

ARCAM ALPHA 9/9P SERVICE MANUAL

Issue 1 Serial No. 001 - (Paul Newton July 96)

Circuit Description

Input/Output Selection

The Alpha 9 integrated amplifier has 6 line level inputs and optional phono input selected by use of the motorised 'listen' switch, SW201.

The use of the 'record' switch SW202 allows recording of one source whilst listening to another. The Processor/Tape 2 switch, SW207, allows tape monitoring of a 3 head tape deck connected to the Processor/Tape 2 sockets. It can also be used to allow input signals to be routed to an external surround decoder for processing before being routed back to the Alpha 9.

Tone Control & Preamp Out/Power Amp In

The tone control stage on the Alpha 9 is based around a dual op-amp Z2. The first half provides a buffer stage for the tone controls and the second one with its frequency dependent feedback is used as the tone control itself.

The output of the tone control then passes through the balance control RV201 and then onto the power amp stages and the preamp out buffer stage formed by Z203.

The tone controls and balance pot can be bypassed by use of the 'direct' switch SW205.

The Alpha 9 can be driven from an external preamplifier source by moving the internal switch SW206 to disconnect the Alpha 9 preamp stages from the power amp.

Power Amplifier

The signal from either the Alpha 9 input sockets or an external preamp enters the power amp stage via C12 and R35.

Q11, Q16 form a long, tailed pair driven by the current source formed by Q18 and Q19.

Q6 is the Class A stage driving the quasi complementary output stage of Q4, Q5, and mosfet's Q1, 2.

The Alpha 9 and Alpha 9P utilize an auto bias circuit to maintain the correct quiescent current (IQ). The circuit works by monitoring the voltage across the 0.22 ohm resistors R1, RA1 and comparing it to a voltage derived from the -44v rail

via R24. Both these voltage are fed into the inputs of comparator Z3. If the voltage across the 0.22 ohm resistors increases the output of the comparator goes high impedance and Q15 is turned off. This causes capacitor C72 to discharge and reduce the bias on the base of Q17 which reduces the IQ. Conversely if the voltage across the 0.22 ohm resistors is low then Q15 is turned on more and C72 charges and increases the bias on Q17 and so increases the IQ. Under signal conditions a low frequency, variable mark/space ratio, waveform can be seen on the collector of transistor Q20 as the bias is being automatically adjusted.

Z1 is a d.c. servo used to maintain a low d.c. offset at the speaker outputs.

Power Supplies

The Alpha 9/9P is powered by a toroidal transformer with 2 sets of secondary windings.

The main windings are used to provide +/-44V D.C. after rectification and smoothing by diodes D201-204 inc. reservoir capacitors C201, 202.

The second winding is rectified to provide an unregulated supply voltage for the motor driver ics, Z402 (for the volume control) & Z403 (for the listen selector). This unregulated supply is also smoothed and regulated with a simple stabilizer circuit (zener diode D402 and associated components) to provide a stable voltage for the micro controller Z401.

Protection/ Mute circuit

The protection and mute functions are carried out by Z501. This performs turn on delay, d.c. offset detection and thermal cutout. It also displays the status of the amplifier with the use of a bicolour LED - 'Green' for ready and 'Amber' for when the speakers are disconnected internally because of a fault condition or on initial power up whilst the 5 second switch on delay mute is operating.

If the unit suffers a current overload the protection circuit may latch and the unit will not reset until it has been switched off and on again. If the protection is activated by a thermal problem the unit will begin to operate again when it has cooled down.

The thermal cut out operating point is set by the thermistor TH501, mounted close to the output device heatsinks.

Disc Stage (optional)

The optional phono stage board available for the Alpha 9 provides amplification and RIAA equalization for both moving coil (MC) and moving magnet (MM) cartridges.

Transistors Q2-5 and their associated components provide the extra gain required for moving coil cartridges when required Z1 forms a flat response gain stage with the gain set by R3 and R4. R5 and C2 provide a low pass filter used as the high frequency part of the RIAA de-emphasis. The negative feedback loop around IC2, R7, 8, 9, 10 and C3 provides the active low frequency RIAA de-emphasis.

The pcb mounted switch selects between MM or MC. The board is powered by +/- 15V regulated rails from the main pcb and the +15V rail is then regulated to 6.3V by Q1 and D1, D2 to power the moving coil stage.

| TEST POINT | DC VOLTAGE |
|------------|-------------------------|
| TP1 | + 5V |
| TP2 | +9.6V |
| TP3 | 0V MUTE ON +2V MUTE OFF |
| TP4 | 0V VOL UP +5V VOL DOWN |
| TP5 | +5V VOL UP 0V VOL DOWN |
| TP6 | +15V |
| TP7 | -15V |
| TP8 | +44V |
| TP9 | -44V |

Disassembly For Servicing

1. Remove the top cover and front panel.
2. Remove 2 screws securing the sub front to the chassis sides and 3 screws holding the subfront to the chassis base.
3. Remove 3 screws holding the pcb to the chassis. These can be found close to the large heatsink and also near to the mains inlet socket.
4. Remove 5 screws from the rear panel, one at each end and 3 along the bottom edge.
5. Remove the transformer bolt.

The pcb, with the rear panel, transformer and subfront attached, can now be pulled backwards out of the unit.

| TEST POINT | DC VOLTAGE |
|------------|-------------------------|
| TP10 | 0.5V |
| TP11 | 0.5V |
| TP12 | -2V |
| TP13 | -2V |
| TP14 | +2.2V |
| TP15 | +2.2V |
| TP16 | +6.8V |
| TP17 | 0V MUTE ON +2V MUTE OFF |

The IQ voltage measured across the 0.22 ohm resistors R1, RA1 or R101, RA101 should be about 6-7 mV.

ALPHA 9/9P SERVICE MANUAL

| Alpha 9 Integrated Amplifier Parts List | | |
|---|--------------------------|----------|
| Ref. No. | Description | Part No. |
| C1 | ELST 100U 25V | 2N710 |
| C2 | PEST 47N 63V 5% | 2K347 |
| C3 | ELST 100U 100V | 2N710B |
| C4 | PCRB 100N 100V 5% RA 5mm | 2H410 |
| C5 | PPRO 680P 5% 63V RA | 2D168 |
| C6 | PSTY 56P 160V ENCAP 1PF% | 2F056 |
| C7 | ELST 10U 50V | 2N610 |
| C8 | ELST 100U 25V | 2N710 |
| C9 | PEST 15N 63V 5% | 2K315 |
| C10 | PEST 15N 63V 5% | 2K315 |
| C11 | PPRO 220P 5% 63V RA | 2D122 |
| C12 | ELST NON POLAR 10UF 35V | 2U610 |
| C13N | PPRO 220P 5% 63V RA | 2D122 |
| C14N | PPRO 220P 5% 63V RA | 2D122 |
| C15N | ELST 10U 50V | 2N610 |
| C16N | PCRB 100N 100V 5% RA 5mm | 2H410 |
| C17N | PCRB 100N 100V 5% RA 5mm | 2H410 |
| C18N | PPRO 100P 63V 5% RA | 2D110N |
| C19N | PPRO 100P 63V 5% RA | 2D110N |
| C20 | PEST 15N 63V 5% | 2K315 |
| C21N | ELST 10U 50V | 2N610 |
| C22 | PCRB 100N 100V 5% RA 5mm | 2H410 |
| C23 | PCRB 100N 100V 5% RA 5mm | 2H410 |
| C25N | PPRO 2N2 5% 63V RA | 2D222 |
| C26N | ELST 10U 50V | 2N610 |
| C71 | ELST 10U 50V | 2N610 |
| C72 | ELST 100U 25V | 2N710 |
| C101 | ELST 100U 25V | 2N710 |
| C102 | PEST 47N 63V 5% | 2K347 |
| C103 | ELST 100U 100V | 2N710B |
| C104 | PCRB 100N 100V 5% RA 5mm | 2H410 |
| C105 | PPRO 680P 5% 63V RA | 2D168 |

| Alpha 9 Integrated Amplifier Parts List | | |
|---|--------------------------|----------|
| Ref. No. | Description | Part No. |
| C106 | PSTY 56P 160V ENCAP 1PF% | 2F056 |
| C107 | ELST 10U 50V | 2N610 |
| C108 | ELST 100U 25V | 2N710 |
| C109 | PEST 15N 63V 5% | 2K315 |
| C110 | PEST 15N 63V 5% | 2K315 |
| C111 | PPRO 220P 5% 63V RA | 2D122 |
| C112 | ELST NON POLAR 10UF 35V | 2U610 |
| C113N | PPRO 220P 5% 63V RA | 2D122 |
| C114N | PPRO 220P 5% 63V RA | 2D122 |
| C115N | ELST 10U 50V | 2N610 |
| C116N | PCRB 100N 100V 5% RA 5mm | 2H410 |
| C117N | PCRB 100N 100V 5% RA 5mm | 2H410 |
| C118N | PPRO 100P 63V 5% RA | 2D110N |
| C119N | PPRO 100P 63V 5% RA | 2D110N |
| C120 | PEST 15N 63V 5% | 2K315 |
| C121N | ELST 10U 50V | 2N610 |
| C122 | PCRB 100N 100V 5% RA 5mm | 2H410 |
| C123 | PCRB 100N 100V 5% RA 5mm | 2H410 |
| C125N | PPRO 2N2 5% 63V RA | 2D222 |
| C126N | ELST 10U 50V | 2N610 |
| C172 | ELST 100U 25V | 2N710 |
| C173 | ELST 100U 25V | 2N710 |
| C201 | ELST 10m 50V RA 32mm | 2N910 |
| C202 | ELST 10m 50V RA 32mm | 2N910 |
| C205 | PPRO 4N7 63V 5% RA | 2D247N |
| C206 | PPRO 4N7 63V 5% RA | 2D247N |
| C207 | ELST 10U 50V | 2N610 |
| C208 | ELST 10U 50V | 2N610 |
| C209 | ELST 10U 50V | 2N610 |
| C210 | ELST 10U 50V | 2N610 |
| C301N | CERD 1N0 63V 20% RA | 2A210 |
| C401N | ELST 1M0 25V | 2N810 |

