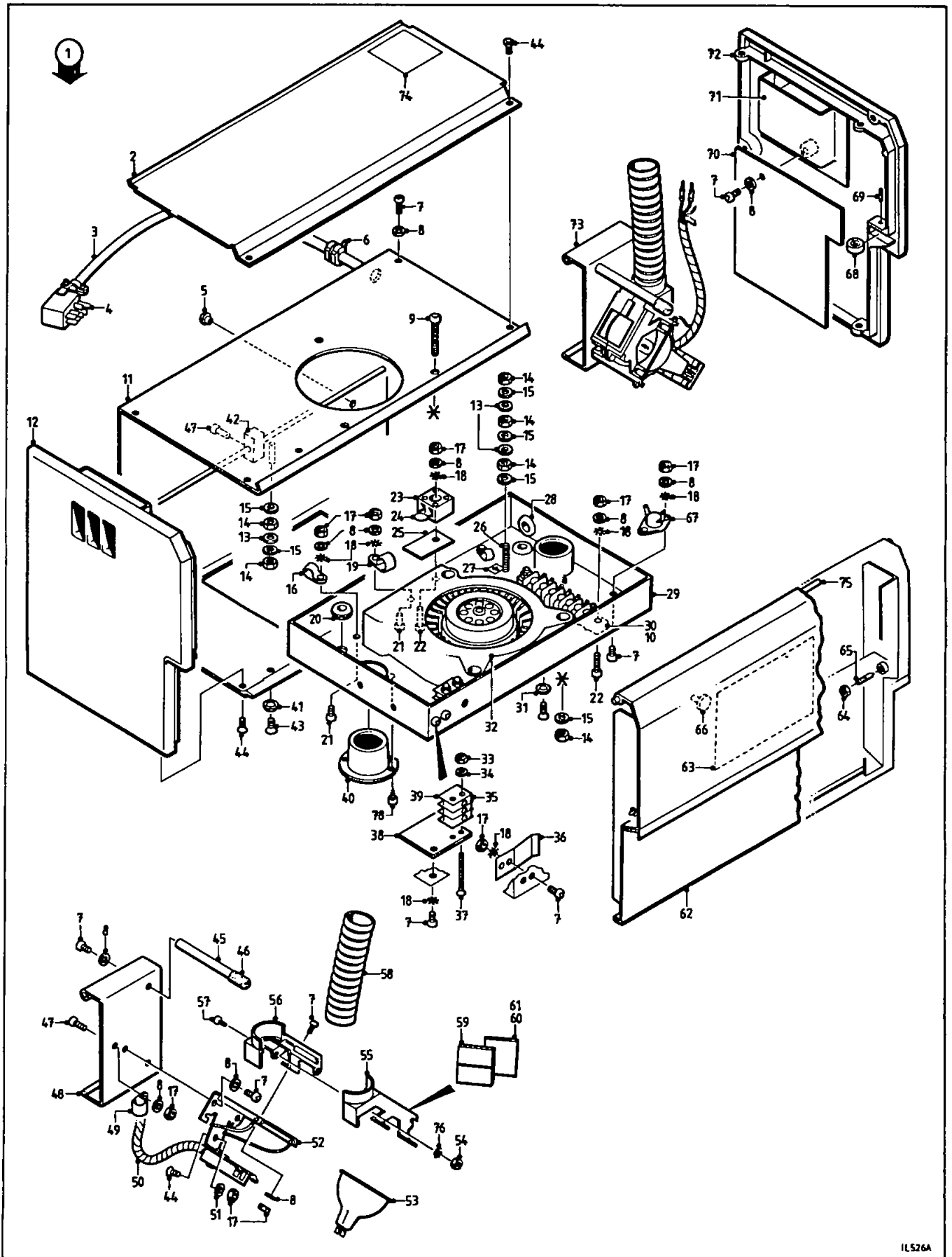
Word(s) in full	Abbreviation
as required	AR
assembly	assy
control, temperature	CT
countersunk head	csk hd
developer	dev
diameter	d
figure	fig
fixer	fix
flexible hose	flex hose
hexagonal head	hex hd
inside diameter	id
left hand	lh
light emitting diode	LED
number	no.
outside diameter	od
overflow	oflow
pan head	phd
potentiometer	pot
printed circuit board	PCB
relay	RL
replenishment	rep
right hand	rh
self tapping	stap
shakeproof	sproof
stainless steel	ss
switch	SW
teeth	T
temperature	temp
terminal block	TB

**PARTS
LIST**

This section details all spare parts that are available for the ILFORD MULTIGRADE 500 system.

Figure	Description	Page
1.1	MULTIGRADE 500H enlarger head	4
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When ordering spare parts, please quote the correct part number in order that ILFORD Limited can process your order as quickly and efficiently as possible.



