

PARTS LIST for 30/3 Amp Power Supply, by Karl Shoemaker, AK20

Qty:	Description	Main chassis- General items					
		Number	Values	Values	Vendor	Part Number	What for
1	Box, metal	16 Gu	17" x 9" x 4 1/2"	Local metal shop	Steel	entire unit	25
1	cover	16 Gu	17" x 9" x 4 1/2"	Local metal shop	Steel	above box	5
8	screw	Aluminum	self tapping #10	Local HW stores		above box and cover	0.25
1	Panel, rack	#10-32 x 1/2"	PHPD #3	Mouser Electronics	563-PA-1103-WH	5 1/4" (steel ok, too)	20
6	Screw	#10-32	PHPD	Local HW stores		Mounting panel to box	0.25
6	Nut	#10-32	Nickel	Local HW stores		Mounting panel to box	0.25
1	Terminal block	TB2	142-4	Mouser Electronics	538-38211-0104	10 v section output	3
4	Screw	#10-32 x 1"	PHPD	Local HW stores		above terminal block, TB2	0.25
4	Nut	#10-32	PHPD	Local HW stores		above terminal block, TB2	0.25
1	Terminal block	TB1	140-4	Mouser Electronics	538-38770-0104	12 v section output	2
4	Screw	#8-32 x 1"	PHPD	Local HW stores		above terminal block, TB1	0.25
4	Nut	#8-32	PHPD	Local HW stores		above terminal block, TB1	0.25
2	Screw	#10-32 x 1/2"	PHPD	Local HW stores		2 ground points on chassis	0.25
3	Nut	#10-32	PHPD	Local HW stores		2 ground points on chassis	0.25
4	Lug, ring type	#10	10-12 AWG	Local HW stores		Grn wire, MOV, 10v ground points	2
1	Jack, pin type		Black	Mouser Electronics	517-1218	Ground point for DVM	0.75
1	Line cord, EIA			Mouser Electronics	530-105-0803-1	AC power input	2
1	Connector, EIA, AC		W/ RFI	Hosfelt Electronics	60-616	AC power input	1
2	MOVs or SADS		200 DC	Hosfelt Electronics	27-190	AC power input limiting	1
2	Toroid, ferriet	4 turns	1/2" dia	Hosfelt Electronics	V150LA20B	AC input RFI filtering	0.25
3	Fuse holder		3AG	All Electronics	TOR-23	AC and DC primary	4
3	Fuse, 3AG		5 Amp	Hosfelt Electronics	342014A	AC and DC primary	1
4	Fuse, 3AG		10 Amp	Hosfelt Electronics	31-170	AC and DC primary	1
2	L.E.D.	XC556G	1 3/4", defused	Jameco Electronics	31-070	10 v section	1
4	L.E.D.	XC556Y	1 3/4", defused	Jameco Electronics	34761EH/34761CC	Power indicator circuits	0.25
3	Resistor		1K	Jameco Electronics	34825CF/34825CC	Fault/alarm circuits	0.25
2	Resistor		47K	Mouser Electronics		DC alarm and indicators	0.25
1	Fan	Melsughita	4" Boxer, DC	Mouser Electronics		AC alarms	0.25
4	Screw	#6-32 x 1 1/2"	PHPD	Hosfelt Electronics	26-637	Air flow-10v diodes	4
4	Nut	#6-32	PHPD	Local HW stores		Mounting fan	0.25
1	Fuse, 3AG	Bussman	1 Amp	Local HW stores		Mounting fan	0.25
24	Wire, colored	stranded	W,B,Y,R,etc.	Hosfelt Electronics	31-020	Fan protection	0.5
99	Wire, colored	solid, Romex type	10 AWG	Mouser Electronics		Everything except 10v wiring	1
6	Electrical tape	Scotch "88"		Local HW stores		10v wiring	2
24	Wire, colored		R, BIK	Local HW stores		Protection of C1 terminals	0.25
2	Heat shrink		1/16"	Mouser Electronics	5174-11163	12v wiring	0.25
6	Heat shrink		3/16"	Mouser Electronics	5174-13163	MOV/SAD leads(one side)	0.5
3	Paint can		Spray	Local HW stores		Wiring and terminals	2

1	RTV sealant	Small tube	Clear	Local HW stores		Stabilizing T1 windings			2
1	Compound, sink	Small tube		Mouser Electronics		For 12 bridge rec.			1
1	Letter Transfer kit			Local HW stores		front panel labeling			3
1	Solder	Kester "44"	.031"	Hosfelt Electronics	46-141				
1	Tool	Drill	Press	Local HW stores					
1	Tool	Drill	Hand	Local HW stores					
1	Tool	Drill	Bits	Local HW stores		3/16, 1/8", 1/16", etc			
1	Tool	Screwdriver	#2 Phil	Local HW stores					
1	Tool		#1 Straight	Local HW stores		tightening 4-40 nuts on sub-assy			
1	Tool	open wrench	1/4"	Local HW stores		cutting AC connector hole			
1	Tool	Recep saw		Local HW stores		marking #10 white wire to red			
1	Tool	Pen, felt		Local HW stores		cutting AC connector hole			
1	Tool	File, bastard		Local HW stores					
30	Hours	labor, time				Approx count per unit			