ALPHA 9/9P SERVICE MANUAL

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|-------|---------------------------|---------|
| C402N | CERD 10N 63V 20% RA | 2A310 |
| C403N | ELST 1M0 25V | 2N810 |
| C404 | CERD 10N 63V 20% RA | 2A310 |
| C405N | CERD 10N 63V 20% RA | 2A310 |
| C406N | CERD 10N 63V 20% RA | 2A310 |
| C407N | CERD 10N 63V 20% RA | 2A310 |
| C408N | CERD 10N 63V 20% RA | 2A310 |
| C409N | CERD 10N 63V 20% RA | 2A310 |
| C410N | ELST 10U 50V | 2N610 |
| C411N | ELST 1U0 50V 20% RA | 2N510 |
| C501 | ELST 100U 25V | 2N710 |
| C502 | ELST 1U0 50V 20% RA | 2N510 |
| C503 | ELST 100U 25V | 2N710 |
| C504 | ELST 1U0 50V 20% RA | 2N510 |
| C505 | SUPPR CAP 4N7 250V | 2K247 |
| C506 | CERD 10N 63V 20% RA | 2A310 |
| C507 | CERD 1N0 63V 20% RA | 2A210 |
| C508 | CERD 1N0 63V 20% RA | 2A210 |
| C509 | CERD 1N0 63V 20% RA | 2A210 |
| C510 | CERD 1N0 63V 20% RA | 2A210 |
| C511 | CERD 1N0 63V 20% RA | 2A210 |
| C512 | CERD 1N0 63V 20% RA | 2A210 |
| C601N | PPRO 220P 5% 63V RA | 2D122 |
| C602N | PEST 15N 63V 5% | 2K315 |
| C603N | CERD 10N 63V 20% RA | 2A310 |
| D1 | ZENER 10V 400MW | 3C11004 |
| D2 | RECTIFIER 1N4003F 1A 200V | 3B4003 |
| D3 | ZENER 10V 400MW | 3C11004 |
| D4 | ZENER 10V 400MW | 3C11004 |
| D5 | ZENER 5V6 400MW | 3C05604 |
| D6 | ZENER 22V 400MW | 3C22004 |
| D101 | ZENER 10V 400MW | 3C11004 |
| D102 | RECTIFIER 1N4003F 1A 200V | 3B4003 |
| D103 | ZENER 10V 400MW | 3C11004 |

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|--------|---------------------------------|---------|
| D104 | ZENER 10V 400MW | 3C11004 |
| D106 | ZENER 22V 400MW | 3C22004 |
| D201 | RECTIFIER MUR420 4A 220V | 3B420 |
| D202 | RECTIFIER MUR420 4A 220V | 3B420 |
| D203 | RECTIFIER MUR420 4A 220V | 3B420 |
| D204 | RECTIFIER MUR420 4A 220V | 3B420 |
| D401N | RECTIFIER 1N4003F 1A 200V | 3B4003 |
| D402N | ZENER 5V6 400MW | 3C05604 |
| D403N | RECTIFIER 1N4003F 1A 200V | 3B4003 |
| D404N | ZENER 5V6 400MW | 3C05604 |
| D405N | ZENER 5V6 400MW | 3C05604 |
| D406N | SSDIODE 1N4148 75V | 3A4148 |
| D407N | RECTIFIER 1N4003F 1A 200V | 3B4003 |
| D408N | ZENER 5V6 400MW | 3C05604 |
| D501 | RECTIFIER 1N4003F 1A 200V | 3B4003 |
| D502 | RECTIFIER 1N4003F 1A 200V | 3B4003 |
| D503 | RECTIFIER 1N4003F 1A 200V | 3B4003 |
| D504 | RECTIFIER 1N4003F 1A 200V | 3B4003 |
| D505N | RECTIFIER 1N4003F 1A 200V | 3B4003 |
| D602 | ZENER 5V6 400MW | 3C05604 |
| F501 | INS COVER PCB FUSEHOLDER | F022 |
| F501 | FUSEHOLDER 20mm PCB | 8S004 |
| F501 | SPARE FUSE 20mm 1.6A AS | C12166 |
| FS502 | INS COVER PCB FUSEHOLDER | F022 |
| FS502 | FUSEHOLDER 20mm PCB | 8S004 |
| HS1 | ALPHA9 & AV50 HEATSINK | E801HK |
| HS201 | HEATSINK TO220 13 DEGC/W | F005 |
| HS201 | HEATSINK CLIP TO220 13/8.6 DC/W | F006 |
| HS202 | HEATSINK TO220 CLIP 23DEG/W | F004 |
| KP1 | KWIKSTIK PAD S/A 25 X 12mm | F157S |
| KP2 | KWIKSTIK PAD S/A 25 X 12mm | F157S |
| L1 | INDUCT 2U2 15x25mm AD2018 | 7D002A |
| L101 | INDUCT 2U2 15x25mm AD2018 | 7D002A |
| LED601 | LED RED/GREEN 5MM | 3D002 |

ALPHA 9/9P SERVICE MANUAL

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|--------|--------------------------------|--------|
| LK401N | JUMPER 3 WAY x 125mm | L815CA |
| LK501N | LINK BANDOL PREFORM 10mm | 1X010A |
| LK601 | JUMPER 3 WAY x 125mm | L815CA |
| MI | MAINS SWITCH SD33P INSULATOR | E00301 |
| MS | MAINS SWITCH SPACER | E66901 |
| PL1N | 2WAY MOLEX VERT MALE CONNECTOR | 8K6201 |
| Q1 | TRANS POWER MOSFET IRPF240 | 4K240 |
| Q2 | TRANS POWER MOSFET IRPF240 | 4K240 |
| Q3 | TRANS LF SS P 2SA1085 | 4A1085 |
| Q4 | TRANS LF SS N 2SC2547 | 4A2546 |
| Q5 | TRANS LF SS P 2SA1085 | 4A1085 |
| Q6 | TRANS LF SS P BC556B | 4A556 |
| Q7 | TRANS LF SS N BC546B | 4A546 |
| Q8 | TRANS LF SS P BC556B | 4A556 |
| Q9 | TRANS LF SS N BC546B | 4A546 |
| Q10 | TRANS LF SS P BC557B | 4A557 |
| Q11 | TRANS LF SS N BC547B | 4A547 |
| Q12 | TRANS LF SS N 2SC2547 | 4A2546 |
| Q13 | TRANS LF SS P BC557B | 4A557 |
| Q14 | TRANS LF SS N 2SC2547 | 4A2546 |
| Q15 | TRANS LF SS P BC557B | 4A557 |
| Q16 | TRANS LF SS N BC547B | 4A547 |
| Q17 | TRANS LF SS N BC547B | 4A547 |
| Q18 | TRANS LF SS N BC547B | 4A547 |
| Q19 | TRANS LF SS N BC547B | 4A547 |
| Q20 | TRANS LF SS N BC547B | 4A547 |
| Q101 | TRANS POWER MOSFET IRPF240 | 4K240 |
| Q102 | TRANS POWER MOSFET IRPF240 | 4K240 |
| Q103 | TRANS LF SS P 2SA1085 | 4A1085 |
| Q104 | TRANS LF SS N 2SC2547 | 4A2546 |
| Q105 | TRANS LF SS P 2SA1085 | 4A1085 |
| Q106 | TRANS LF SS P BC556B | 4A556 |
| Q107 | TRANS LF SS N BC546B | 4A546 |
| Q108 | TRANS LF SS P BC556B | 4A556 |

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|-------|----------------------------|--------|
| Q109 | TRANS LF SS N BC546B | 4A546 |
| Q110 | TRANS LF SS P BC557B | 4A557 |
| Q111 | TRANS LF SS N BC547B | 4A547 |
| Q112 | TRANS LF SS N 2SC2547 | 4A2546 |
| Q113 | TRANS LF SS P BC557B | 4A557 |
| Q114 | TRANS LF SS N 2SC2547 | 4A2546 |
| Q115 | TRANS LF SS P BC557B | 4A557 |
| Q116 | TRANS LF SS N BC547B | 4A547 |
| Q117 | TRANS LF SS N BC547B | 4A547 |
| Q118 | TRANS LF SS N BC547B | 4A547 |
| Q119 | TRANS LF SS N BC547B | 4A547 |
| Q120 | TRANS LF SS N BC547B | 4A547 |
| Q121 | TRANS LF SS P 2SA1085 | 4A1085 |
| Q401N | TRANS LF SS N BC547B | 4A547 |
| Q402N | TRANS LF SS P BC557B | 4A557 |
| Q403N | TRANS LF SS P BC557B | 4A557 |
| Q502 | TRANS LF SS N 2SC2547 | 4A2546 |
| R1 | RES MO 3W 5% 0R22 KOASPR3 | 1Q922 |
| R2 | RES CF 1W 1R5 5% | 1E815 |
| R3 | RES CF 1W 5R6 5% | 1E856 |
| R4 | RES MF FU W3 100R 5% NFR25 | 1G110 |
| R5 | RES MF W4 470R 1% | 1H147 |
| R6 | RES MF FU W3 100R 5% NFR25 | 1G110 |
| R7 | RES MF W4 470R 1% | 1H147 |
| R8 | RES MF FU W3 100R 5% NFR25 | 1G110 |
| R9 | RES MF W4 1K0 1% | 1H210 |
| R10 | RES MF W4 1K0 1% | 1H210 |
| R11 | RES MF FU W3 220R 5% NFR25 | 1G122 |
| R12 | RES MF FU W3 220R 5% NFR25 | 1G122 |
| R13 | RES MF FU W3 470R 5% NFR25 | 1G147 |
| R14 | RES MF FU W3 470R 5% NFR25 | 1G147 |
| R15 | RES MF W4 1K0 1% | 1H210 |
| R16 | RES MF W4 18K 1% | 1H318 |
| R17 | RES MF W4 5K6 1% | 1H256 |

