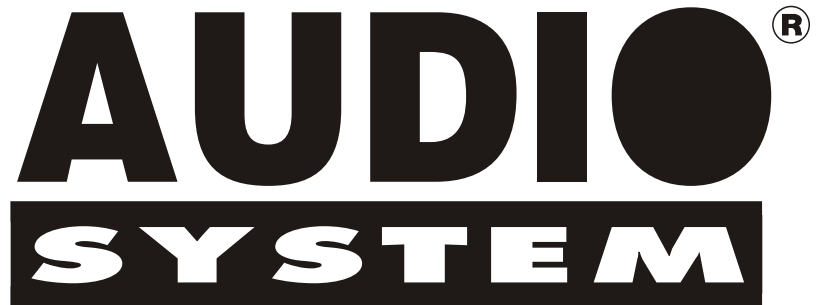


Commercial Brand:



Product Line: TWISTER

Code: 112042095

Description: AMPL ADS TWISTER 2X95W
F2-190

VERSION	DESCRIPTION	FROM S.N.	DATE	APPROVED
0.0	ISSUED	AT001020	2004/01/07	GIACOMONI
		AS19026000		

INDEX:

1 - SERVICE MANUAL COD: 112042095 VERSION 0.0	
a - Characteristic Rev. 0	3
b - Bias Regulation Procedure Rev. 0	4
c - Part List Rev. 0	5
d - Component Side Layout Rev. 0	6
e - Electrical Scheme Rev. 0	10

Quiescent consumption @ 12.6 Volt / 14.4 Volt:	380 mA / 450 mA (without Bias regulation)
Bias regulation @ 14.4 Volt	100 mA (per channel)
Idle consumption @ 12.6 Volt / 14.4 Volt:	570 mA / 650 mA (including 200 mA of Bias)
Thermal protection condition consumption @ 14.4 Volt:	560 mA (including fan consumption)
Secondary voltages (Amp. / Driver / Pre.) @ 12.6 Volt:	±27.1 V / ±6.8 V / ±13.6 V
Secondary voltages (Amp. / Driver / Pre.) @ 14.4 Volt:	±31.1 V / ±6.8 V / ±13.6 V
Battery ground vs secondary ground decopuling:	56 Ohm / 22nF (double diode protection)
Body ground vs battery ground decopuling:	100 Ohm / 22nF
DC to DC conversion frequency:	40 KHz
Input impedance @ 1 KHz (STEREO input):	> 11 KOhm
Input capacitance @ 1 KHz (STEREO input):	220 pF
Input impedance @ 1 KHz (MONO input):	> 5.5 KOhm
Input capacitance @ 1 KHz (STEREO input):	440 pF
Input ground decopuling:	58 Ohm
Filter slope - Filter "Q":	12 dB/oct - 0.71
Thermal cutoff:	90 °C (± 6 %)
Overload cutoff @ 14.4Volt (85°C Tcase):	1 Ohm / 2 Ohm (Stereo / Bridged)

Power data acquired @: 14,4 Volt, t = 25°C, 0,3%THD, ±5% tolerance, load: pure resistive. (If not differently specified).

The procedure must be effected without any input signal and any load!

The PCB must be mounted on heatsink!

1. With the amplifier without any connection rotate anticlockwise each trimmer to the end point.
2. Connect the power supply to the amplifier. The input voltage must be 14,4V. You must have a voltmeter and amperometer to input supply.
3. Switch on the amplifier using the remote input.
4. Wait about 20 sec then read the value of idle current using the amperometer. The standard value is **450 mA**.
5. Rotate clockwise the trimmers, one trimmer at time, to increase the iddle current of **100 mA** each trimmer.. This procedure must be effected carefully, a fast rotation shall cause an amplifier instability causing a faulty.
6. At the end of the procedure the idle current must be **650 mA**.

IC'S

Code	Ref.No.	Nomenclature	Selection	Power/Case	Description	Volt	M.Factory
837340140	U1	SG3525	AP	SO16	PWM Controller IC		ST
837143005	U2	BA15532	F	SOP8	Dual Low Noise Operational Amplifier		Rohm
837143005	U3	BA15532	F	SOP8	Dual Low Noise Operational Amplifier		Rohm
837150159	U4	TL074	CD	SO14	Quad Low Noise Operational Amplifier		ST
837140111	U5	LM339	AD	SO14	Quad Voltage Comparator		ST