10 volt power supply section

1	Transformer	Internet ?	35 Amp	12 v		430-7001	T1; remove 2 windings (each way)		35
4	Screw	#10-.32 x 1/2"	PHPD	Nickel	Local HW stores		mounting above transformer		0.25
4	Nut	#10-.32		Nickel	Local HW stores		mounting above transformer		0.25
1	Choke	Hammond 195C30		Nickel	Mouser Electronics	195C30	L3		40
4	Screw	#10-.32 x 1/2"	PHPD	Nickel	Local HW stores		mounting above choke		0.25
4	Nut	#10-.32		Nickel	Local HW stores		mounting above choke		0.25
1	Capacitor	Elect, PC grade	.1 F	25v	Mouser Electronics	CGS104U025X3L	Primary DC; C1		38
1	Capacitor	Elect, PC grade	44,000 uf	30v	Mouser Electronics	CGS443U030W3C	Secondary DC; C3		26
1	Clamp	for capacitor	3". 3 1/4"		Mouser Electronics	539-VR12	for above C1		1.5
1	Clamp	for capacitor	2.5"~2.56"		Mouser Electronics	539-VR10	for above C3		1.5
6	Screw	#8-32 x 1/2"	PHPD	Nickel	Local HW stores		Above clamps		0.25
1	Screw	#8-32 x 1"	PHPD	Nickel	Local HW stores		Above clamps		0.25
7	Nut	#8-32		Nickel	Local HW stores		Adjuster for above clamps		0.25
6	Lug, ring type	#10	10-12 AWG	Non-insu	Mouser Electronics	517-1218	Above clamps and adjusters		0.25
4	Lug, ring type	1/4"	10-12 AWG	Non-insu	Mouser Electronics	517-1219	C1, C3 and L3 terminals		0.75
4	Diode, rectifier	Cathode on stud	40 Amp	200 PIV	Hosfelt Electronics	40HF20	Diodes on heat sink		0.5
1	Heat sink	Aluminum	2"x4" w holes	1/4" holes	All Electronics	NLA	Goes on heat sink, below		8
2	bracket, L type	steel	1/2" x 1/2"	#10 holes	Local HW stores		above reverse diodes		3
2	Nut	#10-32		Nickel	Local HW stores		mounting above sink		1
2	Screw	#10-32	1/2"	Nylon	Local HW stores		spot welded on L brackets		0.25
2	Nut	#10-32		Nylon	Local HW stores		mounting above sink		0.25
4	Insulator, Mica		TO-3		Local HW stores		mounting above sink		0.25
4	Diode, rectifier	Anode on stud	40 Amp	200 PIV	Hosfelt Electronics	40HF20	mounting above sink		0.25
2	Thermo switch		100° F	N.O.	Mouser Electronics	802-STC-100	Chassis mounting		8
1	Fuse holder	Array type	8 Position	3AG	Hosfelt Electronics	43-191	fan control; mounts on sink		8.5
4	Screw	#8-32 x 3/4"	PHPD	Nickel	Local HW stores		For 10v and fan protection		1.5
4	Nut	#8-32	PHPD	Nickel	Local HW stores		For fuse array		0.25
4	Fuse, 3AG		10 Amp		Local HW stores		For fuse array		0.25
							10v protection		1

12 volt power supply sub-assy-NEW TYPE									
1	Transformer	Signals 241-7-16 3.5 Amp	16v CT	Jameco Electronics	149956	T2			10
1	12" wire	Stranded	18 AWG	Local HW stores	line cord, Blk-Whit	T2 AC pri and secondary			1
1	Diode, rectifier	Bridge-4 way	400 PV	Mouser Electronics	625GBPC3504	For 12v section			3
1	Screw	#10-32 x 3/4"	Nickel	Local HW stores		above bridge			0.25
1	Nut	#10-32	Nickel	Local HW stores					0.25
1	Capacitor	Elect, PC grade	35v	Mouser Electronics	CGS303U035W3C	C2, 12 v section			25
1	Clamp	for capacitor	2.5"~2.56"	Mouser Electronics	539-VR10	for above C3			1.5
3	Screw	#8-32 x 1/2"	Nickel	Local HW stores		Above clamp			0.5
1	Screw	#8-32 x 1"	Nickel	Local HW stores		Adjuster for above clamp			0.25
4	Nut	#8-32	Nickel	Local HW stores		Above clamp, adjuster			0.25
1	Regulator, I.C.	LM338	5 Amp	Jameco Electronics	192284CF				2
1	Heat sink	TO-3 holes	2" x 4"	All Electronics	NLA	IC regulator mount			4
2	Screw	#4-40	1"	Local HW stores		mounting heat sink to chassis			0.25
2	bushing	#4-40	1/4"	All Electronics	SP-42	mounting heat sink to chassis			1
2	Screw	#4-40	1/2"	Local HW stores		mounting term lugs			0.25
4	Nut	#4-40	Nickel	Local HW stores		mounting sink and term lugs			0.25
1	Terminal, lug type	6 position	blaclight	Mouser Electronics		components for this assy			0.25
1	Trimpot	single turn	1/8 w	Hosfelt Electronics	38-120	12v adjust			1
1	Resistor	220 ohm	1/4 watt	Mouser Electronics		For 12v regulator section			0.25
1	Capacitor	Tantalum	0.1 uf	Mouser Electronics	80-T350A104K035AT	For 12v regulator section			0.25
1	Capacitor	Tantalum	1.0 uf	Mouser Electronics	80-T350A105K035AT	For 12v regulator section			0.25
1	Capacitor	Tantalum	10 uf	Mouser Electronics	80-T350G106K035AT	For 12v regulator section			0.25

Total est. parts cost less tx/ship 327.75

Notes: Cap: 3.625" max height

Digi-Key	Thermo swi	Temp: C	Temp: F	
	317-1092N	35°C	95°	Normally open; close when hot
	317-1093N	40°C	104°	"
	317-1094N	50°C	122°	"

or

Mouser	802-STC-100	100°F	"
	802-STC-120	120°F	"

Clamps	2"	539-VR8
	2.5"	539-VR10

Capacitor	Tantalum	0.1 uf	35v	Digi-Key	P2053	For 12v regulator section
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