ALPHA 9/9P SERVICE MANUAL

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|------|----------------------------|-------|
| R18 | RES MF W4 2K7 1% | 1H227 |
| R19 | RES MF W4 2K7 1% | 1H227 |
| R20 | RES MF W4 4K7 1% | 1H247 |
| R21 | RES MF W4 330R 1% | 1H133 |
| R22 | RES MF W4 2K7 1% | 1H227 |
| R23 | RES MF W4 100R 1% | 1H110 |
| R24 | RES MF W4 220K 1% | 1H422 |
| R25 | RES MF W4 18K 1% | 1H318 |
| R26 | RES MF W4 2K7 1% | 1H227 |
| R27 | RES MF W4 5K6 1% | 1H256 |
| R28 | RES MF FU W3 10R 5% NFR25 | 1G010 |
| R29 | RES MF FU W3 470R 5% NFR25 | 1G147 |
| R30 | RES MF W4 100K 1% | 1H410 |
| R31 | RES MF W4 120K 1% | 1H412 |
| R32 | RES MF W4 47K 1% | 1H347 |
| R33 | RES MF W4 470K 1% | 1H447 |
| R34 | RES MF W4 47K 1% | 1H347 |
| R35 | RES MF W4 2K7 1% | 1H227 |
| R36N | RES MF W4 5K6 1% | 1H256 |
| R37N | RES MF W4 6K8 1% | 1H268 |
| R38N | RES MF W4 6K8 1% | 1H268 |
| R39N | RES MF W4 12K 1% | 1H312 |
| R40N | RES MF W4 6K8 1% | 1H268 |
| R41N | RES MF W4 10K 1% | 1H310 |
| R42N | RES MF W4 12K 1% | 1H312 |
| R43N | RES MF W4 470R 1% | 1H147 |
| R46N | RES MF W4 100K 1% | 1H410 |
| R47N | RES MF W4 4K7 1% | 1H247 |
| R48N | RES MF W4 4K7 1% | 1H247 |
| R49N | RES MF W4 1K8 1% | 1H218 |
| R50N | RES MF W4 6K8 1% | 1H268 |
| R51N | RES MF W4 100R 1% | 1H110 |
| R52 | RES MF W4 6K8 1% | 1H268 |
| R53 | RES MF W4 2K2 1% | 1H222 |

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|------|----------------------------|-------|
| R54N | RES MF W4 1K8 1% | 1H218 |
| R55N | RES MF W4 1K0 1% | 1H210 |
| R56 | RES MF W4 56R 1% | 1H056 |
| R57N | RES MF W4 100K 1% | 1H410 |
| R58 | RES MF W4 330R 1% | 1H133 |
| R59 | RES MF W4 27K 1% | 1H327 |
| R60 | RES MF W4 1K0 1% | 1H210 |
| R61 | RES MF W4 33K 1% | 1H333 |
| R62N | RES MF W4 820R 1% | 1H182 |
| R71 | RES MF W4 15K 1% | 1H315 |
| R72 | RES MF W4 15K 1% | 1H315 |
| R73 | RES MF W4 15K 1% | 1H315 |
| R74 | RES MF W4 15K 1% | 1H315 |
| R75 | RES MF W4 10K 1% | 1H310 |
| R76 | RES MF W4 12K 1% | 1H312 |
| R77 | RES MF W4 220K 1% | 1H422 |
| R78 | RES MF W4 120K 1% | 1H412 |
| R79 | RES MF W4 33K 1% | 1H333 |
| R80 | RES MF W4 1K5 1% | 1H215 |
| R81 | RES MF W4 2K2 1% | 1H222 |
| R82 | RES MF W4 100R 1% | 1H110 |
| R83 | RES MF W4 4K7 1% | 1H247 |
| R84 | RES MF W4 18K 1% | 1H318 |
| R101 | RES MO 3W 5% 0R22 KOASPR3 | 1Q922 |
| R102 | RES CF 1W 1R5 5% | 1E815 |
| R103 | RES CF 1W 5R6 5% | 1E856 |
| R104 | RES MF FU W3 100R 5% NFR25 | 1G110 |
| R105 | RES MF W4 470R 1% | 1H147 |
| R106 | RES MF FU W3 100R 5% NFR25 | 1G110 |
| R107 | RES MF W4 470R 1% | 1H147 |
| R108 | RES MF FU W3 100R 5% NFR25 | 1G110 |
| R109 | RES MF W4 1K0 1% | 1H210 |
| R110 | RES MF W4 1K0 1% | 1H210 |
| R111 | RES MF FU W3 220R 5% NFR25 | 1G122 |

ALPHA 9/9P SERVICE MANUAL

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|-------|----------------------------|-------|
| R112 | RES MF FU W3 220R 5% NFR25 | 1G122 |
| R113 | RES MF FU W3 470R 5% NFR25 | 1G147 |
| R114 | RES MF FU W3 470R 5% NFR25 | 1G147 |
| R115 | RES MF W4 1K0 1% | 1H210 |
| R116 | RES MF W4 18K 1% | 1H318 |
| R117 | RES MF W4 5K6 1% | 1H256 |
| R118 | RES MF W4 2K7 1% | 1H227 |
| R119 | RES MF W4 2K7 1% | 1H227 |
| R120 | RES MF W4 4K7 1% | 1H247 |
| R121 | RES MF W4 330R 1% | 1H133 |
| R122 | RES MF W4 2K7 1% | 1H227 |
| R123 | RES MF W4 100R 1% | 1H110 |
| R124 | RES MF W4 220R 1% | 1H122 |
| R125 | RES MF W4 18K 1% | 1H318 |
| R126 | RES MF W4 2K7 1% | 1H227 |
| R127 | RES MF W4 5K6 1% | 1H256 |
| R128 | RES MF FU W3 10R 5% NFR25 | 1G010 |
| R129 | RES MF FU W3 470R 5% NFR25 | 1G147 |
| R130 | RES MF W4 100K 1% | 1H410 |
| R131 | RES MF W4 120K 1% | 1H412 |
| R132 | RES MF W4 47K 1% | 1H347 |
| R133 | RES MF W4 470K 1% | 1H447 |
| R134 | RES MF W4 47K 1% | 1H347 |
| R135 | RES MF W4 2K7 1% | 1H227 |
| R136N | RES MF W4 5K6 1% | 1H256 |
| R137N | RES MF W4 6K8 1% | 1H268 |
| R138N | RES MF W4 6K8 1% | 1H268 |
| R139N | RES MF W4 12K 1% | 1H312 |
| R140N | RES MF W4 6K8 1% | 1H268 |
| R141N | RES MF W4 10K 1% | 1H310 |
| R142N | RES MF W4 12K 1% | 1H312 |
| R143N | RES MF W4 470R 1% | 1H147 |
| R146N | RES MF W4 100K 1% | 1H410 |
| R147N | RES MF W4 4K7 1% | 1H247 |

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|-------|---------------------------|-------|
| R148N | RES MF W4 4K7 1% | 1H247 |
| R149N | RES MF W4 1K8 1% | 1H218 |
| R150N | RES MF W4 6K8 1% | 1H268 |
| R151N | RES MF W4 100R 1% | 1H110 |
| R152 | RES MF W4 6K8 1% | 1H268 |
| R153 | RES MF W4 2K2 1% | 1H222 |
| R154N | RES MF W4 1K8 1% | 1H218 |
| R155N | RES MF W4 1K0 1% | 1H210 |
| R156 | RES MF W4 56R 1% | 1H056 |
| R157N | RES MF W4 100K 1% | 1H410 |
| R158 | RES MF W4 330R 1% | 1H133 |
| R159 | RES MF W4 27K 1% | 1H327 |
| R160 | RES MF W4 1K0 1% | 1H210 |
| R161 | RES MF W4 33K 1% | 1H333 |
| R162N | RES MF W4 820R 1% | 1H182 |
| R173 | RES MF W4 15K 1% | 1H315 |
| R174 | RES MF W4 15K 1% | 1H315 |
| R175 | RES MF W4 10K 1% | 1H310 |
| R176 | RES MF W4 12K 1% | 1H312 |
| R177 | RES MF W4 220K 1% | 1H422 |
| R178 | RES MF W4 120K 1% | 1H412 |
| R179 | RES MF W4 33K 1% | 1H333 |
| R180 | RES MF W4 1K5 1% | 1H215 |
| R181 | RES MF W4 2K2 1% | 1H222 |
| R182 | RES MF W4 100R 1% | 1H110 |
| R183 | RES MF W4 4K7 1% | 1H247 |
| R184 | RES MF W4 18K 1% | 1H318 |
| R185 | RES MF W4 47K 1% | 1H347 |
| R201 | RES MF W4 2K4 1% | 1H224 |
| R202 | RES MF W4 220R 1% | 1H122 |
| R203 | RES MF W4 2K4 1% | 1H224 |
| R204 | RES MF W4 220R 1% | 1H122 |
| R205 | RES MF FU W3 10R 5% NFR25 | 1G010 |
| R206 | RES MF FU W3 10R 5% NFR25 | 1G010 |

ALPHA 9/9P SERVICE MANUAL

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|-------|---------------------------|-------|
| R207 | RES MF FU W3 10R 5% NFR25 | 1G010 |
| R401N | RES MF FU W3 10R 5% NFR25 | 1G010 |
| R402N | RES MF W4 1K0 1% | 1H210 |
| R403N | RES MF W4 1K0 1% | 1H210 |
| R404 | RES MF FU W3 1R0 5% NFR25 | 1G810 |
| R405N | RES MF W4 1K0 1% | 1H210 |
| R406N | RES MF W4 4K7 1% | 1H247 |
| R407N | RES MF W4 4K7 1% | 1H247 |
| R408N | RES MF W4 470R 1% | 1H147 |
| R410N | RES CF 1W 2K7 5% | 1E227 |
| R501 | RES MF W4 47K 1% | 1H347 |
| R502 | RES MF W4 47K 1% | 1H347 |
| R503 | RES MF W4 100R 1% | 1H110 |
| R504 | RES MF W4 47K 1% | 1H347 |
| R505 | RES MF W4 47K 1% | 1H347 |
| R506 | RES MF W4 100K 1% | 1H410 |
| R507 | RES MF W4 18K 1% | 1H318 |
| R508 | RES MF W4 47K 1% | 1H347 |
| R509 | RES MF W4 47K 1% | 1H347 |
| R510 | RES MF W4 100K 1% | 1H410 |
| R511 | RES MF W4 18K 1% | 1H318 |
| R512 | RES MF W4 18K 1% | 1H318 |
| R513 | RES MF W4 33K 1% | 1H333 |
| R514 | RES MF W4 47K 1% | 1H347 |
| R515 | RES CF 1W 1K0 5% | 1E210 |
| R516 | RES CF 1W 1K0 5% | 1E210 |
| R517 | RES CF 1W 2K7 5% | 1E227 |
| R518 | RES CF 1W 2K7 5% | 1E227 |
| R519 | RES CF 1W 330R 5% | 1E133 |
| R520 | RES CF 1W 330R 5% | 1E133 |
| R521N | RES CF 1W 2K7 5% | 1E227 |
| R524 | RES MF W4 18K 1% | 1H318 |
| R525 | RES CF W2 100R 5% | 1D110 |
| R526 | RES CF W2 100R 5% | 1D110 |

