

Service Manual

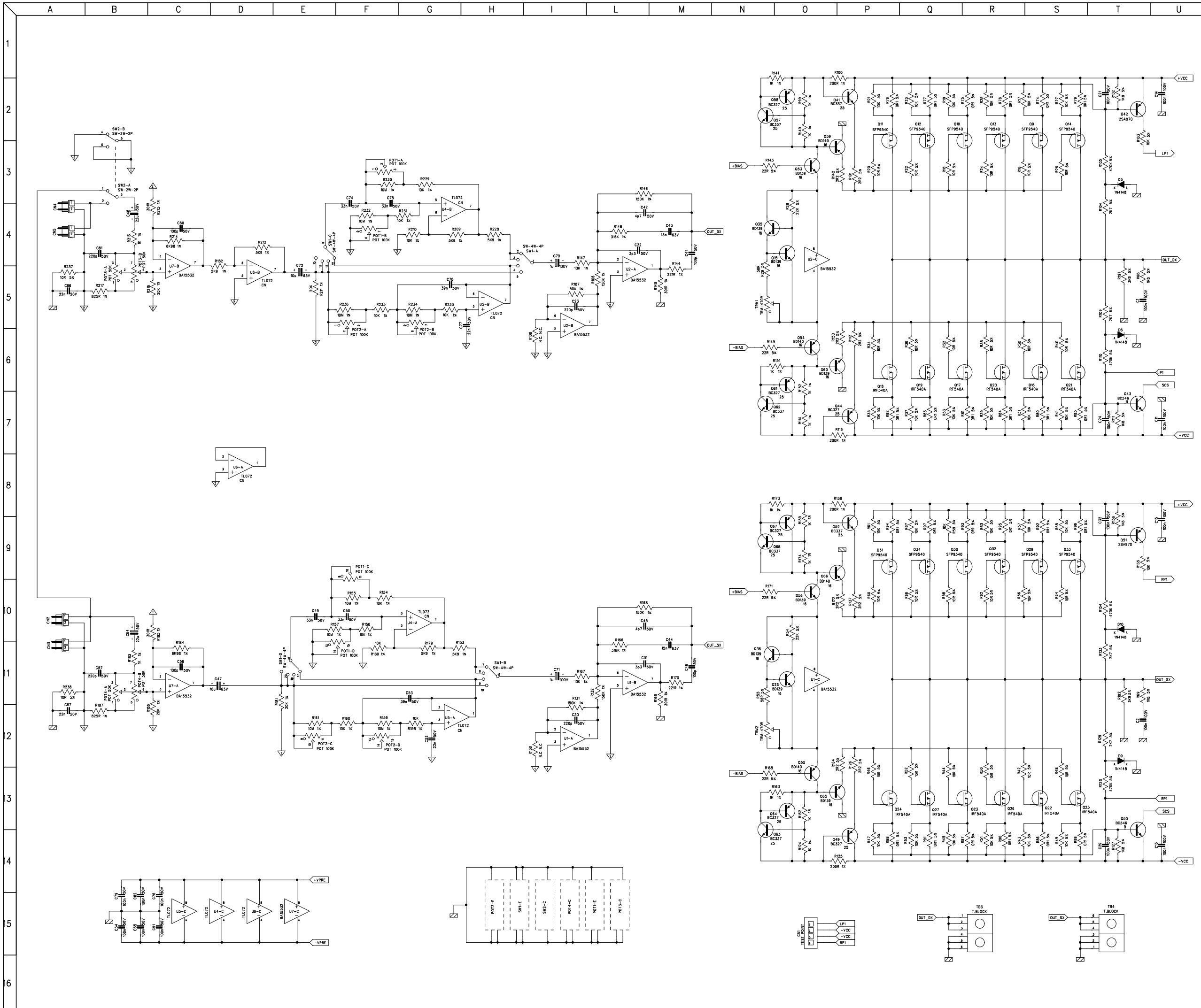


DH 3602

COD: 850538010

REV. 1.0A

DATA: 14/05/2001



PROJECT: DRAGSTER

TITLE: DH 3602

REV: 1.0A DATE: 14/05/2001

P.C.B. CODE : 850538010

SHEET: 1/2

SCH FILE: DH3602-850538010-ANDREA-AD

PREVIOUS UPDATE

UPDATE	DATE:	SEE PAGE N.
A	XX/XX/XX	XX
B	XX/XX/XX	XX
C	XX/XX/XX	XX
D	XX/XX/XX	XX
E	XX/XX/XX	XX

POWER SUPPLY TOPOLOGY:

STABILIZED	SW FREQ.
XXXX	XX KHz

TEST POINT

VCC	+/- XXXV Typ.
VPRE	+/- XXXV Typ.
	PRIMARY POWER GROUND
	SECONDARY POWER GROUND
	XXXX SIGNAL GROUND
	XXXX SIGNAL GROUND
	XXXX SIGNAL GROUND
	XXXX SIGNAL GROUND

INPUT SIGNAL : XXXX < Vrms < XXXX

NOTES

TEST CONDITIONS: XX Volt / X+X Ohm
 OUTPUT POWER: XXW x X
 THERMAL CUT OFF: XX°C
 IDLE CURRENT: XX Ampere (+ BIAS)
 BIAS: XX Ampere/ch. (on BATT.)
 MAX. CURRENT: XX Ampere
 BANDPASS: XXHz - XXKHz

REF-DES	DESCRIPTION	SEL.	PWR/CASE	TYPE	VOLT	M.FACTORY
C1	100n	5%	STEP 5mm	POLYESTER	100V	
C2	100n	5%	STEP 5mm	POLYESTER	100V	
C3	100n	5%	STEP 5mm	POLYESTER	100V	
C4	2n2	5%	STEP 5mm	POLYESTER	100V	
C5	2n2	5%	STEP 5mm	POLYESTER	100V	
C6	100n	5%	STEP 5mm	POLYESTER	100V	
C7	10n	20%	STEP 5mm	CERAMIC Z5U	100V	
C8	10n	20%	STEP 5mm	CERAMIC Z5U	100V	
C9	10n	20%	STEP 5mm	CERAMIC Z5U	100V	
C10	10n	20%	STEP 5mm	CERAMIC Z5U	100V	
C11	100n	5%	STEP 5mm	POLYESTER	100V	
C12	220u	85'	D10-L16	ELECTROLYTIC	63V	
C13	100n	5%	STEP 5mm	POLYESTER	100V	
C14	100n	5%	STEP 5mm	POLYESTER	100V	
C15	100n	5%	STEP 5mm	POLYESTER	100V	
C16	100n	20%	STEP 5mm	CERAMIC Z5U	50V	
C17	220u	85'	D10-L16	ELECTROLYTIC	63V	
C18	3300u	105'	D16-L25	ELECTROLYTIC	16V	
C19	3300u	105'	D16-L25	ELECTROLYTIC	16V	
C20	2n2	20%	STEP 5mm	CERAMIC Z5U	50V	
C21	100n	20%	STEP 5mm	CERAMIC Z5U	50V	
C22	3p3	10%	STEP 5mm	CERAMIC X7R	50V	
C23	220p	20%	STEP 5mm	CERAMIC Z5U	50V	
C24	100n	20%	STEP 5mm	CERAMIC Z5U	50V	
C25	100n	20%	STEP 5mm	CERAMIC Z5U	50V	
C26	22n	20%	STEP 5mm	CERAMIC Z5U	50V	
C27	22n	20%	STEP 5mm	CERAMIC Z5U	50V	
C28	100n	20%	STEP 5mm	CERAMIC Z5U	50V	
C29	100n	20%	STEP 5mm	CERAMIC Z5U	50V	
C30	220p	20%	STEP 5mm	CERAMIC Z5U	50V	
C31	3p3	10%	STEP 5mm	CERAMIC X7R	50V	
C32	100n	20%	STEP 5mm	CERAMIC Z5U	50V	