TRANSISTORS AND FETS

Code	Ref.No.	Nomenclature	Selection	Power/Case	Description	Volt	M.Factory
836510921	Q1	IRF5210		TO220	P Channel Mosfet Rds(on)=0.06	100V	IR
836510920	Q2	IRF3710		TO220	N Channel Mosfet Rds(on)=0.025	100V	IR
836510921	Q3	IRF5210		TO220	P Channel Mosfet Rds(on)=0.06	100V	IR
836510920	Q4	IRF3710		TO220	N Channel Mosfet Rds(on)=0.025	100V	IR
836512705	Q5	HUF75333P3		TO220	N Channel Mosfet Rds(on)=0.016	55V	Fairchild
836512705	Q6	HUF75333P3		TO220	N Channel Mosfet Rds(on)=0.016	55V	Fairchild
836130453	Q7	BC850	C	SOT23	NPN General Purpose Transistor	45V	Philips
836130453	Q8	BC850	C	SOT23	NPN General Purpose Transistor	45V	Philips
836130454	Q9	BC860	C	SOT23	PNP General Purpose Transistor	45V	Philips
836130453	Q10	BC850	C	SOT23	NPN General Purpose Transistor	45V	Philips
836130453	Q11	BC850	C	SOT23	NPN General Purpose Transistor	45V	Philips
836130454	Q12	BC860	C	SOT23	PNP General Purpose Transistor	45V	Philips
836130454	Q13	BC860	C	SOT23	PNP General Purpose Transistor	45V	Philips
836130453	Q14	BC850	C	SOT23	NPN General Purpose Transistor	45V	Philips
836130453	Q15	BC850	C	SOT23	NPN General Purpose Transistor	45V	Philips
836130454	Q16	BC860	C	SOT23	PNP General Purpose Transistor	45V	Philips
836130454	Q17	BC860	C	SOT23	PNP General Purpose Transistor	45V	Philips
836132959	Q18	BCP53		SOT223	PNP Medium Power Transistor	80V	Siemens
836120202	Q19	BC337	25	TO92	NPN General Purpose Transistor	45V	Motorola
836120201	Q20	BC327	25	TO92	PNP General Purpose Transistor	45V	Motorola
836120202	Q21	BC337	25	TO92	NPN General Purpose Transistor	45V	Motorola
836120201	Q22	BC327	25	TO92	PNP General Purpose Transistor	45V	Motorola
836130251	Q23	BC846	B	SOT23	NPN General Purpose Transistor	65V	Motorola
836130251	Q24	BC846	B	SOT23	NPN General Purpose Transistor	65V	Motorola
836130453	Q25	BC850	C	SOT23	NPN General Purpose Transistor	45V	Philips
836130454	Q26	BC860	C	SOT23	PNP General Purpose Transistor	45V	Philips
836130454	Q27	BC860	C	SOT23	PNP General Purpose Transistor	45V	Philips
836130454	Q28	BC860	C	SOT23	PNP General Purpose Transistor	45V	Philips
836130454	Q29	BC860	C	SOT23	PNP General Purpose Transistor	45V	Philips
836130453	Q30	BC850	C	SOT23	NPN General Purpose Transistor	45V	Philips
836130453	Q31	BC850	C	SOT23	NPN General Purpose Transistor	45V	Philips
836130453	Q32	BC850	C	SOT23	NPN General Purpose Transistor	45V	Philips

DIODES

Code	Ref.No.	Nomenclature	Selection	Power/Case	Description	Volt	M.Factory
835342755	D1	FEP16DT	D	TO220	16A Super Fast Dual Rectifier	200V	Fairchild
835342755	D2	FEP16DT	D	TO220	16A Super Fast Dual Rectifier	200V	Fairchild
835130450	D3	LL4148		SOD80C	200mA Ultra Fast Diode	75V	Philips
835130450	D4	LL4148		SOD80C	200mA Ultra Fast Diode	75V	Philips
835130450	D5	LL4148		SOD80C	200mA Ultra Fast Diode	75V	Philips
835130450	D6	LL4148		SOD80C	200mA Ultra Fast Diode	75V	Philips
835130450	D7	LL4148		SOD80C	200mA Ultra Fast Diode	75V	Philips
835130450	D8	LL4148		SOD80C	200mA Ultra Fast Diode	75V	Philips
835130450	D9	LL4148		SOD80C	200mA Ultra Fast Diode	75V	Philips
835321101	D10	1N4937		DO41	1A Fast Rectifier	600V	TSC
835321101	D11	1N4937		DO41	1A Fast Rectifier	600V	TSC
835221110	D12	1N5402		DO201	3A Standard Rectifier	200V	TSC
807170438	D13	15R	5%	2W-Small	Metal Oxide Film Resistor		
807170438	D14	15R	5%	2W-Small	Metal Oxide Film Resistor		
835133160	DD1	BAV99		SOT23	200mA Ultra Fast Diode Array	80V	Infineon
835133160	DD2	BAV99		SOT23	200mA Ultra Fast Diode Array	80V	Infineon
835133160	DD3	BAV99		SOT23	200mA Ultra Fast Diode Array	80V	Infineon
835133160	DD4	BAV99		SOT23	200mA Ultra Fast Diode Array	80V	Infineon
835133160	DD5	BAV99		SOT23	200mA Ultra Fast Diode Array	80V	Infineon
835133160	DD6	BAV99		SOT23	200mA Ultra Fast Diode Array	80V	Infineon
835430455	DZ1	BZV55-C6V8	400mW	SOD80C	Voltage Regulator Diode	6V8	Philips
835430455	DZ2	BZV55-C6V8	400mW	SOD80C	Voltage Regulator Diode	6V8	Philips
835430453	DZ3	BZV55-C4V7	400mW	SOD80C	Voltage Regulator Diode	4V7	Philips
835430455	DZ4	BZV55-C6V8	400mW	SOD80C	Voltage Regulator Diode	6V8	Philips
835430455	DZ5	BZV55-C6V8	400mW	SOD80C	Voltage Regulator Diode	6V8	Philips