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|---------|--|--------|
| R527 | RES MF W4 10R 1% | 1H010 |
| R601N | RES MF W4 22R 1% | 1H022 |
| R602N | RES MF W4 22R 1% | 1H022 |
| R603N | RES MF W4 6K8 1% | 1H268 |
| R604N | RES MF W4 2K2 1% | 1H222 |
| R605N | RES MF W4 6K8 1% | 1H268 |
| R606N | RES MF W4 2K2 1% | 1H222 |
| RA1 | RES MO 3W 5% 0R22 KOASPR3 | 1Q922 |
| RA101 | RES MO 3W 5% 0R22 KOASPR3 | 1Q922 |
| RLY401N | RELAY 960 OHM 51SB12T | A205 |
| RLY501 | RELAY G5Z-2A-E 24V | A207 |
| RLY502 | RELAY G5Z-2A-E 24V | A207 |
| RLY503N | RELAY 960 OHM 51SB12T | A205 |
| RP401N | RES NETWORK 100Kx8 COMMON | 1V410 |
| RV201N | POT 20KA* 2 LIN A | 6A320E |
| RV202N | POT 20KA* 2 LIN A | 6A320E |
| RV203N | POT 20KA* 2 LIN A | 6A320E |
| RV601N | POT 20KA* 2 LOG A MOTORISED | 6A330M |
| RX1N | REMOTE CONTROL RECEIVER SBX1610-62 38KHZ | B2103 |
| SK501 | BINDING POST 4WAY GOLD LTS04102002G | 8D416 |
| SK502 | BINDING POST 4WAY GOLD LTS04102002G | 8D416 |
| SK201N | PRESSACTL 8-WAY MALE VERT | 8K5181 |
| SK301N | PHONO SKT 4-WAY EMC GOLD | 8D225 |
| SK302N | PHONO SKT 4-WAY EMC GOLD | 8D225 |
| SK303N | PHONO SKT 4-WAY EMC GOLD | 8D225 |
| SK304N | PHONO SKT 4-WAY EMC GOLD | 8D225 |
| SK305 | PHONO SKT 4-WAY EMC GOLD | 8D225 |
| SK503 | IEC MAINS CONN PCB INS PX | 8A001 |
| SK504 | STEREO JACK PCB | 8D301 |
| SK601N | JUMPER 2 W LEAD APL5 | 1Y271 |
| SK602N | JUMPER 8-WAY LEAD | L809CA |
| SPRFS | SPARE FUSEHOLDER | F062 |
| SPRFS | SPARE FUSE 20mm 1.6A AS | C12166 |
| SW201N | SWITCH ROTARY 6W MOTOR | A1207 |

ALPHA 9/9P SERVICE MANUAL

| | | |
|--------|----------------------------------|----------|
| SW202N | SW ROTARY 6W 4 POLE | A1210 |
| SW205N | SW PUSH 2PCO | A1008 |
| SW206N | 2PC SLIDER SW MSS2200 | A1401 |
| SW207N | SW PUSH 4PCO | A1013 |
| SW402N | 2PC R/A SLIDE SW | A1402 |
| SW501 | SW PUSH 2PCO | A1008 |
| SW502 | SW PUSH 2PCO | A1008 |
| SW503 | SWITCH PUSH MAINS OPST SDS3P | A1006 |
| TC1 | TRANSFORMER CLAMP | E00201 |
| TC2 | TRANSFORMER CLAMP | E00201 |
| TH501 | THERMISTOR SIEMENS B59008 | 1T002 |
| TX1 | ALPHA9 MULTI VOLTAGE TRANSFORMER | L817TX |
| X401N | CER RESON CST4.19MG 4.19MHz | 7W002 |
| Y2 | TX WIRE RESTRAINT | F185 |
| Y3 | TX WIRE RESTRAINT | F185 |
| Y20 | COPPER RIVET | HP007 |
| Y21 | COPPER RIVET | HP007 |
| Z1 | IC AUDIO NE5534N | 5A5534 |
| Z2N | IC AUDIO DUAL JRC4560 | 5B4560 |
| Z3 | IC COMPARITOR DUAL LM393A | 5M393A |
| Z101 | IC AUDIO NE5534N | 5A5534 |
| Z102N | IC AUDIO DUAL JRC4560 | 5B4560 |
| Z201 | IC VREG POS LM317T | 5D317T |
| Z202 | IC VREG POS LM337T | 5D337 |
| Z203N | IC AUDIO DUAL TL072 | 5B072 |
| Z401N | IC SOCKET 18 PIN 0.3" | 8S018 |
| Z401N | IC CMOS MICRO PIC16C54XT/P | 5H16C54X |
| Z402N | MOTOR DRIVER 5Q6109 | 5Q6109 |
| Z403N | MOTOR DRIVER 5Q6109 | 5Q6109 |
| Z501 | IC COMPARITOR TA7317P | 5M7317 |

Alpha 9 Amplifier Non PCB Parts, Metalwork etc.

| Part No. | Description |
|----------|---------------------------------|
| B3002 | AA BATTERY FOR REMOTE CONTROL |
| E66801 | REAR PHONO INPUT BLANKING PLATE |
| E802CH | CHASSIS |
| E802MI | PCB INSULATOR |
| E803SP | ALPHA 9/9P AMP SUBPANEL |
| E804AP | FELT RING |
| E804CP | ALPHA 9/9P COVERPLATE |
| E808RP | REAR PANEL |
| E813FP | ALPHA 9 FASCIA |
| E815PM | POWER BUTTON |
| E818PM | VOLUME KNOB |
| E819PM | BALANCE/TREBLE/BASS KNOB |
| E820PM | LISTEN KNOB |
| E822PM | FOOT |
| E825PM | ALPHA 9 BADGE |
| E901HK | HEATSINK ANODISED |
| F037 | TOROIDIAL TRANSFORMER CLAMP |
| F038 | RUBBER WASHER FOR ABOVE |
| HA6K55A | TRANSFORMER BOLT |
| L802RC | HANDI REMOTE CONTROL |
| SH053 | OWNERS HANDBOOK |
| SH058 | WARRANTY LEAFLET |

ALPHA 9/9P SERVICE MANUAL

| Alpha 9P Power Amplifier Parts List | | |
|-------------------------------------|--------------------------|----------|
| Ref. No. | Description | Part No. |
| C1 | ELST 100U 25V | 2N710 |
| C2 | PEST 47N 63V 5% | 2K347 |
| C3 | ELST 100U 100V | 2N710B |
| C4 | PCRB 100N 100V 5% RA 5mm | 2H410 |
| C5 | PPRO 680P 5% 63V RA | 2D168 |
| C6 | PSTY 56P 160V ENCAP 1PF% | 2F056 |
| C7 | ELST 10U 50V | 2N610 |
| C8 | ELST 100U 25V | 2N710 |
| C9 | PEST 15N 63V 5% | 2K315 |
| C10 | PEST 15N 63V 5% | 2K315 |
| C11 | PPRO 220P 5% 63V RA | 2D122 |
| C12 | ELST NON POLAR 10UF 35V | 2U610 |
| C20 | PEST 15N 63V 5% | 2K315 |
| C22 | PCRB 100N 100V 5% RA 5mm | 2H410 |
| C23 | PCRB 100N 100V 5% RA 5mm | 2H410 |
| C71 | ELST 10U 50V | 2N610 |
| C72 | ELST 100U 25V | 2N710 |
| C101 | ELST 100U 25V | 2N710 |
| C102 | PEST 47N 63V 5% | 2K347 |
| C103 | ELST 100U 100V | 2N710B |
| C104 | PCRB 100N 100V 5% RA 5mm | 2H410 |
| C105 | PPRO 680P 5% 63V RA | 2D168 |
| C106 | PSTY 56P 160V ENCAP 1PF% | 2F056 |
| C107 | ELST 10U 50V | 2N610 |
| C108 | ELST 100U 25V | 2N710 |
| C109 | PEST 15N 63V 5% | 2K315 |
| C110 | PEST 15N 63V 5% | 2K315 |
| C111 | PPRO 220P 5% 63V RA | 2D122 |
| C112 | ELST NON POLAR 10UF 35V | 2U610 |
| C120 | PEST 15N 63V 5% | 2K315 |
| C122 | PCRB 100N 100V 5% RA 5mm | 2H410 |
| C123 | PCRB 100N 100V 5% RA 5mm | 2H410 |