C33	2n2	5%	STEP 5mm	POLYESTER	100V	
C34	22u	85'	D5-L11	ELECTROLYTIC	50V	
C35	2200u	SNAP-IN	D22-L25	ELECTROLYTIC	63V	
C36	2200u	SNAP-IN	D22-L25	ELECTROLYTIC	63V	
C37	2200u	SNAP-IN	D22-L25	ELECTROLYTIC	63V	
C38	2200u	SNAP-IN	D22-L25	ELECTROLYTIC	63V	
C39	3300u	105'	D16-L25	ELECTROLYTIC	16V	
C40	3300u	105'	D16-L25	ELECTROLYTIC	16V	
C41	100p	10%	STEP 5mm	CERAMIC X7R	50V	
C42	4p7	10%	STEP 5mm	CERAMIC X7R	50V	
C43	15n	5%	STEP 5mm	POLYESTER	63V	
C44	15n	5%	STEP 5mm	POLYESTER	63V	
C45	4p7	10%	STEP 5mm	CERAMIC X7R	50V	
C46	100p	10%	STEP 5mm	CERAMIC X7R	50V	
C47	10u	85'	D5-L11	ELECTROLYTIC	63V	
C48	22u	85'	D5-L11	ELECTROLYTIC	50V	
C49	33n	5%	STEP 5mm	POLYESTER	50V	
C50	33n	5%	STEP 5mm	POLYESTER	50V	
C51	100n	20%	STEP 5mm	CERAMIC Z5U	50V	
C52	22n	5%	STEP 5mm	POLYESTER	50V	
C53	39n	5%	STEP 5mm	POLYESTER	50V	
C54	100n	20%	STEP 5mm	CERAMIC Z5U	50V	
C55	100n	20%	STEP 5mm	CERAMIC Z5U	50V	
C56	100p	10%	STEP 5mm	CERAMIC X7R	50V	
C57	220p	20%	STEP 5mm	CERAMIC Z5U	50V	
C58	100n	20%	STEP 5mm	CERAMIC Z5U	50V	
C59	100n	20%	STEP 5mm	CERAMIC Z5U	50V	
C60	2200u	SNAP-IN	D22-L25	ELECTROLYTIC	63V	
C61	2200u	SNAP-IN	D22-L25	ELECTROLYTIC	63V	
C62	2200u	SNAP-IN	D22-L25	ELECTROLYTIC	63V	
C63	2200u	SNAP-IN	D22-L25	ELECTROLYTIC	63V	
C64	22u	85'	D5-L11	ELECTROLYTIC	50V	
C65	3300u	105'	D16-L25	ELECTROLYTIC	16V	
C66	N.C.	N.C.	STEP 5mm	CERAMIC	N.C.	
C67	100u	85'	D6.3-L11	ELECTROLYTIC	25V	
C68	220n	5%	STEP 5mm	POLYESTER	63V	
C69	1u	85'	D5-L11	ELECTROLYTIC	100V	
C70	1u	85'	D5-L11	ELECTROLYTIC	100V	
C71	1u	85'	D5-L11	ELECTROLYTIC	100V	
C72	10u	85'	D5-L11	ELECTROLYTIC	63V	
C73	22n	20%	STEP 5mm	CERAMIC Z5U	50V	
C74	33n	5%	STEP 5mm	POLYESTER	50V	
C75	33n	5%	STEP 5mm	POLYESTER	50V	
C76	100n	20%	STEP 5mm	CERAMIC Z5U	50V	
C77	22n	5%	STEP 5mm	POLYESTER	50V	