RESISTORS

Code	Ref.No.	Nomenclature	Selection	Power/Case	Description	Volt	M.Factory
803613325	R1	7K87	1%	0805-1/8W	Chip Resistor		
803613585	R2	14K	1%	0805-1/8W	Chip Resistor		
803613435	R3	10K	1%	0805-1/8W	Chip Resistor		
803612728	R4	2K2	5%	0805-1/8W	Chip Resistor		
803614495	R5	100K	1%	0805-1/8W	Chip Resistor		
803614495	R6	100K	1%	0805-1/8W	Chip Resistor		

Code	Ref.No.	Nomenclature	Selection	Power/Case	Description	Volt	M.Factory
803613175	R7	5K62	1%	0805-1/8W	Chip Resistor		
803611585	R8	182R	1%	0805-1/8W	Chip Resistor		
803613435	R9	10K	1%	0805-1/8W	Chip Resistor		
803611585	R10	182R	1%	0805-1/8W	Chip Resistor		
803613435	R11	10K	1%	0805-1/8W	Chip Resistor		
803611048	R12	56R	5%	0805-1/8W	Chip Resistor		
803610258	R13	10R	5%	0805-1/8W	Chip Resistor		
803611675	R14	221R	1%	0805-1/8W	Chip Resistor		
803611675	R15	221R	1%	0805-1/8W	Chip Resistor		
803614855	R16	221K	1%	0805-1/8W	Chip Resistor		
803613435	R17	10K	1%	0805-1/8W	Chip Resistor		
803611048	R18	56R	5%	0805-1/8W	Chip Resistor		
803610258	R19	10R	5%	0805-1/8W	Chip Resistor		
803611675	R20	221R	1%	0805-1/8W	Chip Resistor		
803611048	R21	56R	5%	0805-1/8W	Chip Resistor		
803610258	R22	10R	5%	0805-1/8W	Chip Resistor		
803611675	R23	221R	1%	0805-1/8W	Chip Resistor		
803611675	R24	221R	1%	0805-1/8W	Chip Resistor		
803614855	R25	221K	1%	0805-1/8W	Chip Resistor		
803613435	R26	10K	1%	0805-1/8W	Chip Resistor		
803613435	R27	10K	1%	0805-1/8W	Chip Resistor		
803611048	R28	56R	5%	0805-1/8W	Chip Resistor		
803610258	R29	10R	5%	0805-1/8W	Chip Resistor		
803611675	R30	221R	1%	0805-1/8W	Chip Resistor		
803611048	R31	56R	5%	0805-1/8W	Chip Resistor		
803614495	R32	100K	1%	0805-1/8W	Chip Resistor		
803613435	R33	10K	1%	0805-1/8W	Chip Resistor		
803614495	R34	100K	1%	0805-1/8W	Chip Resistor		
803614325	R35	68K1	1%	0805-1/8W	Chip Resistor		
803614325	R36	68K1	1%	0805-1/8W	Chip Resistor		
803613295	R37	7K32	1%	0805-1/8W	Chip Resistor		
805761318	R38	100R	5%	2010-1/2W	Chip Resistor		
805761318	R39	100R	5%	2010-1/2W	Chip Resistor		
803611815	R40	301R	1%	0805-1/8W	Chip Resistor		
806170178	R41	2R2	5%	1W-Small	Metal Oxide Film Resistor		
803611815	R42	301R	1%	0805-1/8W	Chip Resistor		
806170178	R43	2R2	5%	1W-Small	Metal Oxide Film Resistor		
803611675	R44	221R	1%	0805-1/8W	Chip Resistor		
804662558	R45	1K5	5%	1206-1/4W	Chip Resistor		
N.C.	R46	N.C.	N.C.	0805-1/8W	Chip Resistor		
803613435	R47	10K	1%	0805-1/8W	Chip Resistor		
803612728	R48	2K2	5%	0805-1/8W	Chip Resistor		
803613435	R49	10K	1%	0805-1/8W	Chip Resistor		
803612378	R50	1K	5%	0805-1/8W	Chip Resistor		
804662558	R51	1K5	5%	1206-1/4W	Chip Resistor		
N.C.	R52	N.C.	N.C.	0805-1/8W	Chip Resistor		
803612728	R53	2K2	5%	0805-1/8W	Chip Resistor		
803613435	R54	10K	1%	0805-1/8W	Chip Resistor		
803612378	R55	1K	5%	0805-1/8W	Chip Resistor		
808270008	R56	0R05	5%	3W-Small	Wire Wound Resistor		Royal Ohm
808270008	R57	0R05	5%	3W-Small	Wire Wound Resistor		Royal Ohm
803614325	R58	68K1	1%	0805-1/8W	Chip Resistor		
803611048	R59	56R	5%	0805-1/8W	Chip Resistor		
803613435	R60	10K	1%	0805-1/8W	Chip Resistor		
803611048	R61	56R	5%	0805-1/8W	Chip Resistor		
803614325	R62	68K1	1%	0805-1/8W	Chip Resistor		
803611048	R63	56R	5%	0805-1/8W	Chip Resistor		
803613435	R64	10K	1%	0805-1/8W	Chip Resistor		
803611048	R65	56R	5%	0805-1/8W	Chip Resistor		
804662558	R66	1K5	5%	1206-1/4W	Chip Resistor		
803612028	R67	470R	5%	0805-1/8W	Chip Resistor		
803612028	R68	470R	5%	0805-1/8W	Chip Resistor		
803613258	R69	6K8	5%	0805-1/8W	Chip Resistor		
803613355	R70	8K25	1%	0805-1/8W	Chip Resistor		
803614495	R71	100K	1%	0805-1/8W	Chip Resistor		
803613355	R72	8K25	1%	0805-1/8W	Chip Resistor		
803613258	R73	6K8	5%	0805-1/8W	Chip Resistor		
803612558	R74	1K5	5%	0805-1/8W	Chip Resistor		
803616618	R75	10M	5%	0805-1/8W	Chip Resistor		
803613258	R76	6K8	5%	0805-1/8W	Chip Resistor		
803612198	R77	680R	5%	0805-1/8W	Chip Resistor		
805760438	R78	15R	5%	2010-1/2W	Chip Resistor		
803616618	R79	10M	5%	0805-1/8W	Chip Resistor		
803613435	R80	10K	1%	0805-1/8W	Chip Resistor		
803613195	R81	5K9	1%	0805-1/8W	Chip Resistor		
803613195	R82	5K9	1%	0805-1/8W	Chip Resistor		
803613195	R83	5K9	1%	0805-1/8W	Chip Resistor		
803613195	R84	5K9	1%	0805-1/8W	Chip Resistor		
803613435	R85	10K	1%	0805-1/8W	Chip Resistor		
803616618	R86	10M	5%	0805-1/8W	Chip Resistor		
803612795	R87	2K55	1%	0805-1/8W	Chip Resistor		