| Alpha 9P Power Amplifier Parts List | | |
|-------------------------------------|---------------------------|----------|
| Ref. No. | Description | Part No. |
| C172 | ELST 100U 25V | 2N710 |
| C173 | ELST 100U 25V | 2N710 |
| C201 | ELST 10m 50V RA 32mm | 2N910 |
| C202 | ELST 10m 50V RA 32mm | 2N910 |
| C205 | PPRO 4N7 63V 5% RA | 2D247N |
| C206 | PPRO 4N7 63V 5% RA | 2D247N |
| C207 | ELST 10U 50V | 2N610 |
| C208 | ELST 10U 50V | 2N610 |
| C209 | ELST 10U 50V | 2N610 |
| C210 | ELST 10U 50V | 2N610 |
| C404 | CERD 10N 63V 20% RA | 2A310 |
| C501 | ELST 100U 25V | 2N710 |
| C502 | ELST 1U0 50V 20% RA | 2N510 |
| C503 | ELST 100U 25V | 2N710 |
| C504 | ELST 1U0 50V 20% RA | 2N510 |
| C505 | SUPPR CAP 4N7 250V | 2K247 |
| C506 | CERD 10N 63V 20% RA | 2A310 |
| C507 | CERD 1N0 63V 20% RA | 2A210 |
| C508 | CERD 1N0 63V 20% RA | 2A210 |
| C509 | CERD 1N0 63V 20% RA | 2A210 |
| C510 | CERD 1N0 63V 20% RA | 2A210 |
| C511 | CERD 1N0 63V 20% RA | 2A210 |
| C512 | CERD 1N0 63V 20% RA | 2A210 |
| D1 | ZENER 10V 400MW | 3C11004 |
| D2 | RECTIFIER 1N4003F 1A 200V | 3B4003 |
| D3 | ZENER 10V 400MW | 3C11004 |
| D4 | ZENER 10V 400MW | 3C11004 |
| D5 | ZENER 5V6 400MW | 3C05604 |
| D6 | ZENER 22V 400MW | 3C22004 |
| D101 | ZENER 10V 400MW | 3C11004 |
| D102 | RECTIFIER 1N4003F 1A 200V | 3B4003 |
| D103 | ZENER 10V 400MW | 3C11004 |

ALPHA 9/9P SERVICE MANUAL

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| D104 | ZENER 10V 400MW | 3C11004 |
| D106 | ZENER 22V 400MW | 3C22004 |
| D201 | RECTIFIER MUR420 4A 220V | 3B420 |
| D202 | RECTIFIER MUR420 4A 220V | 3B420 |
| D203 | RECTIFIER MUR420 4A 220V | 3B420 |
| D204 | RECTIFIER MUR420 4A 220V | 3B420 |
| D501 | RECTIFIER 1N4003F 1A 200V | 3B4003 |
| D502 | RECTIFIER 1N4003F 1A 200V | 3B4003 |
| D503 | RECTIFIER 1N4003F 1A 200V | 3B4003 |
| D504 | RECTIFIER 1N4003F 1A 200V | 3B4003 |
| D602 | ZENER 5V6 400MW | 3C05604 |
| F501 | FUSEHOLDER 20mm PCB | 8S004 |
| F501 | INS COVER PCB FUSEHOLDER | F022 |
| F501 | SPARE FUSE 20mm 1.6A AS | C12166 |
| FS502 | FUSEHOLDER 20mm PCB | 8S004 |
| FS502 | INS COVER PCB FUSEHOLDER | F022 |
| HS1 | ALPHA9 & AV50 HEATSINK | E801HK |
| HS201 | HEATSINK CLIP TO220 13/8.6 DC/W | F006 |
| HS201 | HEATSINK TO220 13 DEGC/W | F005 |
| HS202 | HEATSINK TO220 CLIP 23DEGC/W | F004 |
| KP1 | KWIKSTIK PAD S/A 25 X 12mm | F157S |
| KP2 | KWIKSTIK PAD S/A 25 X 12mm | F157S |
| L1 | INDUCT 2U2 15x25mm AD2018 | 7D002A |
| L101 | INDUCT 2U2 15x25mm AD2018 | 7D002A |
| LED601 | LED RED/GREEN 5MM | 3D002 |
| LK1P | LINK BANDOL PREFORM 10mm | 1X010A |
| LK2P | LINK BANDOL PREFORM 10mm | 1X010A |
| LK3P | LINK BANDOL PREFORM 10mm | 1X010A |
| LK4P | LINK BANDOL PREFORM 10mm | 1X010A |
| LK502P | LINK BANDOL PREFORM 10mm | 1X010A |
| LK601 | JUMPER 3 WAY x 125mm | L815CA |
| MI | MAINS SWITCH SD33P INSULATOR | E00301 |
| MS | MAINS SWITCH SPACER | E66901 |
| Q1 | TRANS POWER MOSFET IRPF240 | 4K240 |

| | | |
|------|----------------------------|--------|
| Q2 | TRANS POWER MOSFET IRPF240 | 4K240 |
| Q3 | TRANS LF SS P 2SA1085 | 4A1085 |
| Q4 | TRANS LF SS N 2SC2547 | 4A2546 |
| Q5 | TRANS LF SS P 2SA1085 | 4A1085 |
| Q6 | TRANS LF SS P BC556B | 4A556 |
| Q7 | TRANS LF SS N BC546B | 4A546 |
| Q8 | TRANS LF SS P BC556B | 4A556 |
| Q9 | TRANS LF SS N BC546B | 4A546 |
| Q10 | TRANS LF SS P BC557B | 4A557 |
| Q11 | TRANS LF SS N BC547B | 4A547 |
| Q12 | TRANS LF SS N 2SC2547 | 4A2546 |
| Q13 | TRANS LF SS P BC557B | 4A557 |
| Q14 | TRANS LF SS N 2SC2547 | 4A2546 |
| Q15 | TRANS LF SS P BC557B | 4A557 |
| Q16 | TRANS LF SS N BC547B | 4A547 |
| Q17 | TRANS LF SS N BC547B | 4A547 |
| Q18 | TRANS LF SS N BC547B | 4A547 |
| Q19 | TRANS LF SS N BC547B | 4A547 |
| Q20 | TRANS LF SS N BC547B | 4A547 |
| Q101 | TRANS POWER MOSFET IRPF240 | 4K240 |
| Q102 | TRANS POWER MOSFET IRPF240 | 4K240 |
| Q103 | TRANS LF SS P 2SA1085 | 4A1085 |
| Q104 | TRANS LF SS N 2SC2547 | 4A2546 |
| Q105 | TRANS LF SS P 2SA1085 | 4A1085 |
| Q106 | TRANS LF SS P BC556B | 4A556 |
| Q107 | TRANS LF SS N BC546B | 4A546 |
| Q108 | TRANS LF SS P BC556B | 4A556 |
| Q109 | TRANS LF SS N BC546B | 4A546 |
| Q110 | TRANS LF SS P BC557B | 4A557 |
| Q111 | TRANS LF SS N BC547B | 4A547 |
| Q112 | TRANS LF SS N 2SC2547 | 4A2546 |
| Q113 | TRANS LF SS P BC557B | 4A557 |
| Q114 | TRANS LF SS N 2SC2547 | 4A2546 |
| Q115 | TRANS LF SS P BC557B | 4A557 |

ALPHA 9/9P SERVICE MANUAL

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|------|----------------------------|--------|
| Q116 | TRANS LF SS N BC547B | 4A547 |
| Q117 | TRANS LF SS N BC547B | 4A547 |
| Q118 | TRANS LF SS N BC547B | 4A547 |
| Q119 | TRANS LF SS N BC547B | 4A547 |
| Q120 | TRANS LF SS N BC547B | 4A547 |
| Q121 | TRANS LF SS P 2SA1085 | 4A1085 |
| Q502 | TRANS LF SS N 2SC2547 | 4A2546 |
| R1 | RES MO 3W 5% 0R22 KOASPR3 | 1Q922 |
| R2 | RES CF 1W 1R5 5% | 1E815 |
| R3 | RES CF 1W 5R6 5% | 1E856 |
| R4 | RES MF FU W3 100R 5% NFR25 | 1G110 |
| R5 | RES MF W4 470R 1% | 1H147 |
| R6 | RES MF FU W3 100R 5% NFR25 | 1G110 |
| R7 | RES MF W4 470R 1% | 1H147 |
| R8 | RES MF FU W3 100R 5% NFR25 | 1G110 |
| R9 | RES MF W4 1K0 1% | 1H210 |
| R10 | RES MF W4 1K0 1% | 1H210 |
| R11 | RES MF FU W3 220R 5% NFR25 | 1G122 |
| R12 | RES MF FU W3 220R 5% NFR25 | 1G122 |
| R13 | RES MF FU W3 470R 5% NFR25 | 1G147 |
| R14 | RES MF FU W3 470R 5% NFR25 | 1G147 |
| R15 | RES MF W4 1K0 1% | 1H210 |
| R16 | RES MF W4 18K 1% | 1H318 |
| R17 | RES MF W4 5K6 1% | 1H256 |
| R18 | RES MF W4 2K7 1% | 1H227 |
| R19 | RES MF W4 2K7 1% | 1H227 |
| R20 | RES MF W4 4K7 1% | 1H247 |
| R21 | RES MF W4 330R 1% | 1H133 |
| R22 | RES MF W4 2K7 1% | 1H227 |
| R23 | RES MF W4 100R 1% | 1H110 |
| R24 | RES MF W4 220K 1% | 1H422 |
| R25 | RES MF W4 18K 1% | 1H318 |
| R26 | RES MF W4 2K7 1% | 1H227 |
| R27 | RES MF W4 5K6 1% | 1H256 |

| | | |
|------|----------------------------|-------|
| R28 | RES MF FU W3 10R 5% NFR25 | 1G010 |
| R29 | RES MF FU W3 470R 5% NFR25 | 1G147 |
| R30 | RES MF W4 100K 1% | 1H410 |
| R31 | RES MF W4 120K 1% | 1H412 |
| R32 | RES MF W4 47K 1% | 1H347 |
| R33 | RES MF W4 470K 1% | 1H447 |
| R34 | RES MF W4 47K 1% | 1H347 |
| R35 | RES MF W4 2K7 1% | 1H227 |
| R52 | RES MF W4 6K8 1% | 1H268 |
| R53 | RES MF W4 2K2 1% | 1H222 |
| R56 | RES MF W4 56R 1% | 1H056 |
| R58 | RES MF W4 330R 1% | 1H133 |
| R59 | RES MF W4 27K 1% | 1H327 |
| R60 | RES MF W4 1K0 1% | 1H210 |
| R61 | RES MF W4 33K 1% | 1H333 |
| R71 | RES MF W4 15K 1% | 1H315 |
| R72 | RES MF W4 15K 1% | 1H315 |
| R73 | RES MF W4 15K 1% | 1H315 |
| R74 | RES MF W4 15K 1% | 1H315 |
| R75 | RES MF W4 10K 1% | 1H310 |
| R76 | RES MF W4 12K 1% | 1H312 |
| R77 | RES MF W4 220K 1% | 1H422 |
| R78 | RES MF W4 120K 1% | 1H412 |
| R79 | RES MF W4 33K 1% | 1H333 |
| R80 | RES MF W4 1K5 1% | 1H215 |
| R81 | RES MF W4 2K2 1% | 1H222 |
| R82 | RES MF W4 100R 1% | 1H110 |
| R83 | RES MF W4 4K7 1% | 1H247 |
| R84 | RES MF W4 18K 1% | 1H318 |
| R101 | RES MO 3W 5% 0R22 KOASPR3 | 1Q922 |
| R102 | RES CF 1W 1R5 5% | 1E815 |
| R103 | RES CF 1W 5R6 5% | 1E856 |
| R104 | RES MF FU W3 100R 5% NFR25 | 1G110 |
| R105 | RES MF W4 470R 1% | 1H147 |