Section 1

MULTIGRADE 500H enlarger head

Figure 1.1

ILFORD MULTIGRADE 500

1.1 MULTIGRADE 500H enlarger head

Ref no.	Part no.	Description	Quantity
1	6068-P-025	Enlarger head, complete	1
2	6068-2-133	Fan cover	1
3	81335315	Cable	1
4	86618537	Plug, 10A (PL1)	1
5	83425602	Blanking plug	2
6	81334709	Strain relief bush	1
7	87992722	Screw, M3x6mm, phd	22
8	89730453	Washer, M3, plain	24
9	87992756	Screw, M4x30mm, phd	3
10	87991745	Screw, M3x5mm, stap	4
11	6068-1-175	Lamphouse	1
12	6068-2-143	End cap, lh	1
13	89730454	Washer, M4, plain	3
14	86203904	Nut, M4	8
15	89730541	Washer, M4, spring	8
16	81334725	Clip, 5.5mm id	2
17	86203903	Nut, M3	18
18	89730575	Washer, M3, sproof	11
19	81334723	Clip, 10mm id	1
20	83883505	Grommet, A2313	2
21	87992724	Screw, M3x10mm, phd	3
22	87992726	Screw, M3x16mm, phd	3
23	89013025	Terminal block, 2-way (TB2)	1
24	89014852	PTC thermistor (TH1)	1
25	6162-4-107	Insulation plate, thermistor	1
26	87992755	Screw, M4x25mm, phd	1
27	85268401	Label, earth	1
28	83883504	Grommet, A453	1
29	6162-2-103	Fan tray	1
30	89013013	Terminal strip (TB1)	1
31	89730664	Washer, cup, no.4	6
32	83419205	Fan (FN1)	1
33	86204334	Nut, 8BA	2
34	89730709	Washer, 8BA	2
35	87998628	Micro-switch (SW1)	3
36	6162-4-108	Actuator, micro-switch	1
37	87993594	Screw, 8BAx1 ¹ / ₈ inch, csk hd	2
38	6162-4-105	Plate, micro-switch	1
39	6162-4-106	Insulator spacer	4
40	6068-4-145	Tube retainer	2

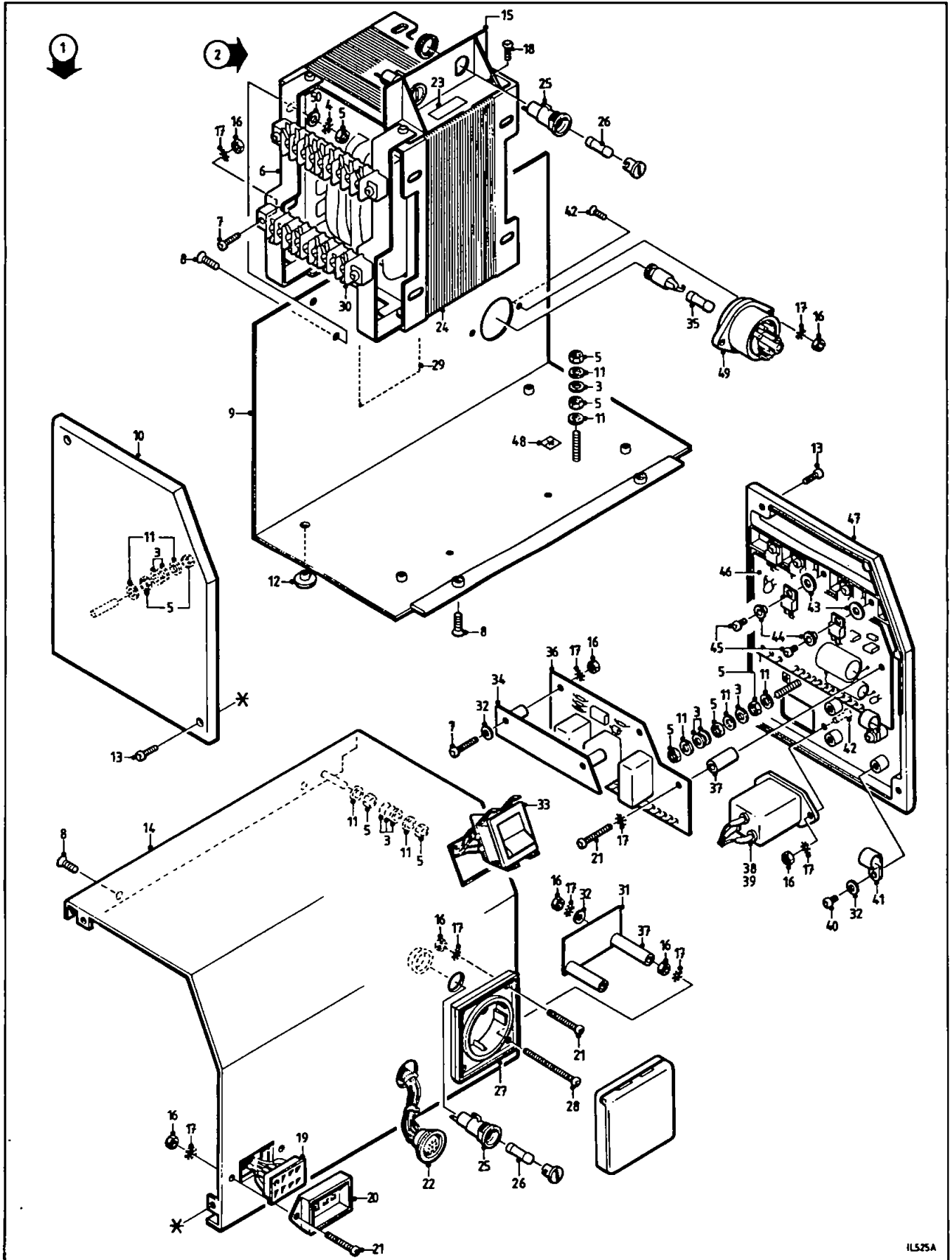
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ILFORD MULTIGRADE 500