C78	39n	5%	STEP 5mm	POLYESTER	50V	
C79	100n	20%	STEP 5mm	CERAMIC Z5U	50V	
C80	100p	10%	STEP 5mm	CERAMIC X7R	50V	
C81	220p	20%	STEP 5mm	CERAMIC Z5U	50V	
C82	100n	20%	STEP 5mm	CERAMIC Z5U	50V	
C83	100u	85'	D6.3-L11	ELECTROLYTIC	25V	
C84	100u	85'	D6.3-L11	ELECTROLYTIC	25V	
C85	1u	85'	D5-L11	ELECTROLYTIC	100V	
C86	22n	20%	STEP 5mm	CERAMIC Z5U	50V	
C87	22n	20%	STEP 5mm	CERAMIC Z5U	50V	
CN1	TEST POINT		4 PIN	TEST POINT		
CN2	2P CONNECTOR		2 PIN	COD:EH25 W - 02		ADIMPEX
CN3	2P CONNECTOR		2 PIN	COD:EH25 W - 02		ADIMPEX
CN4	2P CONNECTOR		2 PIN	COD:EH25 W - 02		ADIMPEX
CN5	2P CONNECTOR		2 PIN	COD:EH25 W - 02		ADIMPEX
D1	MUR1520		TO220-AC	RECTIFIER 15A ULTRA FAST	200V	
D2	MUR1520		TO220-AC	RECTIFIER 15A ULTRA FAST	200V	
D3	MUR1520		TO220-AC	RECTIFIER 15A ULTRA FAST	200V	
D4	MUR1520		TO220-AC	RECTIFIER 15A ULTRA FAST	200V	
D5	1N4148		DO35	RECTIFIER 200mA FAST	75V	
D6	1N4148		DO35	RECTIFIER 200mA FAST	75V	
D7	1N4148		DO35	RECTIFIER 200mA FAST	75V	
D8	1N4148		DO35	RECTIFIER 200mA FAST	75V	
D9	1N4148		DO35	RECTIFIER 200mA FAST	75V	
D10	1N4148		DO35	RECTIFIER 200mA FAST	75V	
D11	P600	A	P600	RECTIFIER 6A	50V	
D12	1N4148		DO35	RECTIFIER 200mA FAST	75V	
D13	FR304		DO201	RECTIFIER 3A FAST	100V	
D14	FR304		DO201	RECTIFIER 3A FAST	100V	
DZ1	11V	400mW	DO35	ZENER	11V	
DZ2	6V2	400mW	DO35	ZENER	6V2	
DZ3	6V2	400mW	DO35	ZENER	6V2	
DZ4	11V	400mW	DO35	ZENER	11V	
DZ5	6V2	400mW	DO35	ZENER	6V2	
FST1	FASTON		HORIZONTAL	COD:BFO/A1/6.3		
HS1	HEATSINK			COD:8150/20/FS		
HS2	HEATSINK			COD:8150/20/FS		
HS3	HEATSINK			COD:8150/20/FS		
HS4	HEATSINK			COD:8150/20/FS		
J1	N.C.			WIRE		
J2	N.C.			WIRE		
J3	N.C.			WIRE		
J4	N.C.			WIRE		
J5	PEM	M3		THREAD FERRULE		SIFER
J6	PEM	M3		THREAD FERRULE		SIFER
J7	PEM	M3		THREAD FERRULE		SIFER
J8	PEM	M3		THREAD FERRULE		SIFER
LED1	BI-COLOR LED		3mm	BI-COLOR LED GREEN/RED		
POT1	POT 100K	20%	QUAD. POT.	COD:R2142G-AA1-B100K		H.T.
POT2	POT 100K	20%	QUAD. POT.	COD:R2142G-AA1-B100K		H.T.
POT3	POT 50K	20%	DUAL POT.	COD:R2122G-AA1-B50K		H.T.
POT4	POT 50K	20%	DUAL POT.	COD:R2122G-AA1-B50K		H.T.
Q1	HUF75333P3		TO220	N CHANNEL MOSFET	55V	HARRIS
Q2	HUF75333P3		TO220	N CHANNEL MOSFET	55V	HARRIS
Q3	HUF75333P3		TO220	N CHANNEL MOSFET	55V	HARRIS
Q4	HUF75333P3		TO220	N CHANNEL MOSFET	55V	HARRIS
Q5	HUF75333P3		TO220	N CHANNEL MOSFET	55V	HARRIS
Q6	HUF75333P3		TO220	N CHANNEL MOSFET	55V	HARRIS
Q7	HUF75333P3		TO220	N CHANNEL MOSFET	55V	HARRIS
Q8	HUF75333P3		TO220	N CHANNEL MOSFET	55V	HARRIS
Q9	SFP9540		TO220	P CHANNEL MOSFET	100V	SAMSUNG
Q10	SFP9540		TO220	P CHANNEL MOSFET	100V	SAMSUNG
Q11	SFP9540		TO220	P CHANNEL MOSFET	100V	SAMSUNG
Q12	SFP9540		TO220	P CHANNEL MOSFET	100V	SAMSUNG
Q13	SFP9540		TO220	P CHANNEL MOSFET	100V	SAMSUNG
Q14	SFP9540		TO220	P CHANNEL MOSFET	100V	SAMSUNG
Q15	BD139	16	TO126	TR.NPN	80V	
Q16	IRF540A		TO220	N CHANNEL MOSFET	100V	SAMSUNG
Q17	IRF540A		TO220	N CHANNEL MOSFET	100V	SAMSUNG
Q18	IRF540A		TO220	N CHANNEL MOSFET	100V	SAMSUNG
Q19	IRF540A		TO220	N CHANNEL MOSFET	100V	SAMSUNG
Q20	IRF540A		TO220	N CHANNEL MOSFET	100V	SAMSUNG
Q21	IRF540A		TO220	N CHANNEL MOSFET	100V	SAMSUNG
Q22	IRF540A		TO220	N CHANNEL MOSFET	100V	SAMSUNG
Q23	IRF540A		TO220	N CHANNEL MOSFET	100V	SAMSUNG
Q24	IRF540A		TO220	N CHANNEL MOSFET	100V	SAMSUNG
Q25	IRF540A		TO220	N CHANNEL MOSFET	100V	SAMSUNG
Q26	IRF540A		TO220	N CHANNEL MOSFET	100V	SAMSUNG