Code	Ref.No.	Nomenclature	Selection	Power/Case	Description	Volt	M.Factory
803613698	R88	18K	5%	0805-1/8W	Chip Resistor		
803611048	R89	56R	5%	0805-1/8W	Chip Resistor		
803614765	R90	182K	1%	0805-1/8W	Chip Resistor		
803613698	R91	18K	5%	0805-1/8W	Chip Resistor		
805762378	R92	1K	5%	2010-1/2W	Chip Resistor		
805762378	R93	1K	5%	2010-1/2W	Chip Resistor		
803613745	R94	20K	1%	0805-1/8W	Chip Resistor		
803611675	R95	221R	1%	0805-1/8W	Chip Resistor		
803612965	R96	3K65	1%	0805-1/8W	Chip Resistor		
803612965	R97	3K65	1%	0805-1/8W	Chip Resistor		
803611675	R98	221R	1%	0805-1/8W	Chip Resistor		
803613745	R99	20K	1%	0805-1/8W	Chip Resistor		
803614325	R100	68K1	1%	0805-1/8W	Chip Resistor		
803614765	R101	182K	1%	0805-1/8W	Chip Resistor		
803616618	R102	10M	5%	0805-1/8W	Chip Resistor		
803616618	R103	10M	5%	0805-1/8W	Chip Resistor		
803615558	R104	1M	5%	0805-1/8W	Chip Resistor		
803613095	R105	4K75	1%	0805-1/8W	Chip Resistor		
803613585	R106	14K	1%	0805-1/8W	Chip Resistor		
803615288	R107	560K	5%	0805-1/8W	Chip Resistor		
803613258	R108	6K8	5%	0805-1/8W	Chip Resistor		
803613258	R109	6K8	5%	0805-1/8W	Chip Resistor		
803613258	R110	6K8	5%	0805-1/8W	Chip Resistor		
803611048	R111	56R	5%	0805-1/8W	Chip Resistor		
803612558	R112	1K5	5%	0805-1/8W	Chip Resistor		
803614765	R113	182K	1%	0805-1/8W	Chip Resistor		
805760438	R114	15R	5%	2010-1/2W	Chip Resistor		
803613645	R115	16K2	1%	0805-1/8W	Chip Resistor		
803613645	R116	16K2	1%	0805-1/8W	Chip Resistor		
805761318	R117	100R	5%	2010-1/2W	Chip Resistor		
803612375	R118	1K	1%	0805-1/8W	Chip Resistor		
803612295	R119	825R	1%	0805-1/8W	Chip Resistor		
803612375	R120	1K	1%	0805-1/8W	Chip Resistor		
803612295	R121	825R	1%	0805-1/8W	Chip Resistor		
805760218	R122	4R7	5%	2010-1/2W	Chip Resistor		
805761938	R123	390R	5%	2010-1/2W	Chip Resistor		
805761938	R124	390R	5%	2010-1/2W	Chip Resistor		
803616618	R125	10M	5%	0805-1/8W	Chip Resistor		
803616618	R126	10M	5%	0805-1/8W	Chip Resistor		
805762558	R127	1K5	5%	2010-1/2W	Chip Resistor		
803612198	R128	680R	5%	0805-1/8W	Chip Resistor		
803612558	R129	1K5	5%	0805-1/8W	Chip Resistor		
803614148	R130	47K	5%	0805-1/8W	Chip Resistor		
803614148	R131	47K	5%	0805-1/8W	Chip Resistor		
803613645	R132	16K2	1%	0805-1/8W	Chip Resistor		
803613645	R133	16K2	1%	0805-1/8W	Chip Resistor		
805762558	R134	1K5	5%	2010-1/2W	Chip Resistor		