1.1 MULTIGRADE 500H enlarger head

Ref no.	Part no.	Description	Quantity
41	89730665	Washer, cup, no.6	4
42	6068-3-174	Rod support	1
43	87990446	Screw, M4x5mm, csk hd	4
44	87990420	Screw, M3x6mm, csk hd	8
45	6068-4-134	Slide post	2
46	83425603	Ferrule, PVC	2
47	87992723	Screw, M3x8mm, phd	4
48	6162-3-101	Lamp slide, lh	1
49	81334726	'P' clip, 7.9mm id	2
50	81335652	Spiroband	AR
51	89730540	Washer, M3, spring	2
52	6068-P-005	Lampholder assy	2
53	84677114	Lamp, 120V, 300W, ELH (LP1, LP2)	2
54	86203902	Nut, M2.5	4
55	6068-1-115	Filter holder, lh	2
56	6068-2-114	Filter holder, rh	2
57	87992714	Screw, M2.5x6mm, phd	4
58	81339300	Flexible conduit, steel	2
59	83425803	Filter, heat	4
60	83425802	Filter, green, lh	1
61+	83425801	Filter, blue, rh	1
62	6068-P-004	Door assy	1
63	6068-4-138	Label, warning	1
64	86204519	Nut, M4, nylon	2
65	87989070	Grub screw, M4x10mm, nylon	2
66	6162-4-104	Door button	1
67	89014402	Thermal cut-out (SW2)	1
68	6129-4-104	Roller catch, door	2
69	87997604	Spring pin, 12x2mm id	2
70	6068-3-153	Heat baffle	2
71	6068-3-126	Light trap	2
72	6068-1-142	End cap, rh	1
73	6162-3-102	Lamp slide, rh	1
74	6068-4-178	Label, serial number/rating	1
75	6068-4-162	Hinge pin, door	1
76	89730574	Washer, M2.5, sproof	4
77+	88002001	Rifa suppressor (RS1)	1

+ items not illustrated.



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1.2 MULTIGRADE 500S power supply

Ref no.	Part no.	Description	Quantity
1	6066-P-025	Power supply, complete	1
2	6161-P-005	Transformer assy	1
3	89730454	Washer, M4, plain	10
4	89730576	Washer, M4, sproof	4
5	86203904	Nut, M4	15
6	6161-3-101	Terminal strip bracket	2
7	87992726	Screw, M3x16mm, phd	6
8	87990905	Screw, M4x10mm, csk hd	10
9	6066-1-151	Case, rear	1
10	6066-2-103	End cap, lh	1
11	89730541	Washer, M4, spring	11
12	83425601	Foot	4
13	87992725	Screw, M3x12mm, phd	4
14	6066-1-150	Case, front	1
15	6161-4-102	Fuse bracket	1
16	86203903	Nut, M3	18
17	89730575	Washer, M3, sproof	20
18	87993537	Screw, M3x12mm, stap	3
19	86618535	Socket, 10A (SK2)	1
20	6161-3-117	Shroud, enlarger socket	1
21	87992728	Screw, M3x25mm, phd	6
22	86618514	Socket, 8-pin (SK3)	1
23	6161-4-121	Label, fuse	1
24	89014205	Transformer (T1)	1
25	83421231	Fuse holder	3
26	83421232	Fuse, 1A (F1, F2, F3)	3
27	86618536	Outlet socket (SK4)	1
28	87992732	Screw, M3x45mm, phd	2
29	6066-4-152	Label, serial number/rating	1
30	89013023	Terminal strip (TB1, TB2)	2
31	6066-4-158	Insulator, socket	1
32	89730453	Washer, M3, plain	6
33	87998630	Rocker switch (SW1)	1
34	6066-4-157	Insulator, PCB	1
35	83421212	Fuse, 4A	1
36	6161-P-004	PCB, relay (PCB2)	1
37	88000823	Spacer, 19mm	4
38	86618555	Socket, power inlet filter (SK1)	1
39+	82956908	Rubber boot	1
40	87992722	Screw, M3x6mm, phd	2

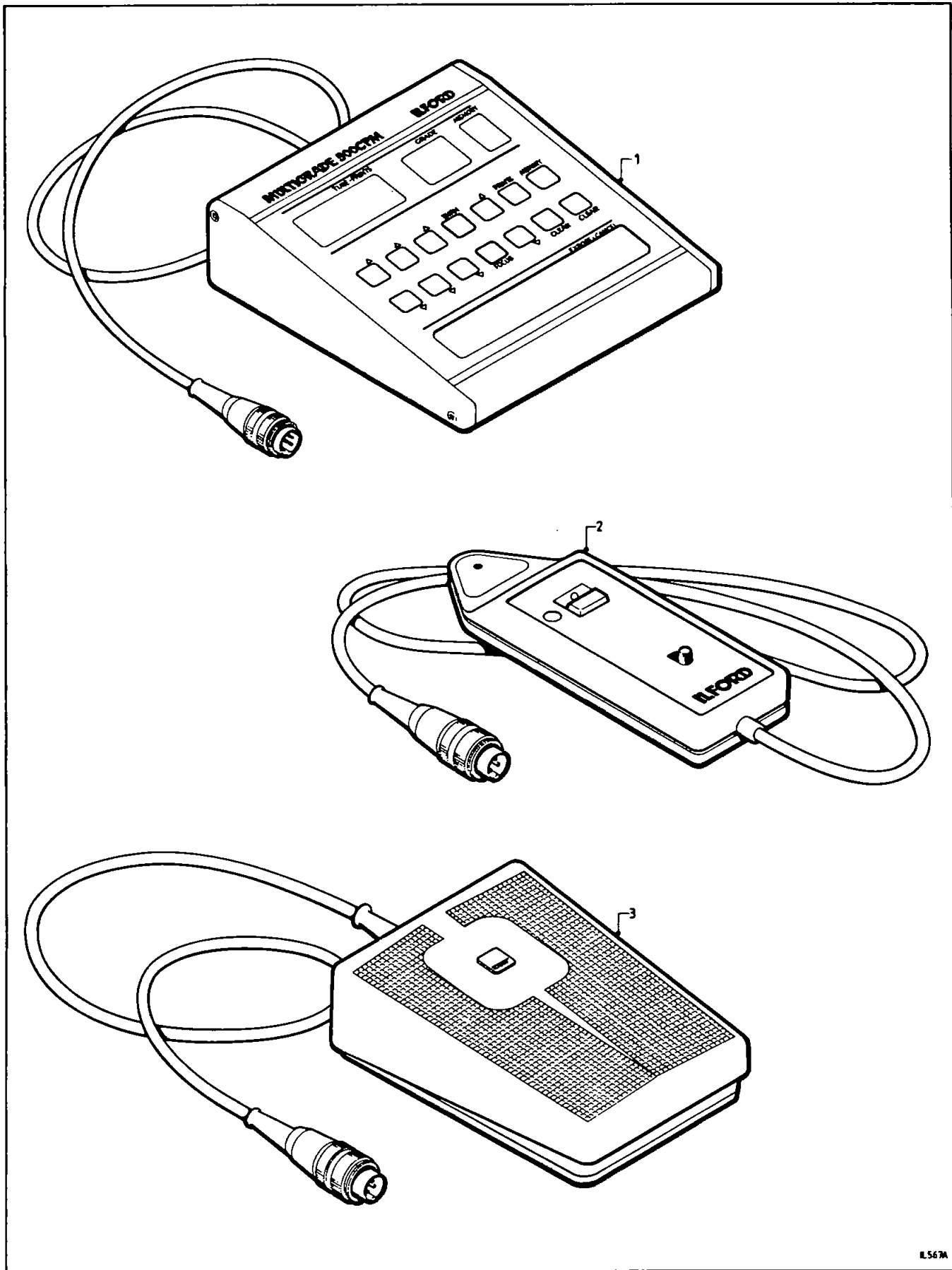
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1.2 MULTIGRADE 500S power supply