Q27	IRF540A		TO220	N CHANNEL MOSFET	100V	SAMSUNG
Q28	BD139	16	TO126	TR.NPN	80V	
Q29	SFP9540		TO220	P CHANNEL MOSFET	100V	SAMSUNG
Q30	SFP9540		TO220	P CHANNEL MOSFET	100V	SAMSUNG
Q31	SFP9540		TO220	P CHANNEL MOSFET	100V	SAMSUNG
Q32	SFP9540		TO220	P CHANNEL MOSFET	100V	SAMSUNG
Q33	SFP9540		TO220	P CHANNEL MOSFET	100V	SAMSUNG
Q34	SFP9540		TO220	P CHANNEL MOSFET	100V	SAMSUNG
Q35	BD139	16	TO126	TR.NPN	80V	
Q36	BD139	16	TO126	TR.NPN	80V	
Q37	BD139	16	TO126	TR.NPN	80V	
Q38	BD139	16	TO126	TR.NPN	80V	
Q39	BD140	16	TO126	TR.PNP	80V	
Q40	BD140	16	TO126	TR.PNP	80V	
Q41	BC337	25	TO92	TR.NPN	45V	
Q42	2SA970		TO92	TR.PNP	65V	
Q43	BC546	B	TO92	TR.NPN	65V	
Q44	BC327	25	TO92	TR.PNP	45V	
Q45	TIP31	C	TO220	TR.NPN	100V	
Q46	BC327	25	TO92	TR.PNP	45V	
Q47	BC337	25	TO92	TR.NPN	45V	
Q48	TIP32	C	TO220	TR.PNP	100V	
Q49	BC327	25	TO92	TR.PNP	45V	
Q50	BC546	B	TO92	TR.NPN	65V	
Q51	2SA970		TO92	TR.PNP	65V	
Q52	BC337	25	TO92	TR.NPN	45V	
Q53	BD139	16	TO126	TR.NPN	80V	
Q54	BD140	16	TO126	TR.PNP	80V	
Q55	BD140	16	TO126	TR.PNP	80V	
Q56	BD139	16	TO126	TR.NPN	80V	
Q57	BC337	25	TO92	TR.NPN	45V	
Q58	BC327	25	TO92	TR.PNP	45V	
Q59	BD140	16	TO126	TR.PNP	80V	
Q60	BD139	16	TO126	TR.NPN	80V	
Q61	BC327	25	TO92	TR.PNP	45V	
Q62	BC337	25	TO92	TR.NPN	45V	
Q63	BC337	25	TO92	TR.NPN	45V	
Q64	BC327	25	TO92	TR.PNP	45V	
Q65	BD139	16	TO126	TR.NPN	80V	
Q66	BD140	16	TO126	TR.PNP	80V	
Q67	BC327	25	TO92	TR.PNP	45V	
Q68	BC337	25	TO92	TR.NPN	45V	
Q69	BC327	25	TO92	TR.PNP	45V	
Q70	BC560	C	TO92	TR.PNP	45V	
Q71	BC560	C	TO92	TR.PNP	45V	
Q72	BC550	C	TO92	TR.NPN	45V	
Q73	BC550	C	TO92	TR.NPN	45V	
Q74	BC550	C	TO92	TR.NPN	45V	
Q75	BC550	C	TO92	TR.NPN	45V	
Q76	BC560	C	TO92	TR.PNP	45V	
Q77	BC550	C	TO92	TR.NPN	45V	
R1	NTC-22K		STEP 2.5mm	COD:2322 640 63223		PHILIPS
R2	6K8	5%	1/4W	CARBON FILM		
R3	56R	5%	1/4W	CARBON FILM		
R4	56R	5%	1/4W	CARBON FILM		
R5	6K8	5%	1/4W	CARBON FILM		
R6	56R	5%	1/4W	CARBON FILM		
R7	56R	5%	1/4W	CARBON FILM		
R8	4R7	5%	2W	CARBON FILM		
R9	6K8	5%	1/4W	CARBON FILM		
R10	56R	5%	1/4W	CARBON FILM		
R11	56R	5%	1/4W	CARBON FILM		
R12	6K8	5%	1/4W	CARBON FILM		
R13	56R	5%	1/4W	CARBON FILM		
R14	56R	5%	1/4W	CARBON FILM		
R15	4R7	5%	2W	CARBON FILM		
R16	10R	5%	1/4W	CARBON FILM		
R17	10K	5%	1/4W	CARBON FILM		
R18	10R	5%	1/4W	CARBON FILM		
R19	10K	5%	1/4W	CARBON FILM		
R20	10R	5%	1/4W	CARBON FILM		
R21	10K	5%	1/4W	CARBON FILM		
R22	10R	5%	1/4W	CARBON FILM		
R23	10K	5%	1/4W	CARBON FILM		
R24	10R	5%	1/4W	CARBON FILM		
R25	10K	5%	1/4W	CARBON FILM		
R26	10R	5%	1/4W	CARBON FILM		
R27	10K	5%	1/4W	CARBON FILM		