POTENTIOMETERS

Code	Ref.No.	Nomenclature	Selection	Power/Case	Description	Volt	M.Factory
818026505	POT1-A	POT-100K	±5% PGB (Audio)	10 mm	Vertical Mounting Trimmer COD:CA9MH2.5		ACP
818026505	POT1-B	POT-100K	±5% PGB (Audio)	10 mm	Vertical Mounting Trimmer COD:CA9MH2.5		ACP
818026505	POT1-C	POT-100K	±5% PGB (Audio)	10 mm	Vertical Mounting Trimmer COD:CA9MH2.5		ACP
818026505	POT1-D	POT-100K	±5% PGB (Audio)	10 mm	Vertical Mounting Trimmer COD:CA9MH2.5		ACP
818026385	POT2-A	POT-20K	±5% PGB (Audio)	10 mm	Vertical Mounting Trimmer COD:CA9MH2.5		ACP
818026385	POT2-B	POT-20K	±5% PGB (Audio)	10 mm	Vertical Mounting Trimmer COD:CA9MH2.5		ACP
818001409	TRM1	TRM-22K	20%	6 mm Snap In	Horizontal Mounting Trimmer COD:CA6V5		ACP
818001409	TRM2	TRM-22K	20%	6 mm Snap In	Horizontal Mounting Trimmer COD:CA6V5		ACP

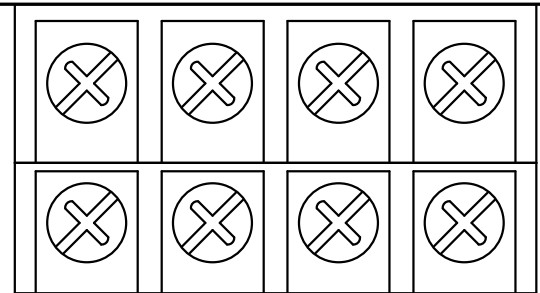
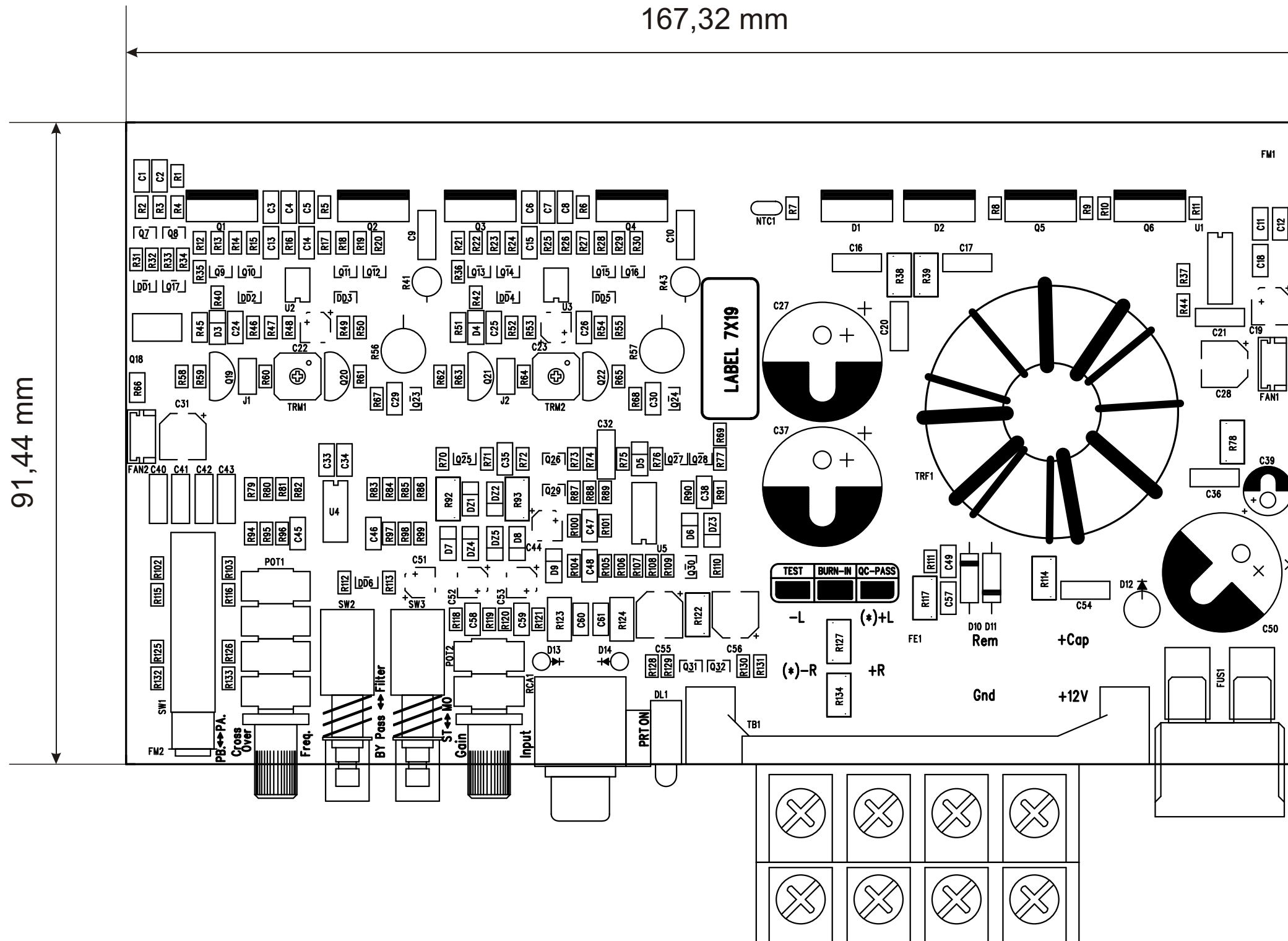
CAPACITORS