Ref no.	Part no.	Description	Quantity
41	81334728	Clip, 5/16 inch	2
42	87990879	Screw, M3x12mm, csk hd	4
43	82956902	Insulation washer	2
44	82956901	Insulation bush	2
45	87992721	Screw, M3x5mm, phd	5
46	6161-P-003	PCB, power (PCB1)	1
47	6066-1-104	End cap, rh	1
48	85268401	Label, earth	4
49	6161-P-008	Voltage supply selector (SW2)	1
50	89730719	Washer, M5, plain	4

+ items not illustrated.



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1.3 General

Ref no.	Part no.	Description	Quantity
1	6065-P-050	MULTIGRADE 500CPM control unit	1
2	6067-P-001	MULTIGRADE 500P exposure probe	1
3	6115-P-001	MULTIGRADE 500F footswitch	1
4+	6071-3-011	Mains lead kit, Euro	1
5+	6071-P-012	Mains lead kit, UK (Euro type)	1
6+	6071-P-013	Mains lead kit, free end (Euro type)	1
7+	6071-3-008	Extension lead, enlarger head to power supply	1
8+	6071-3-007	Extension lead, control unit to power supply	1

+ items not illustrated.

Note

Items 4, 5 and 6 comprise mains lead with plugs, and a spare mains fuse.

2

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ELECTRICAL DIAGRAMS

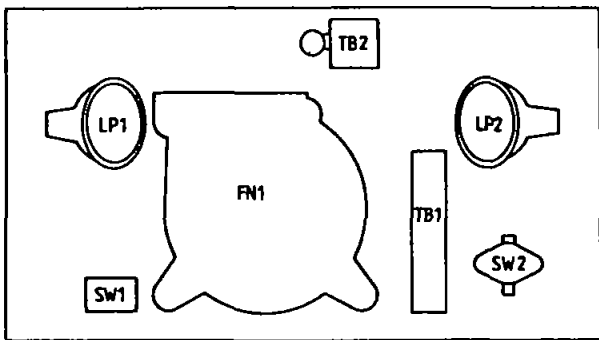
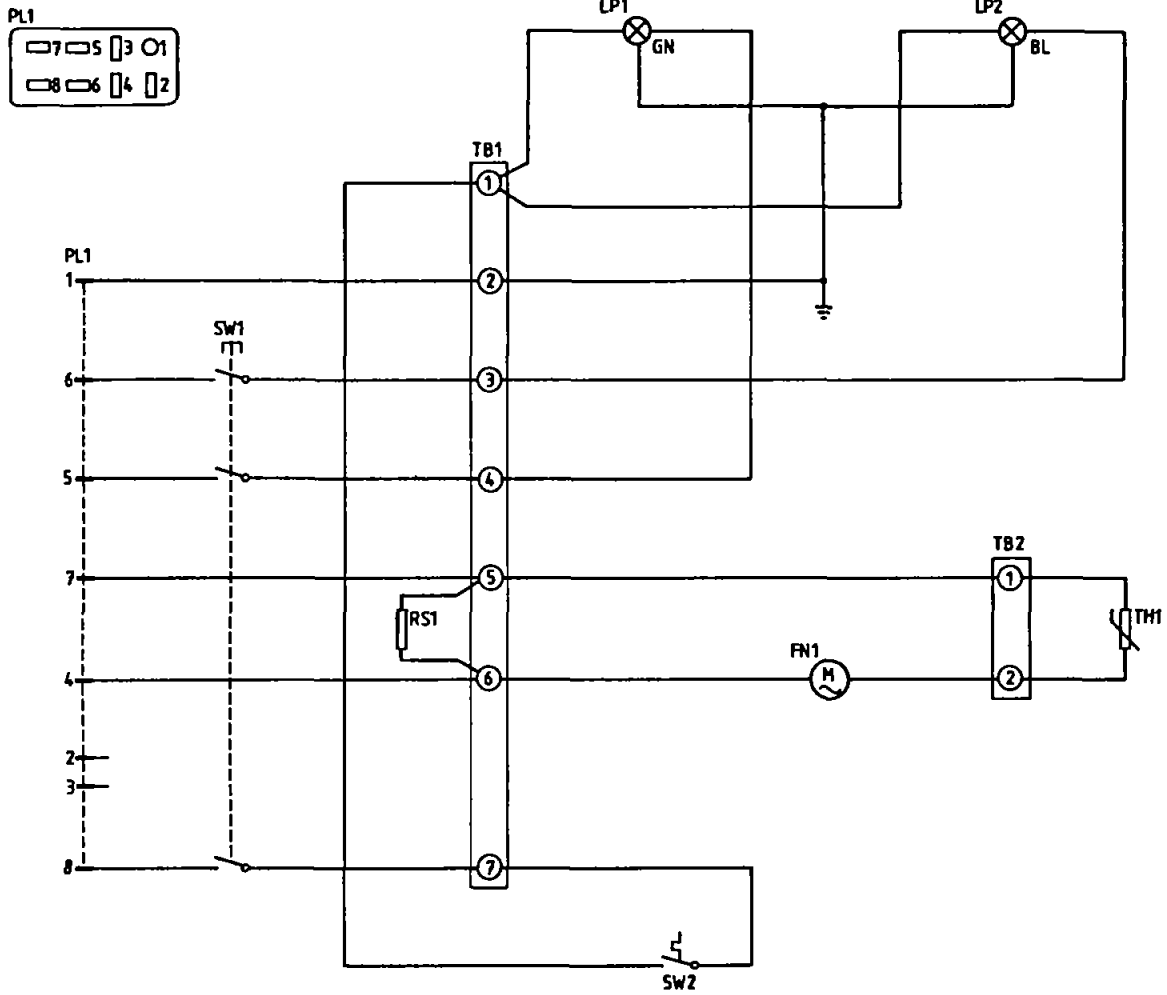
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Note