R28	22K	5%	1/4W	CARBON FILM		
R29	56R	5%	1/4W	CARBON FILM		
R30	10R	5%	1/4W	CARBON FILM		
R31	10K	5%	1/4W	CARBON FILM		
R32	10R	5%	1/4W	CARBON FILM		
R33	10K	5%	1/4W	CARBON FILM		
R34	10R	5%	1/4W	CARBON FILM		
R35	10K	5%	1/4W	CARBON FILM		
R36	10R	5%	1/4W	CARBON FILM		
R37	10K	5%	1/4W	CARBON FILM		
R38	10R	5%	1/4W	CARBON FILM		
R39	10K	5%	1/4W	CARBON FILM		
R40	10R	5%	1/4W	CARBON FILM		
R41	10K	5%	1/4W	CARBON FILM		
R42	10R	5%	1/4W	CARBON FILM		
R43	10K	5%	1/4W	CARBON FILM		
R44	10R	5%	1/4W	CARBON FILM		
R45	10K	5%	1/4W	CARBON FILM		
R46	10R	5%	1/4W	CARBON FILM		
R47	10K	5%	1/4W	CARBON FILM		
R48	10R	5%	1/4W	CARBON FILM		
R49	10K	5%	1/4W	CARBON FILM		
R50	10R	5%	1/4W	CARBON FILM		
R51	10K	5%	1/4W	CARBON FILM		
R52	10R	5%	1/4W	CARBON FILM		
R53	10K	5%	1/4W	CARBON FILM		
R54	22K	5%	1/4W	CARBON FILM		
R55	56R	5%	1/4W	CARBON FILM		
R56	10R	5%	1/4W	CARBON FILM		
R57	10K	5%	1/4W	CARBON FILM		
R58	10R	5%	1/4W	CARBON FILM		
R59	10K	5%	1/4W	CARBON FILM		
R60	10R	5%	1/4W	CARBON FILM		
R61	10K	5%	1/4W	CARBON FILM		
R62	10R	5%	1/4W	CARBON FILM		
R63	10K	5%	1/4W	CARBON FILM		
R64	10R	5%	1/4W	CARBON FILM		
R65	10K	5%	1/4W	CARBON FILM		
R66	10R	5%	1/4W	CARBON FILM		
R67	10K	5%	1/4W	CARBON FILM		
R68	1R8	5%	3W	METAL OXIDE		
R69	1R8	5%	3W	METAL OXIDE		
R70	15R	5%	1/2W	CARBON FILM		
R71	15R	5%	1/2W	CARBON FILM		
R72	15R	5%	1/2W	CARBON FILM		
R73	15R	5%	1/2W	CARBON FILM		
R74	0R1	5%	3W-SMALL	WIRE WOUND		
R75	0R1	5%	3W-SMALL	WIRE WOUND		
R76	0R1	5%	3W-SMALL	WIRE WOUND		
R77	0R1	5%	3W-SMALL	WIRE WOUND		
R78	0R1	5%	3W-SMALL	WIRE WOUND		
R79	0R1	5%	3W-SMALL	WIRE WOUND		
R80	0R1	5%	3W-SMALL	WIRE WOUND		
R81	0R1	5%	3W-SMALL	WIRE WOUND		
R82	0R1	5%	3W-SMALL	WIRE WOUND		
R83	0R1	5%	3W-SMALL	WIRE WOUND		
R84	0R1	5%	3W-SMALL	WIRE WOUND		
R85	0R1	5%	3W-SMALL	WIRE WOUND		
R86	0R1	5%	3W-SMALL	WIRE WOUND		
R87	0R1	5%	3W-SMALL	WIRE WOUND		
R88	0R1	5%	3W-SMALL	WIRE WOUND		
R89	0R1	5%	3W-SMALL	WIRE WOUND		
R90	0R1	5%	3W-SMALL	WIRE WOUND		
R91	0R1	5%	3W-SMALL	WIRE WOUND		
R92	0R1	5%	3W-SMALL	WIRE WOUND		
R93	0R1	5%	3W-SMALL	WIRE WOUND		
R94	0R1	5%	3W-SMALL	WIRE WOUND		
R95	0R1	5%	3W-SMALL	WIRE WOUND		
R96	0R1	5%	3W-SMALL	WIRE WOUND		
R97	0R1	5%	3W-SMALL	WIRE WOUND		
R98	47K	5%	1/4W	CARBON FILM		
R99	1K	1%	1/4W	METAL FILM		
R100	200R	1%	1/4W	METAL FILM		
R101	2R2	5%	1/4W	CARBON FILM		
R102	1K8	5%	1/4W	CARBON FILM		
R103	10K	5%	1/4W	CARBON FILM		
R104	2K7	5%	1/4W	CARBON FILM		
R105	470K	5%	1/4W	CARBON FILM		