Code	Ref.No.	Nomenclature	Selection	Power/Case	Description	Volt	M.Factory
823436561	C1	100n	X7R	1206	Ceramic Chip Capacitor	50V	AVX
823436561	C2	100n	X7R	1206	Ceramic Chip Capacitor	50V	AVX
823136525	C3	100p	NP0	1206	Ceramic Chip Capacitor	50V	AVX
823436551	C4	15n	X7R	1206	Ceramic Chip Capacitor	50V	AVX
823136509	C5	4p7	NP0	1206	Ceramic Chip Capacitor	50V	AVX
823136525	C6	100p	NP0	1206	Ceramic Chip Capacitor	50V	AVX
823436551	C7	15n	X7R	1206	Ceramic Chip Capacitor	50V	AVX
823136509	C8	4p7	NP0	1206	Ceramic Chip Capacitor	50V	AVX
824672241	C9	220n	5%	Step 5 mm	Polyester Capacitor	63V	TPC
824672241	C10	220n	5%	Step 5 mm	Polyester Capacitor	63V	TPC
823436561	C11	100n	X7R	1206	Ceramic Chip Capacitor	50V	AVX
823436561	C12	100n	X7R	1206	Ceramic Chip Capacitor	50V	AVX
823136507	C13	3p3	NP0	1206	Ceramic Chip Capacitor	50V	AVX
823136517	C14	22p	NP0	1206	Ceramic Chip Capacitor	50V	AVX
823136507	C15	3p3	NP0	1206	Ceramic Chip Capacitor	50V	AVX
824673237	C16	100n	5%	Step 5 mm	Polyester Capacitor	100V	TPC
824673213	C17	1n	5%	Step 5 mm	Polyester Capacitor	100V	TPC
823436561	C18	100n	X7R	1206	Ceramic Chip Capacitor	50V	AVX

Code	Ref.No.	Nomenclature	Selection	Power/Case	Description	Volt	M.Factory
833053229	C19	22u	85°	D5 mm	Chip Type Electrolytic Capacitor	16V	NIC
824673213	C20	1n	5%	Step 5 mm	Polyester Capacitor	100V	TPC
824673217	C21	2n2	5%	Step 5 mm	Polyester Capacitor	100V	TPC
833056113	C22	1u	85°	D4 mm	Chip Type Electrolytic Capacitor	50V	NIC
833056113	C23	1u	85°	D4 mm	Chip Type Electrolytic Capacitor	50V	NIC
N.C.	C24	N.C.	N.C.	1206	Ceramic Chip Capacitor	N.C.	
N.C.	C25	N.C.	N.C.	1206	Ceramic Chip Capacitor	N.C.	
823136517	C26	22p	NP0	1206	Ceramic Chip Capacitor	50V	AVX
827254244	C27	2200u	85°	D16 / H25 mm	Electrolytic Capacitor	35V	
N.C.	C28	N.C.	N.C.	D6.3 mm	Chip Type Electrolytic Capacitor	N.C.	NIC
823436561	C29	100n	X7R	1206	Ceramic Chip Capacitor	50V	AVX
823436561	C30	100n	X7R	1206	Ceramic Chip Capacitor	50V	AVX
833053337	C31	100u	85°	D6.3 mm	Chip Type Electrolytic Capacitor	16V	NIC
824672241	C32	220n	5%	Step 5 mm	Polyester Capacitor	63V	TPC
823436561	C33	100n	X7R	1206	Ceramic Chip Capacitor	50V	AVX
823436561	C34	100n	X7R	1206	Ceramic Chip Capacitor	50V	AVX
823436553	C35	22n	X7R	1206	Ceramic Chip Capacitor	50V	AVX
824672225	C36	10n	5%	Step 5 mm	Polyester Capacitor	63V	TPC
827254244	C37	2200u	85°	D16 / H25 mm	Electrolytic Capacitor	35V	
823436561	C38	100n	X7R	1206	Ceramic Chip Capacitor	50V	AVX
827260928	C39	100u	85°	D6.3 / H11 mm	Electrolytic Capacitor	16V	
824672231	C40	33n	5%	Step 5 mm	Polyester Capacitor	63V	TPC
824672231	C41	33n	5%	Step 5 mm	Polyester Capacitor	63V	TPC
824672231	C42	33n	5%	Step 5 mm	Polyester Capacitor	63V	TPC
824672231	C43	33n	5%	Step 5 mm	Polyester Capacitor	63V	TPC
833056113	C44	1u	85°	D4 mm	Chip Type Electrolytic Capacitor	50V	NIC
823136525	C45	100p	NP0	1206	Ceramic Chip Capacitor	50V	AVX
823136525	C46	100p	NP0	1206	Ceramic Chip Capacitor	50V	AVX
823436561	C47	100n	X7R	1206	Ceramic Chip Capacitor	50V	AVX
823436561	C48	100n	X7R	1206	Ceramic Chip Capacitor	50V	AVX
823436553	C49	22n	X7R	1206	Ceramic Chip Capacitor	50V	AVX
828124246	C50	3300u	105°	D16 / H25 mm	Electrolytic Capacitor	16V	
833053125	C51	10u	85°	D4 mm	Chip Type Electrolytic Capacitor	16V	NIC
833053125	C52	10u	85°	D4 mm	Chip Type Electrolytic Capacitor	16V	NIC
833053125	C53	10u	85°	D4 mm	Chip Type Electrolytic Capacitor	16V	NIC
824672225	C54	10n	5%	Step 5 mm	Polyester Capacitor	63V	TPC
833053337	C55	100u	85°	D6.3 mm	Chip Type Electrolytic Capacitor	16V	NIC
833053337	C56	100u	85°	D6.3 mm	Chip Type Electrolytic Capacitor	16V	NIC
823436553	C57	22n	X7R	1206	Ceramic Chip Capacitor	50V	AVX
823136529	C58	220p	NP0	1206	Ceramic Chip Capacitor	50V	AVX
823136529	C59	220p	NP0	1206	Ceramic Chip Capacitor	50V	AVX
823436553	C60	22n	X7R	1206	Ceramic Chip Capacitor	50V	AVX
823436553	C61	22n	X7R	1206	Ceramic Chip Capacitor	50V	AVX