The circuit diagrams are shown in the de-energised state.

PL1 SW1 RS1 TB1 LP1 SW2 FN1 LP2 TB2

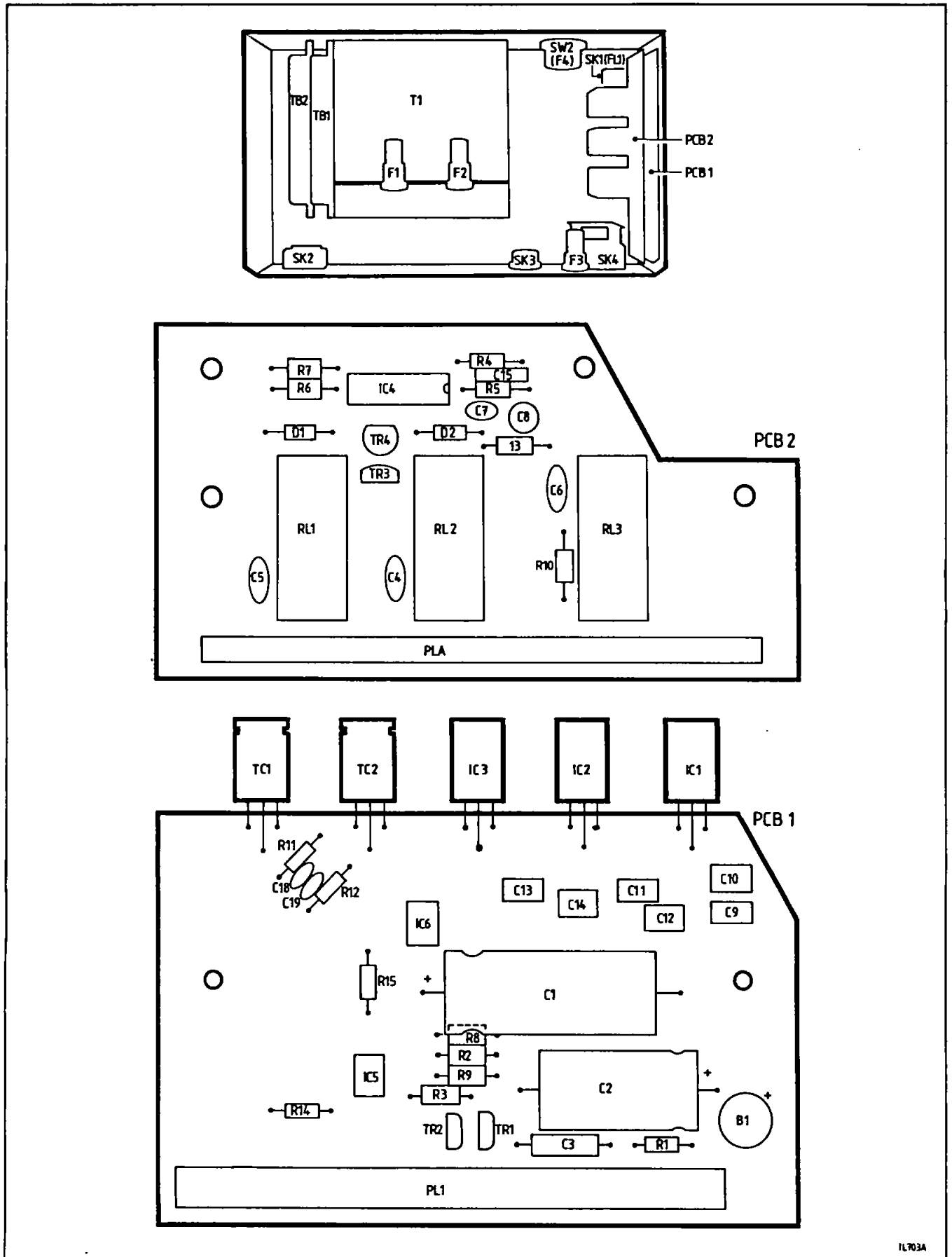


Notes

- Component Identification**
- FN1 Fan
 - LP1 'Green' lamp (lh)
 - LP2 'Blue' lamp (rh)
 - PL1 Plug, enlarger head
 - SW1 Switch, door interlock
 - SW2 Thermal cut-out