R106	150K	1%	1/4W	METAL FILM		
R107	150K	1%	1/4W	METAL FILM		
R108	N.C.	N.C.	1/4W	RESISTOR		
R109	2K7	5%	1/4W	CARBON FILM		
R110	470K	5%	1/4W	CARBON FILM		
R111	1K8	5%	1/4W	CARBON FILM		
R112	2R2	5%	1/4W	CARBON FILM		
R113	200R	1%	1/4W	METAL FILM		
R114	1K	1%	1/4W	METAL FILM		
R115	1K5	5%	1/2W	CARBON FILM		
R116	8K25	1%	1/4W	METAL FILM		
R117	10K	1%	1/4W	METAL FILM		
R118	100K	5%	1/4W	CARBON FILM		
R119	100K	5%	1/4W	CARBON FILM		
R120	100K	5%	1/4W	CARBON FILM		
R121	8K25	1%	1/4W	METAL FILM		
R122	10K	1%	1/4W	METAL FILM		
R123	1K5	5%	1/2W	CARBON FILM		
R124	1K	1%	1/4W	METAL FILM		
R125	200R	1%	1/4W	METAL FILM		
R126	2R2	5%	1/4W	CARBON FILM		
R127	1K8	5%	1/4W	CARBON FILM		
R128	470K	5%	1/4W	CARBON FILM		
R129	2K7	5%	1/4W	CARBON FILM		
R130	N.C.	N.C.	1/4W	RESISTOR		
R131	150K	1%	1/4W	METAL FILM		
R132	150K	1%	1/4W	METAL FILM		
R133	2K7	5%	1/4W	CARBON FILM		
R134	470K	5%	1/4W	CARBON FILM		
R135	10K	5%	1/4W	CARBON FILM		
R136	1K8	5%	1/4W	CARBON FILM		
R137	2R2	5%	1/4W	CARBON FILM		
R138	200R	1%	1/4W	METAL FILM		
R139	1K	1%	1/4W	METAL FILM		
R140	1K	1%	1/4W	METAL FILM		
R141	1K	1%	1/4W	METAL FILM		
R142	2R2	5%	1/4W	CARBON FILM		
R143	22R	5%	1/4W	CARBON FILM		
R144	221R	1%	1/4W	METAL FILM		
R145	301R	1%	1/4W	METAL FILM		
R146	150K	1%	1/4W	METAL FILM		
R147	10K	1%	1/4W	METAL FILM		
R148	316K	1%	1/4W	METAL FILM		
R149	22R	5%	1/4W	CARBON FILM		
R150	2R2	5%	1/4W	CARBON FILM		
R151	1K	1%	1/4W	METAL FILM		
R152	1K	1%	1/4W	METAL FILM		
R153	5K9	1%	1/4W	METAL FILM		
R154	10K	1%	1/4W	METAL FILM		
R155	10M	1%	1/4W	METAL FILM		
R156	10K	1%	1/4W	METAL FILM		
R157	10M	1%	1/4W	METAL FILM		
R158	10K	1%	1/4W	METAL FILM		
R159	10M	1%	1/4W	METAL FILM		
R160	10K	1%	1/4W	METAL FILM		
R161	10M	1%	1/4W	METAL FILM		
R162	1K	1%	1/4W	METAL FILM		
R163	1K	1%	1/4W	METAL FILM		
R164	2R2	5%	1/4W	CARBON FILM		
R165	22R	5%	1/4W	CARBON FILM		
R166	316K	1%	1/4W	METAL FILM		
R167	10K	1%	1/4W	METAL FILM		
R168	150K	1%	1/4W	METAL FILM		
R169	301R	1%	1/4W	METAL FILM		
R170	221R	1%	1/4W	METAL FILM		
R171	22R	5%	1/4W	CARBON FILM		
R172	2R2	5%	1/4W	CARBON FILM		
R173	1K	1%	1/4W	METAL FILM		
R174	1K	1%	1/4W	METAL FILM		
R175	56R	5%	1/4W	CARBON FILM		
R176	8K25	1%	1/4W	METAL FILM		
R177	1K	1%	1/4W	METAL FILM		
R178	24K7	1%	1/4W	METAL FILM		
R179	5K9	1%	1/4W	METAL FILM		
R180	10K	1%	1/4W	METAL FILM		
R181	20K	1%	1/4W	METAL FILM		
R182	5K9	1%	1/4W	METAL FILM		
R183	1K	1%	1/4W	METAL FILM		