ALPHA 9/9P SERVICE MANUAL

| | | |
|------|----------------------------|-------|
| R106 | RES MF FU W3 100R 5% NFR25 | 1G110 |
| R107 | RES MF W4 470R 1% | 1H147 |
| R108 | RES MF FU W3 100R 5% NFR25 | 1G110 |
| R109 | RES MF W4 1K0 1% | 1H210 |
| R110 | RES MF W4 1K0 1% | 1H210 |
| R111 | RES MF FU W3 220R 5% NFR25 | 1G122 |
| R112 | RES MF FU W3 220R 5% NFR25 | 1G122 |
| R113 | RES MF FU W3 470R 5% NFR25 | 1G147 |
| R114 | RES MF FU W3 470R 5% NFR25 | 1G147 |
| R115 | RES MF W4 1K0 1% | 1H210 |
| R116 | RES MF W4 18K 1% | 1H318 |
| R117 | RES MF W4 5K6 1% | 1H256 |
| R118 | RES MF W4 2K7 1% | 1H227 |
| R119 | RES MF W4 2K7 1% | 1H227 |
| R120 | RES MF W4 4K7 1% | 1H247 |
| R121 | RES MF W4 330R 1% | 1H133 |
| R122 | RES MF W4 2K7 1% | 1H227 |
| R123 | RES MF W4 100R 1% | 1H110 |
| R124 | RES MF W4 220R 1% | 1H122 |
| R125 | RES MF W4 18K 1% | 1H318 |
| R126 | RES MF W4 2K7 1% | 1H227 |
| R127 | RES MF W4 5K6 1% | 1H256 |
| R128 | RES MF FU W3 10R 5% NFR25 | 1G010 |
| R129 | RES MF FU W3 470R 5% NFR25 | 1G147 |
| R130 | RES MF W4 100K 1% | 1H410 |
| R131 | RES MF W4 120K 1% | 1H412 |
| R132 | RES MF W4 47K 1% | 1H347 |
| R133 | RES MF W4 470K 1% | 1H447 |
| R134 | RES MF W4 47K 1% | 1H347 |
| R135 | RES MF W4 2K7 1% | 1H227 |
| R152 | RES MF W4 6K8 1% | 1H268 |
| R153 | RES MF W4 2K2 1% | 1H222 |
| R156 | RES MF W4 56R 1% | 1H056 |
| R158 | RES MF W4 330R 1% | 1H133 |

| | | |
|------|---------------------------|-------|
| R159 | RES MF W4 27K 1% | 1H327 |
| R160 | RES MF W4 1K0 1% | 1H210 |
| R161 | RES MF W4 33K 1% | 1H333 |
| R173 | RES MF W4 15K 1% | 1H315 |
| R174 | RES MF W4 15K 1% | 1H315 |
| R175 | RES MF W4 10K 1% | 1H310 |
| R176 | RES MF W4 12K 1% | 1H312 |
| R177 | RES MF W4 220K 1% | 1H422 |
| R178 | RES MF W4 120K 1% | 1H412 |
| R179 | RES MF W4 33K 1% | 1H333 |
| R180 | RES MF W4 1K5 1% | 1H215 |
| R181 | RES MF W4 2K2 1% | 1H222 |
| R182 | RES MF W4 100R 1% | 1H110 |
| R183 | RES MF W4 4K7 1% | 1H247 |
| R184 | RES MF W4 18K 1% | 1H318 |
| R185 | RES MF W4 47K 1% | 1H347 |
| R201 | RES MF W4 2K4 1% | 1H224 |
| R202 | RES MF W4 220R 1% | 1H122 |
| R203 | RES MF W4 2K4 1% | 1H224 |
| R204 | RES MF W4 220R 1% | 1H122 |
| R205 | RES MF FU W3 10R 5% NFR25 | 1G010 |
| R206 | RES MF FU W3 10R 5% NFR25 | 1G010 |
| R207 | RES MF FU W3 10R 5% NFR25 | 1G010 |
| R404 | RES MF FU W3 1R0 5% NFR25 | 1G810 |
| R501 | RES MF W4 47K 1% | 1H347 |
| R502 | RES MF W4 47K 1% | 1H347 |
| R503 | RES MF W4 100R 1% | 1H110 |
| R504 | RES MF W4 47K 1% | 1H347 |
| R505 | RES MF W4 47K 1% | 1H347 |
| R506 | RES MF W4 100K 1% | 1H410 |
| R507 | RES MF W4 18K 1% | 1H318 |
| R508 | RES MF W4 47K 1% | 1H347 |
| R509 | RES MF W4 47K 1% | 1H347 |
| R510 | RES MF W4 100K 1% | 1H410 |