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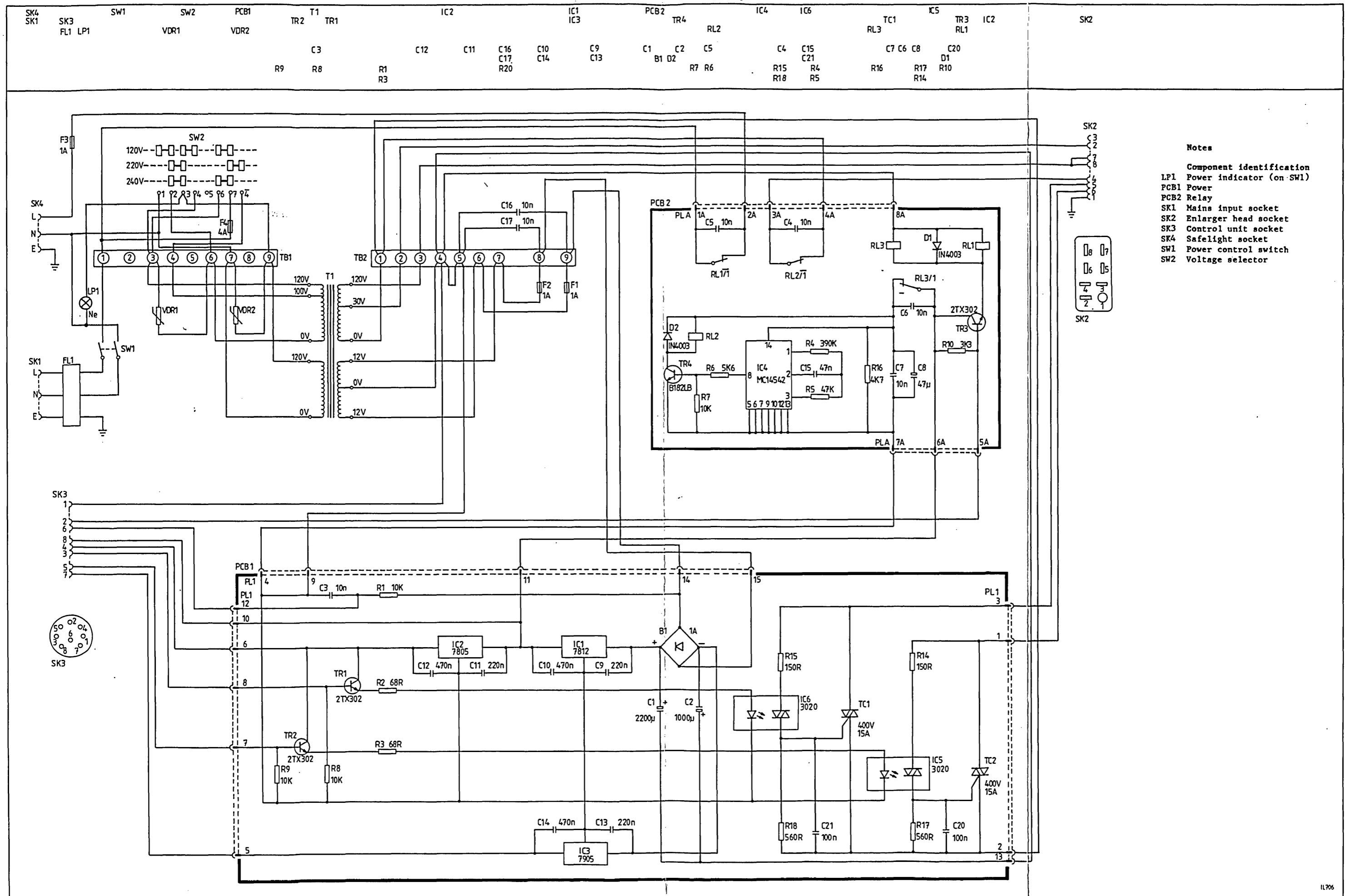
MULTIGRADE 500H enlarger head - circuit diagram and component layout



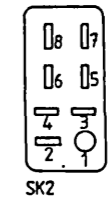
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MULTIGRADE 500S power supply - component layout