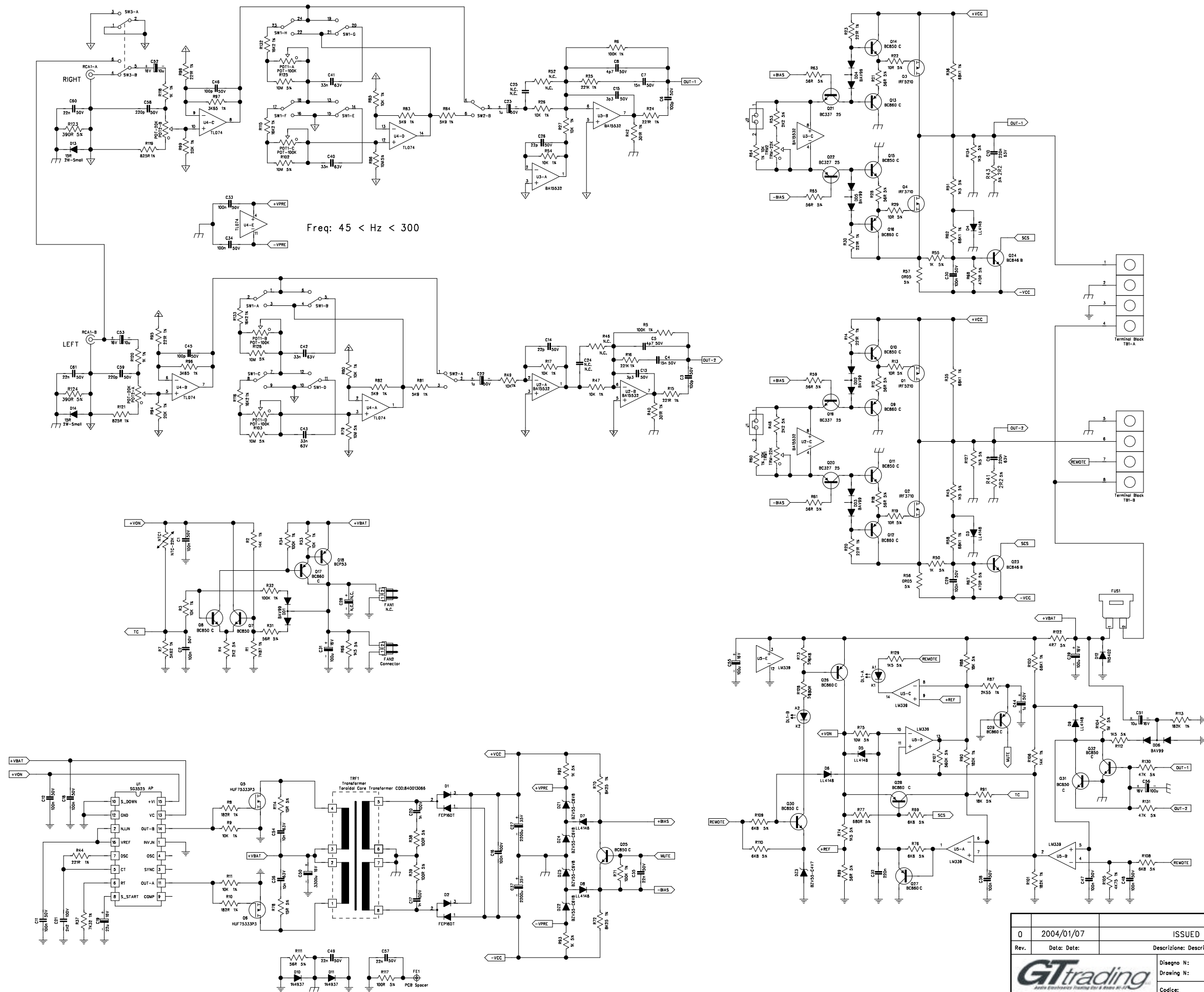
MISCELLANEOUS

Code	Ref.No.	Nomenclature	Selection	Power/Case	Description	Volt	M.Factory
872400205	For D1	Spacer		H7 mm	ABS Spacer		G.T.
872400205	For D2	Spacer		H7 mm	ABS Spacer		G.T.
838013225	DL1	Indicator	Green/Red		Housing Led Lamp COD:L-934EB/1G1HD		Kingbright
N.C.	FAN1	N.C.		2x2.50 mm Pitch	N.C.		N.C.
843060533	FAN2	Connector		2x2.50 mm Pitch	Board to Wire Crimp Style Connector COD:EH25W-02		Adimpex
870250335	FE1	PCB Spacer	ADS	D6 / H3.5 mm	Aluminium Ferrule		G.T.
845710010	FUS1-A	Fuse Holder			Fuse Holder for ATC Fuse COD:CQ114		Omega
845710010	FUS1-B	Fuse Holder			Fuse Holder for ATC Fuse COD:CQ114		Omega
843030502	J1	Jumper		2x2.54 mm Pitch	Pin Header Strip COD:APS2.54-SS6-2-G		Adimpex
843030502	J2	Jumper		2x2.54 mm Pitch	Pin Header Strip COD:APS2.54-SS6-2-G		Adimpex
817030405	NTC1	NTC-22K		Step 2.5 mm	NTC Bead COD:2322 640 63223		Philips
864005121	For NTC1	Spacer		D0.5 / H5 mm	Sterling Spacer		G.T.
864005121	For NTC1	Spacer		D0.5 / H5 mm	Sterling Spacer		G.T.
472000310	For POT1	Shaft		L22 mm	Metal Shaft Nickel Plated		G.T.
472000312	For POT2	Shaft		L13 mm	Metal Shaft Nickel Plated		G.T.
872400205	For Q1	Spacer		H7 mm	ABS Spacer		G.T.
872400205	For Q2	Spacer		H7 mm	ABS Spacer		G.T.
872400205	For Q3	Spacer		H7 mm	ABS Spacer		G.T.
872400205	For Q4	Spacer		H7 mm	ABS Spacer		G.T.
872400205	For Q5	Spacer		H7 mm	ABS Spacer		G.T.