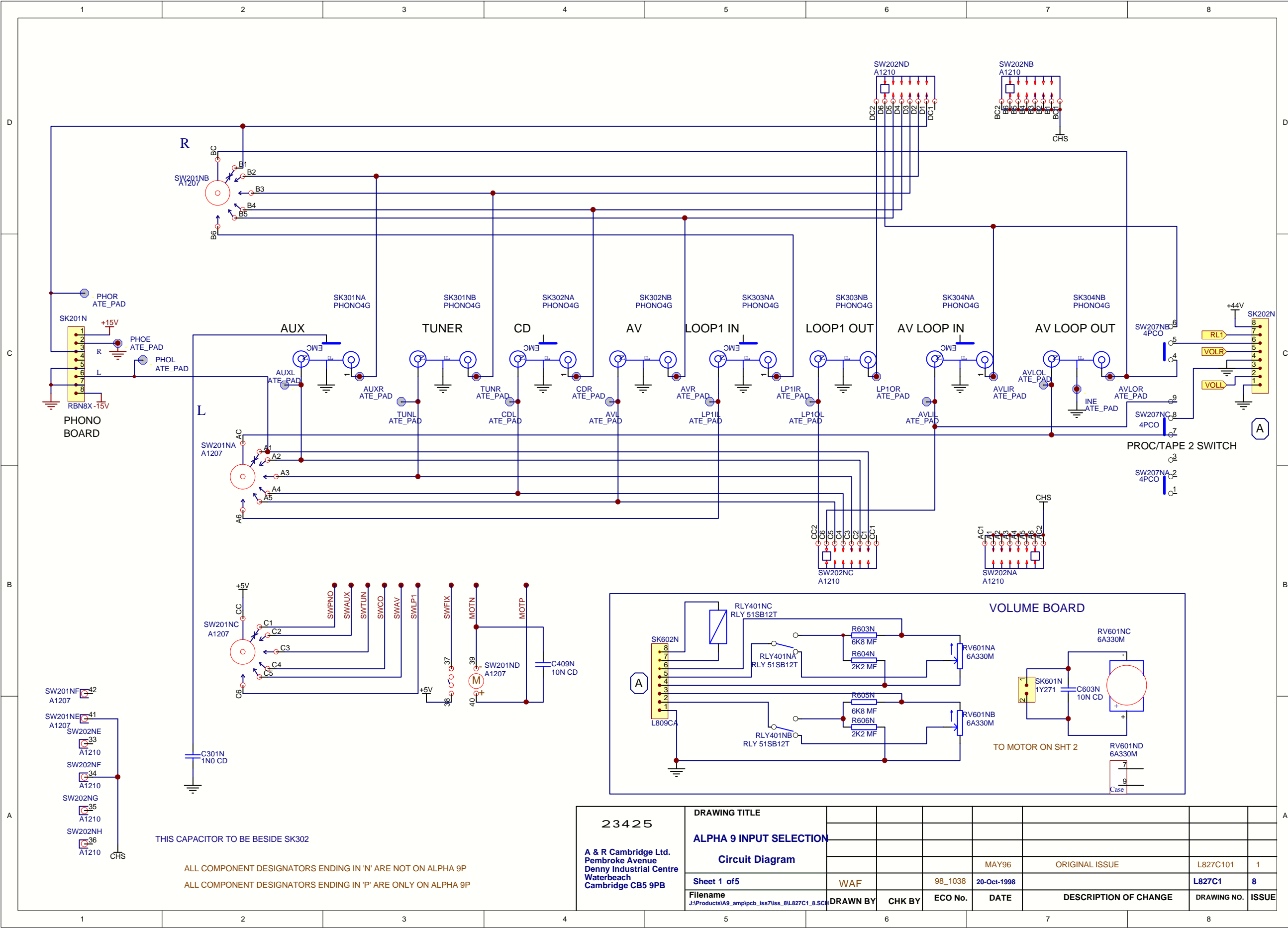
ALPHA 9/9P SERVICE MANUAL

| | | |
|--------|-------------------------------------|--------|
| R511 | RES MF W4 18K 1% | 1H318 |
| R512 | RES MF W4 18K 1% | 1H318 |
| R513 | RES MF W4 33K 1% | 1H333 |
| R514 | RES MF W4 47K 1% | 1H347 |
| R515 | RES CF 1W 1K0 5% | 1E210 |
| R516 | RES CF 1W 1K0 5% | 1E210 |
| R517 | RES CF 1W 2K7 5% | 1E227 |
| R518 | RES CF 1W 2K7 5% | 1E227 |
| R519 | RES CF 1W 330R 5% | 1E133 |
| R520 | RES CF 1W 330R 5% | 1E133 |
| R524 | RES MF W4 18K 1% | 1H318 |
| R525 | RES CF W2 100R 5% | 1D110 |
| R526 | RES CF W2 100R 5% | 1D110 |
| R527 | RES MF W4 10R 1% | 1H010 |
| RA1 | RES MO 3W 5% 0R22 KOASPR3 | 1Q922 |
| RA101 | RES MO 3W 5% 0R22 KOASPR3 | 1Q922 |
| RLY501 | RELAY G5Z-2A-E 24V | A207 |
| RLY502 | RELAY G5Z-2A-E 24V | A207 |
| SK305 | PHONO SKT 4-WAY EMC GOLD | 8D225 |
| SK501 | BINDING POST 4WAY GOLD LTS04102002G | 8D416 |
| SK502 | BINDING POST 4WAY GOLD LTS04102002G | 8D416 |
| SK503 | IEC MAINS CONN PCB INS PX | 8A001 |
| SK504 | STEREO JACK PCB | 8D301 |
| SPRFS | SPARE FUSE 20mm 1.6A AS | C12166 |
| SPRFS | SPARE FUSEHOLDER | F062 |
| SW501 | SW PUSH 2PCO | A1008 |
| SW502 | SW PUSH 2PCO | A1008 |
| SW503 | SWITCH PUSH MAINS OPST SDS3P | A1006 |
| TC1 | TRANSFORMER CLAMP | E00201 |
| TC2 | TRANSFORMER CLAMP | E00201 |
| TH501 | THERMISTOR SIEMENS B59008 | 1T002 |
| TX1 | ALPHA9 MULTI VOLTAGE TRANSFORMER | L817TX |
| Y2 | TX WIRE RESTRAINT | F185 |
| Y3 | TX WIRE RESTRAINT | F185 |

| | | |
|------|---------------------------|--------|
| Y20 | COPPER RIVET | HP007 |
| Y21 | COPPER RIVET | HP007 |
| Z1 | IC AUDIO NE5534N | 5A5534 |
| Z3 | IC COMPARITOR DUAL LM393A | 5M393A |
| Z101 | IC AUDIO NE5534N | 5A5534 |
| Z201 | IC VREG POS LM317T | 5D317T |
| Z202 | IC VREG POS LM337T | 5D337 |
| Z501 | IC COMPARITOR TA7317P | 5M7317 |

Alpha 9P Non PCB Parts, Metalwork etc.

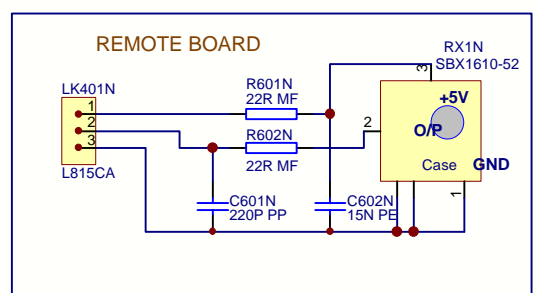
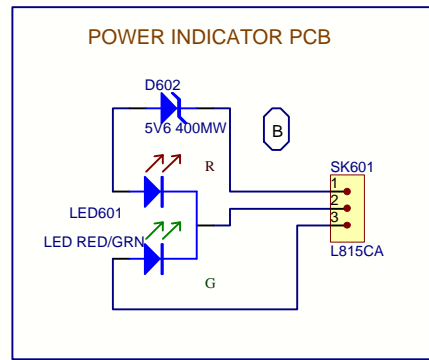
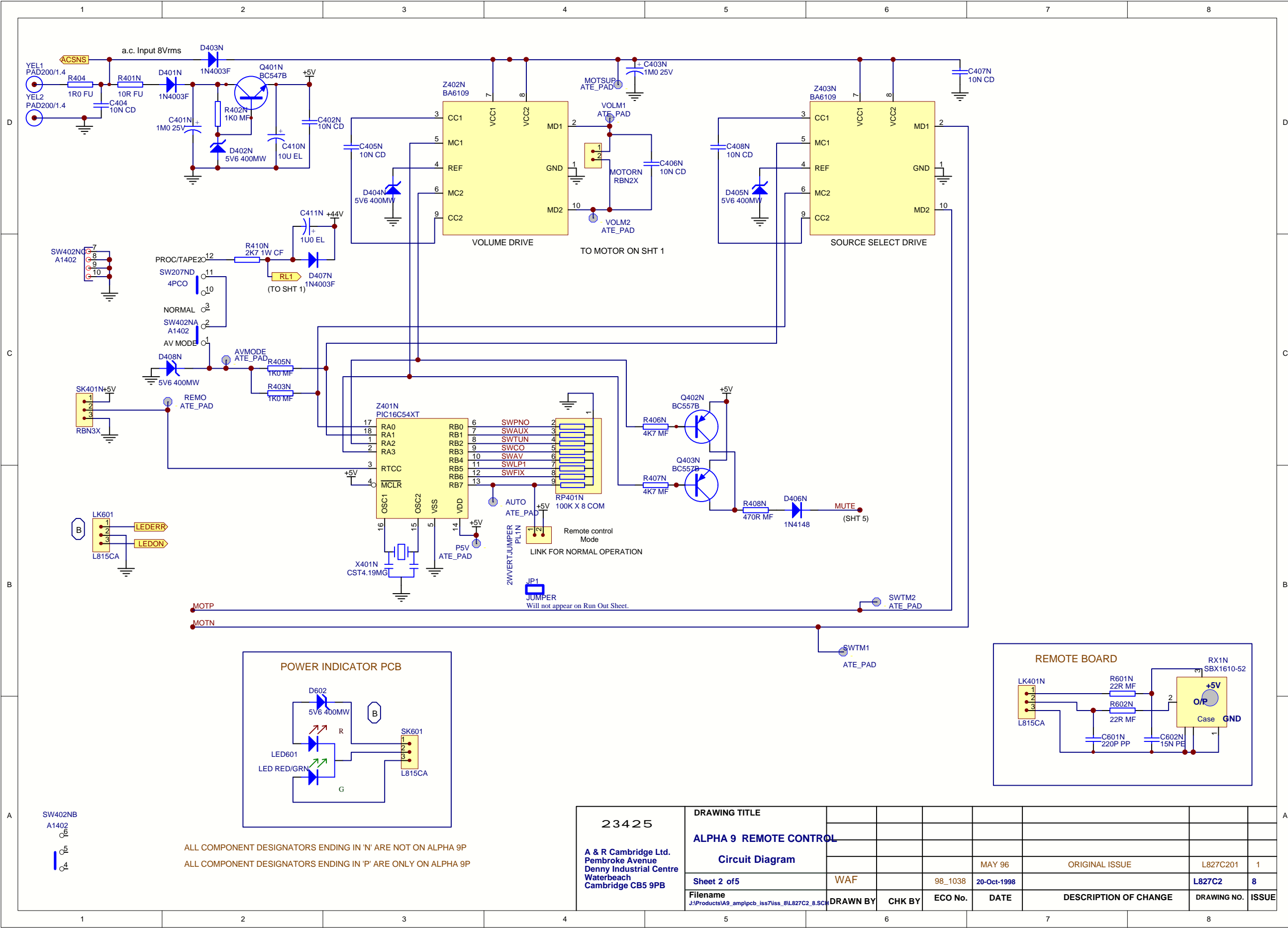
| Part No. | Description |
|----------|-----------------------------|
| 8K006 | U-LINK |
| E802CH | CHASSIS |
| E802MI | PCB INSULATOR |
| E803SP | ALPHA 9/9P AMP SUBPANEL |
| E804AP | FELT RING |
| E804CP | ALPHA 9/9P COVERPLATE |
| E809RP | REAR PANEL |
| E814FP | ALPHA 9P FASCIA |
| E815PM | POWER BUTTON |
| E822PM | FOOT |
| E825PM | ALPHA 9 BADGE |
| E901HK | HEATSINK ANODISED |
| F037 | TOROIDIAL TRANSFORMER CLAMP |
| F038 | RUBBER WASHER FOR ABOVE |
| HA6K55A | TRANSFORMER BOLT |
| SH053 | OWNERS HANDBOOK |
| SH058 | WARRANTY LEAFLET |