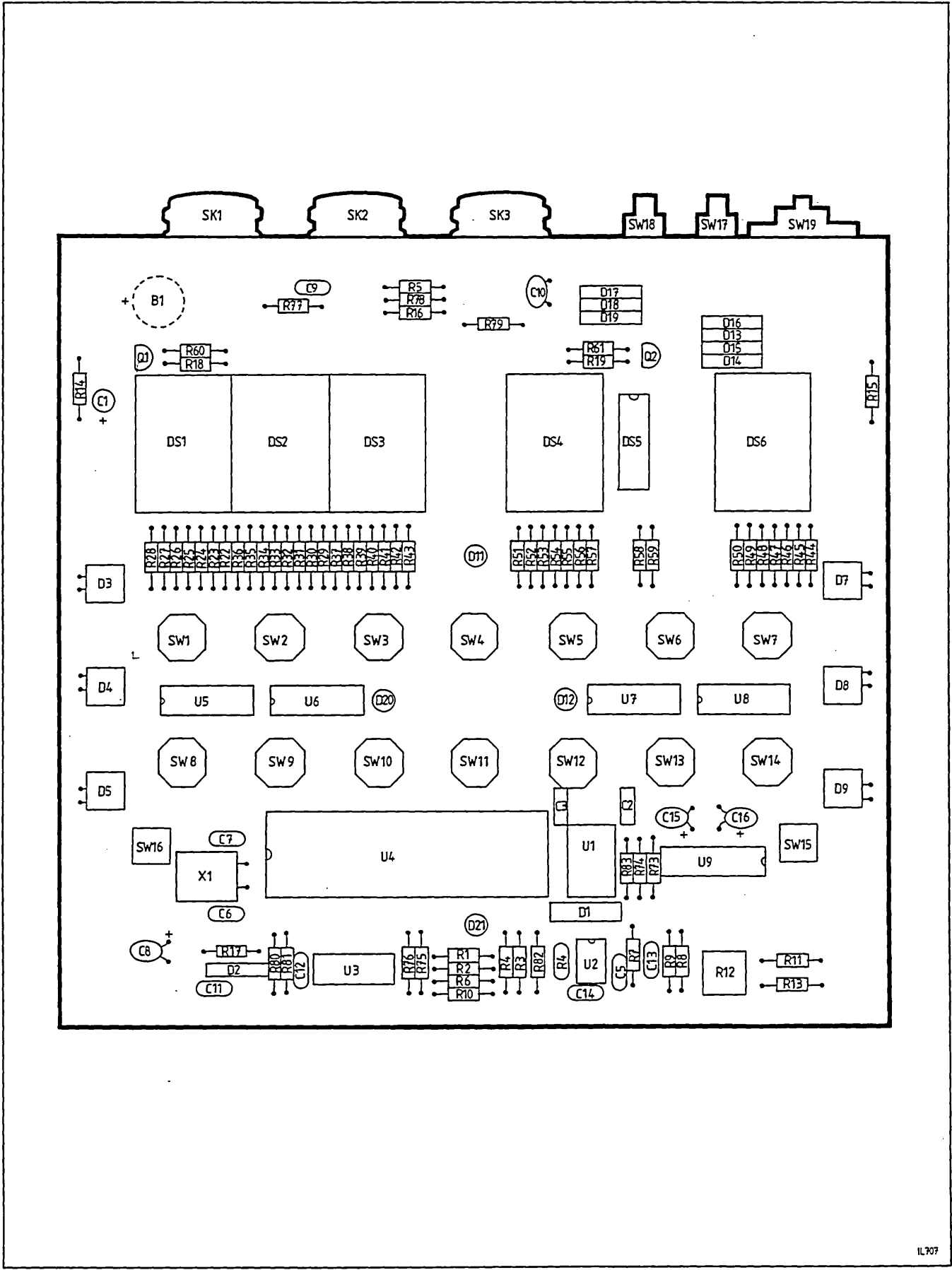
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- Notes**
- Component identification**
- LP1 Power indicator (on SW1)
 - PCB1 Power
 - PCB2 Relay
 - SK1 Mains input socket
 - SK2 Enlarger head socket
 - SK3 Control unit socket
 - SK4 Safelight socket
 - SW1 Power control switch
 - SW2 Voltage selector



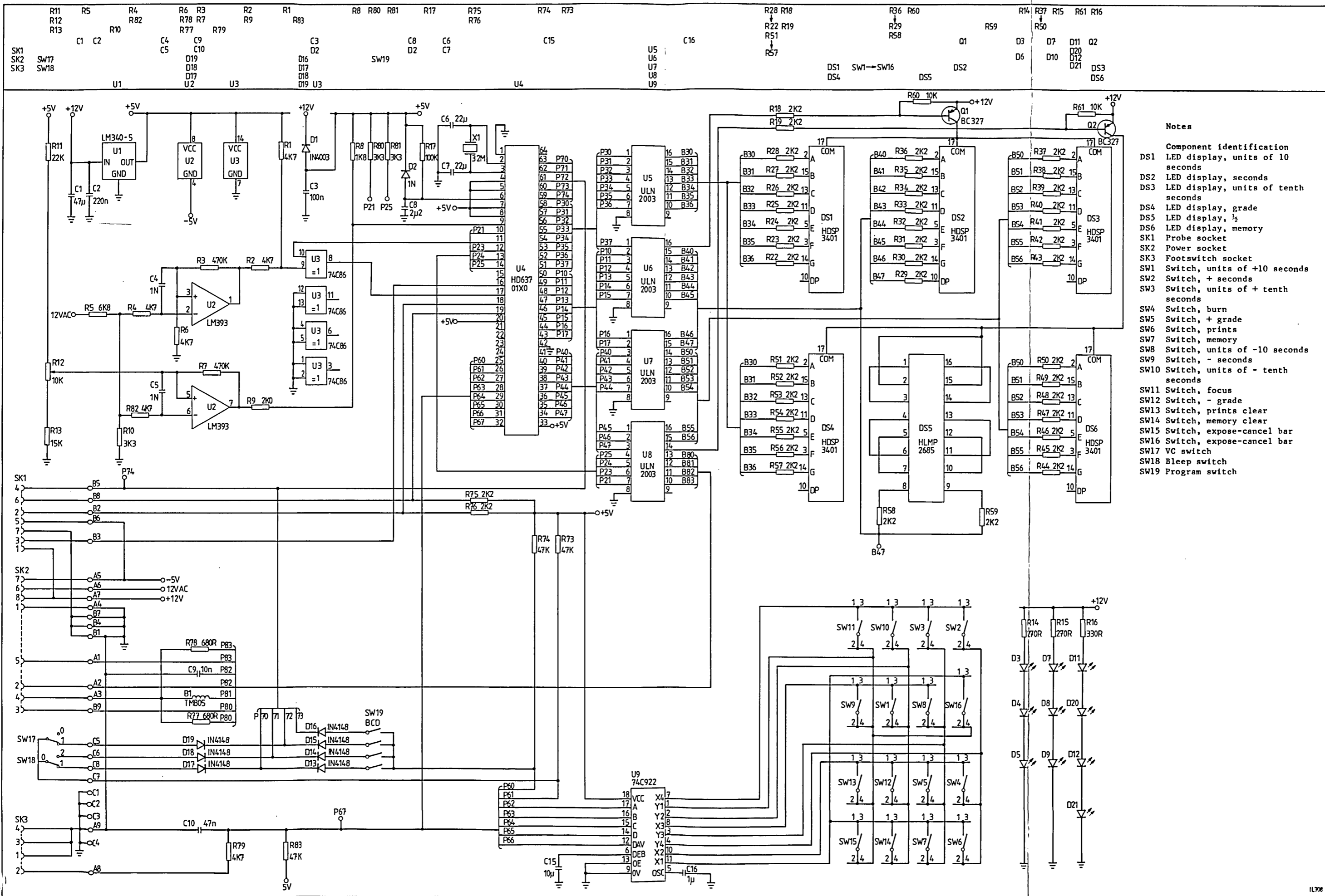
MULTIGRADE 500S power supply - circuit diagram
Figure 2.3 17