R184	6K98	1%	1/4W	METAL FILM		
R185	301R	1%	1/4W	METAL FILM		
R186	20K	1%	1/4W	METAL FILM		
R187	825R	1%	1/4W	METAL FILM		
R188	1K	1%	1/4W	METAL FILM		
R189	24K7	1%	1/4W	METAL FILM		
R190	56R	5%	1/4W	CARBON FILM		
R191	3K9	5%	1/2W	CARBON FILM		
R192	3K9	5%	1/2W	CARBON FILM		
R193	100R	5%	1/2W	CARBON FILM		
R194	4R7	5%	1/2W	CARBON FILM		
R195	5K6	5%	1/4W	CARBON FILM		
R196	5K6	5%	1/4W	CARBON FILM		
R197	1K	5%	1/4W	CARBON FILM		
R198	10M	1%	1/4W	METAL FILM		
R199	10K	5%	1/4W	CARBON FILM		
R200	10K	5%	1/4W	CARBON FILM		
R201	8K25	1%	1/4W	METAL FILM		
R202	82K	5%	1/4W	CARBON FILM		
R203	150K	5%	1/4W	CARBON FILM		
R204	10K	5%	1/4W	CARBON FILM		
R205	8K25	1%	1/4W	METAL FILM		
R206	1K	5%	1/4W	CARBON FILM		
R207	22K	5%	1/4W	CARBON FILM		
R208	100K	5%	1/4W	CARBON FILM		
R209	5K9	1%	1/4W	METAL FILM		
R210	10K	1%	1/4W	METAL FILM		
R211	20K	1%	1/4W	METAL FILM		
R212	5K9	1%	1/4W	METAL FILM		
R213	1K	1%	1/4W	METAL FILM		
R214	6K98	1%	1/4W	METAL FILM		
R215	301R	1%	1/4W	METAL FILM		
R216	20K	1%	1/4W	METAL FILM		
R217	825R	1%	1/4W	METAL FILM		
R218	47K	5%	1/4W	CARBON FILM		
R219	47K	5%	1/4W	CARBON FILM		
R220	5K6	5%	1/4W	CARBON FILM		
R221	5K6	5%	1/4W	CARBON FILM		
R222	22K	5%	1/4W	CARBON FILM		
R223	22K	5%	1/4W	CARBON FILM		
R224	22K	5%	1/4W	CARBON FILM		
R225	100K	5%	1/4W	CARBON FILM		
R226	1K2	5%	1/4W	CARBON FILM		
R227	22K	5%	1/4W	CARBON FILM		
R228	5K9	1%	1/4W	METAL FILM		
R229	10K	1%	1/4W	METAL FILM		
R230	10M	1%	1/4W	METAL FILM		
R231	10K	1%	1/4W	METAL FILM		
R232	10M	1%	1/4W	METAL FILM		
R233	10K	1%	1/4W	METAL FILM		
R234	10M	1%	1/4W	METAL FILM		
R235	10K	1%	1/4W	METAL FILM		
R236	10M	1%	1/4W	METAL FILM		
R237	10R	5%	1/4W	CARBON FILM		
R238	10R	5%	1/4W	CARBON FILM		
SW1	SW-4W-4P			COD:SS44DO1G4		SEIKO
SW2	SW-2W-2P			COD:SK22F03G5		SEIKO
TB1	T.BLOCK			TIPO 26		GT ELECTR.
TB2	T.BLOCK			TIPO 26		GT ELECTR.
TB3	T.BLOCK			TIPO 26		GT ELECTR.
TB4	T.BLOCK			TIPO 26		GT ELECTR.
TRF1	TRF 4+4/17+17	MB3	37-22-15	COD:840013019		
TRF2	TRF 4+4/17+17	MB3	37-22-15	COD:840013019		
TRM1	TRM-470R	20%	6mm	HORIZONTAL MOUNTING		
TRM2	TRM-470R	20%	6mm	HORIZONTAL MOUNTING		
U1	BA15532		DIP8	DUAL L.N. OP. AMP.		ROHM
U2	BA15532		DIP8	DUAL L.N. OP. AMP.		ROHM
U3	SG3525	AN	DIP16	PWM CONTROLLER		ST
U4	TL072	CN	DIP8	DUAL L.N. OP. AMP		ST
U5	TL072	CN	DIP8	DUAL L.N. OP. AMP		ST
U6	TL072	CN	DIP8	DUAL L.N. OP. AMP		ST
U7	BA15532		DIP8	DUAL L.N. OP. AMP.		ROHM
U8	LM393	N	DIP8	DUAL COMPARATOR		ST
X1	PCB SPACER		Dragster	ALLUMINIUM FERRULE		GT ELECTR.
X2	PCB SPACER		Dragster	ALLUMINIUM FERRULE		GT ELECTR.
X3	PCB SPACER		Dragster	ALLUMINIUM FERRULE		GT ELECTR.