THIS CAPACITOR TO BE BESIDE SK302

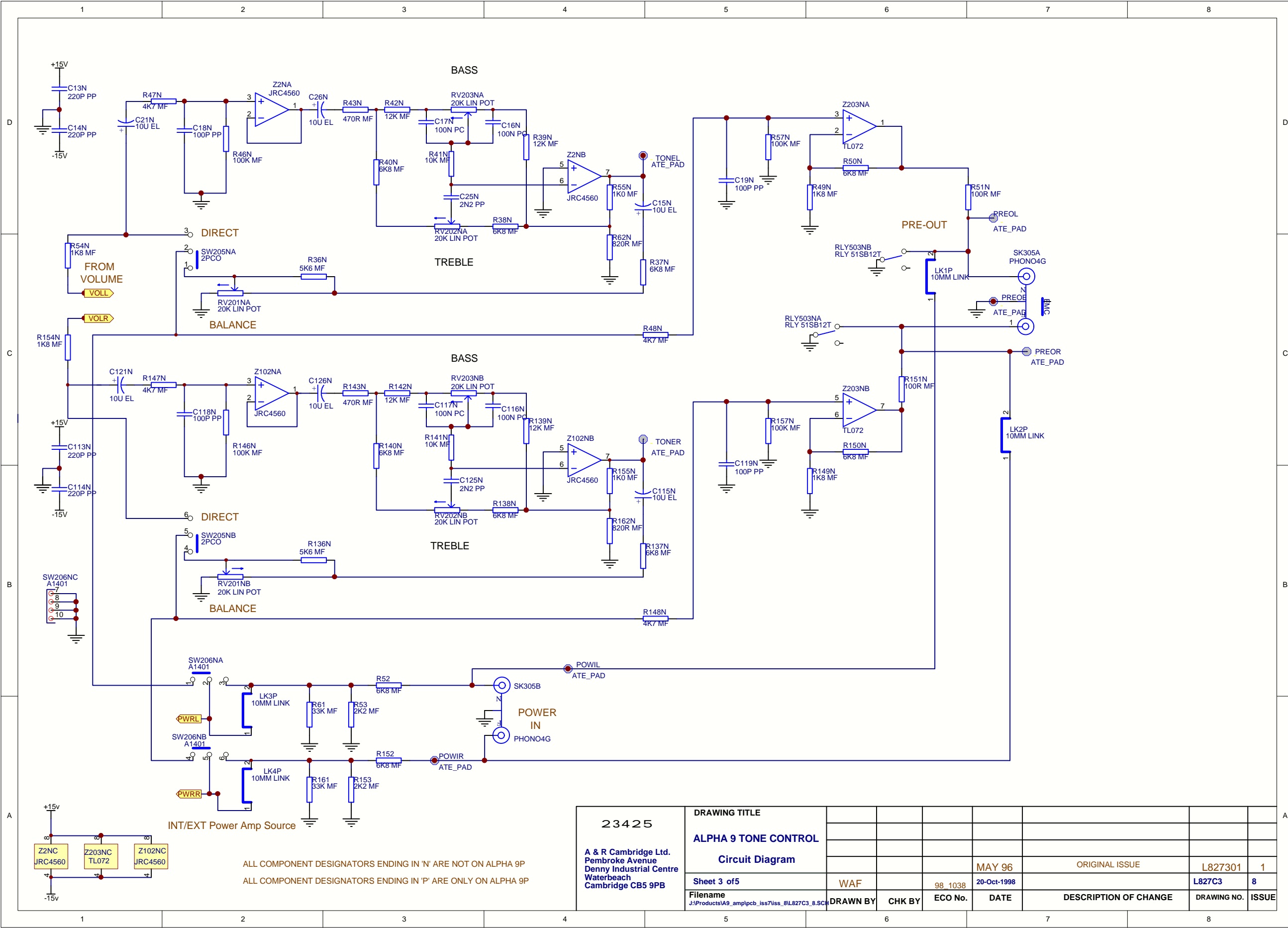
ALL COMPONENT DESIGNATORS ENDING IN 'N' ARE NOT ON ALPHA 9P
 ALL COMPONENT DESIGNATORS ENDING IN 'P' ARE ONLY ON ALPHA 9P

| | | | | | | | | | |
|---|--|-------------------------|---------|-------------|-------|-----------------------|-------------|-------|--|
| 23425 | | DRAWING TITLE | | | | | | | |
| A & R Cambridge Ltd. Pembroke Avenue Denny Industrial Centre Waterbeach Cambridge CB5 9PB | | ALPHA 9 INPUT SELECTION | | | | | | | |
| | | Circuit Diagram | | | | | | | |
| Sheet 1 of 5 | | WAF | 98_1038 | 20-Oct-1998 | MAY96 | ORIGINAL ISSUE | L827C101 | 1 | |
| Filename J:\Products\A9_amp\pcb_iss7\iss_8\L827C1_8.Sch | | DRAWN BY | CHK BY | ECO No. | DATE | DESCRIPTION OF CHANGE | DRAWING NO. | ISSUE | |



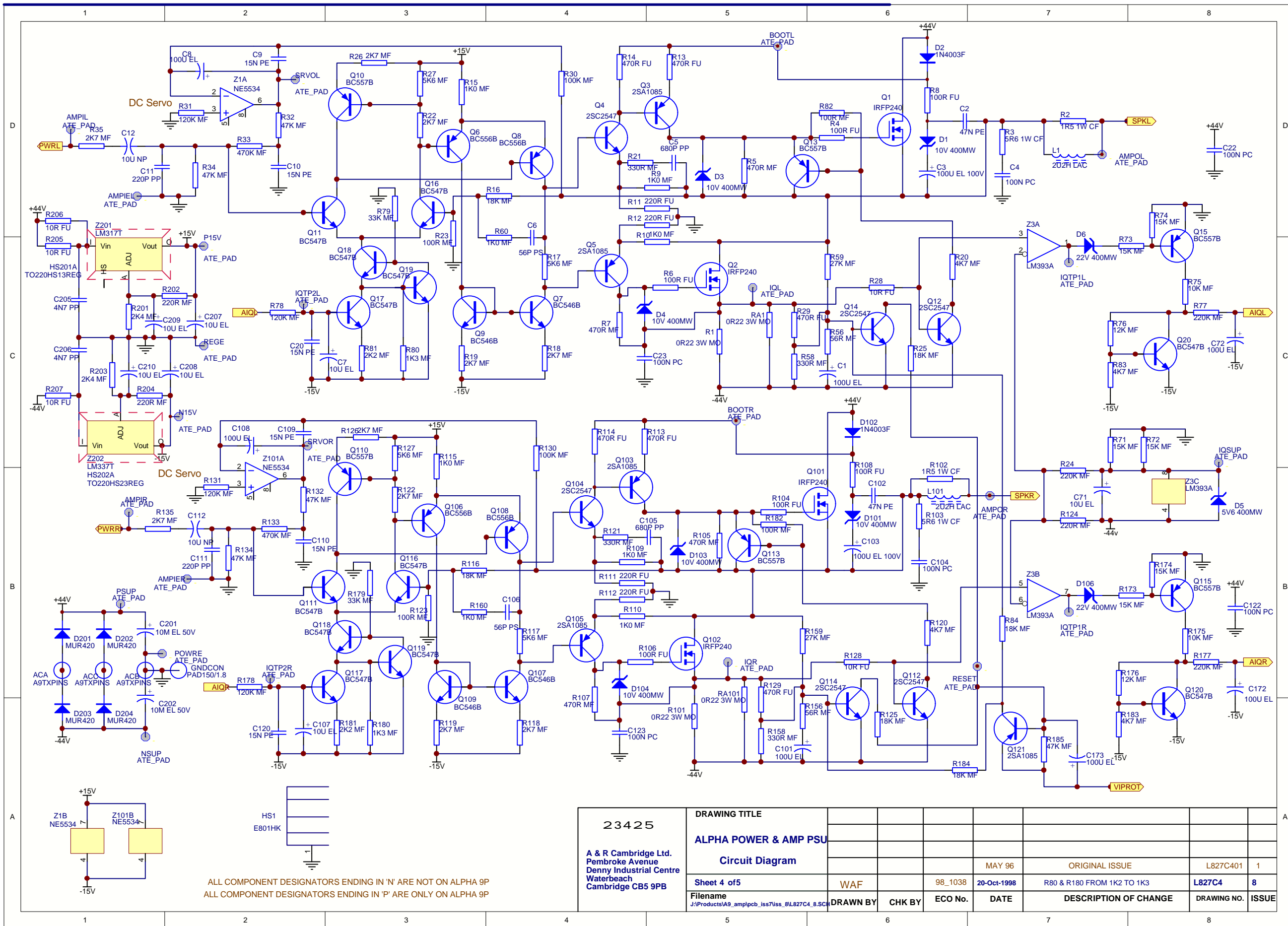
ALL COMPONENT DESIGNATORS ENDING IN 'N' ARE NOT ON ALPHA 9P
 ALL COMPONENT DESIGNATORS ENDING IN 'P' ARE ONLY ON ALPHA 9P

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| 23425 | | DRAWING TITLE | | | | | | | |
| A & R Cambridge Ltd. Pembroke Avenue Denny Industrial Centre Waterbeach Cambridge CB5 9PB | | ALPHA 9 REMOTE CONTROL Circuit Diagram | | | | | | | |
| Sheet 2 of 5 | | WAF | | MAY 96 | ORIGINAL ISSUE | L827C201 | 1 | | |
| Filename J:\Products\A9_amp\pcb_iss7\iss_8\L827C2_8.Sch | | DRAWN BY | CHK BY | ECO No. | DATE | DESCRIPTION OF CHANGE | DRAWING NO. | ISSUE | |



ALL COMPONENT DESIGNATORS ENDING IN 'N' ARE NOT ON ALPHA 9P
 ALL COMPONENT DESIGNATORS ENDING IN 'P' ARE ONLY ON ALPHA 9P

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|---|----------|---|---------|-------------|-----------------------|-------------|-------|--|--|
| 23425 | | DRAWING TITLE | | | | | | | |
| A & R Cambridge Ltd. Pembroke Avenue Denny Industrial Centre Waterbeach Cambridge CB5 9PB | | ALPHA 9 TONE CONTROL Circuit Diagram | | | | | | | |
| Sheet 3 of 5 | | WAF | 98 1038 | 20-Oct-1998 | ORIGINAL ISSUE | L827301 | 1 | | |
| Filename J:\Products\A9_amp\pcb_iss7\iss_8\L827C3_8.Sch | DRAWN BY | CHK BY | ECO No. | DATE | DESCRIPTION OF CHANGE | DRAWING NO. | ISSUE | | |



ALL COMPONENT DESIGNATORS ENDING IN 'N' ARE NOT ON ALPHA 9P
 ALL COMPONENT DESIGNATORS ENDING IN 'P' ARE ONLY ON ALPHA 9P

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| 23425 | | DRAWING TITLE | | | | | | | |
| A & R Cambridge Ltd. Pembroke Avenue Denny Industrial Centre Waterbeach Cambridge CB5 9PB | | ALPHA POWER & AMP PSU Circuit Diagram | | | | | | | |
| Sheet 4 of 5 | | WAF | 98_1038 | 20-Oct-1998 | R80 & R180 FROM 1K2 TO 1K3 | L827C4 | 8 | | |
| Filename | J:\Products\A9_amp\pcb_iss7\iss_8\L827C4_8_Sch4 | DRAWN BY | CHK BY | ECO No. | DATE | DESCRIPTION OF CHANGE | DRAWING NO. | ISSUE | |