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MULTIGRADE 500CPM control unit - component layout

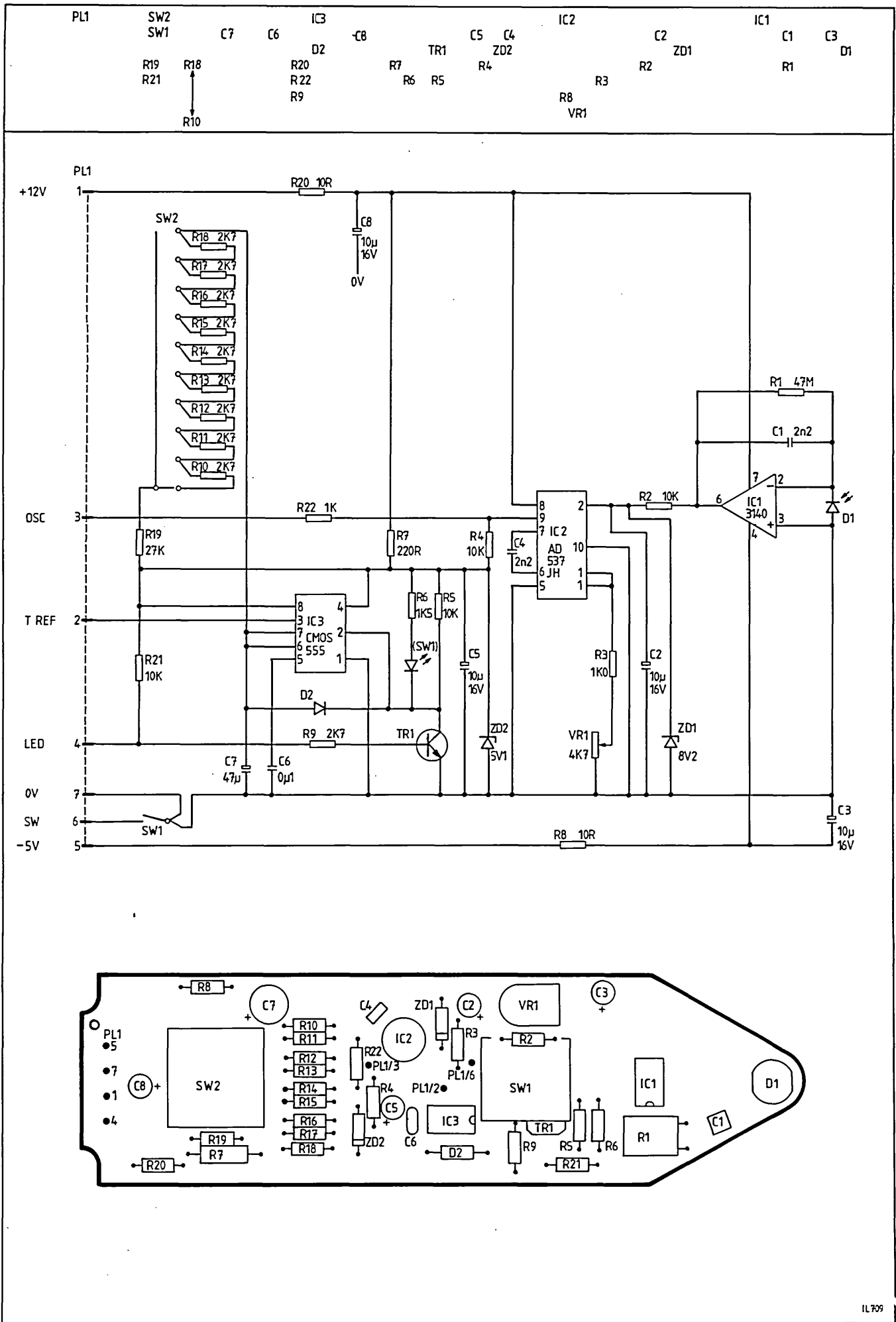
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- Notes**
- Component identification**
- DS1 LED display, units of 10 seconds
 - DS2 LED display, seconds
 - DS3 LED display, units of tenth seconds
 - DS4 LED display, grade
 - DS5 LED display, 1/2
 - DS6 LED display, memory
 - SK1 Probe socket
 - SK2 Power socket
 - SK3 Footswitch socket
 - SW1 Switch, units of +10 seconds
 - SW2 Switch, + seconds
 - SW3 Switch, units of + tenth seconds
 - SW4 Switch, burn
 - SW5 Switch, + grade
 - SW6 Switch, prints
 - SW7 Switch, memory
 - SW8 Switch, units of -10 seconds
 - SW9 Switch, - seconds
 - SW10 Switch, units of - tenth seconds
 - SW11 Switch, focus
 - SW12 Switch, - grade
 - SW13 Switch, prints clear
 - SW14 Switch, memory clear
 - SW15 Switch, expose-cancel bar
 - SW16 Switch, expose-cancel bar
 - SW17 VC switch
 - SW18 Bleep switch
 - SW19 Program switch

MULTIGRADE 500CPM control unit - circuit diagram

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MULTIGRADE 500P exposure probe - circuit diagram and component layout

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