872400205	For Q6	Spacer		H7 mm	ABS Spacer		G.T.
843580010	RCA1	RCA Jack			RCA Jack COD:JE0200590G		Dae Ryung
844355820	SW1	Switch	NS		8P2T Push Switch COD:PS-82D01		Seiko
844351510	SW2	Switch	NS-Self Lock		2P2T Push Switch COD:PS-22F02		Seiko
844351510	SW3	Switch	NS-Self Lock		2P2T Push Switch COD:PS-22F02		Seiko
843708161	TB1	Terminal Block		8 Poles	Terminal Block TIPO 22		G.T.
840013066	TRF1	Transformer	MB3	D31 / d19 / H13 mm	Toroidal Core Transformer COD:840013066		G.T.



0	2003/08/07	ISSUED	SPADONI	TAMANTI	GIACOMONI
Rev.	Data: Date:	Descrizione: Description:	Disegnato: Draw:	Controllato: Checked:	Approvato: Approved:
		Disegno N: Drawing N:	850004810 / Layout		Oggetto: Subject:
Zona Artigianale, lo. Ghilardino 61034 Fossombrone (PU) Italy tel. ++390721728727 fax. ++390721749175		Codice: Code:	850004810		Foglio: 1 Di: 1 Sheet: 1 Of: 1
Nome File: File Name:		F2_190-850004810-030807-P10-AA.CDR			A3

TEST POINT	
VCC	+/- 31.1 V (@ 14.4 V)
VPRE	+/- 13.6 V (@ 14.4 V)
VBIAS	+/- 6.8 V (@ 14.4 V)
	PRIMARY POWER GROUND
	SECONDARY POWER GROUND
	SIGNAL GND 1 (Right CH)
	SIGNAL GND 2 (Left CH)



0	2004/01/07	ISSUED	SPADONI	KANIA	GIACOMONI
Rev.	Data: Date:	Descrizione: Description:	Disegnato: Draw:	Controllato: Checked:	Approvato: Approved:
Disegno N: 850004810/ ES		Oggetto: ELECTRIC SCHEME			
Codice: 850004810		Foglio: 1 Di: 1			
Nome File: F2-190-850004810-040107-P10-AE		File Name:			