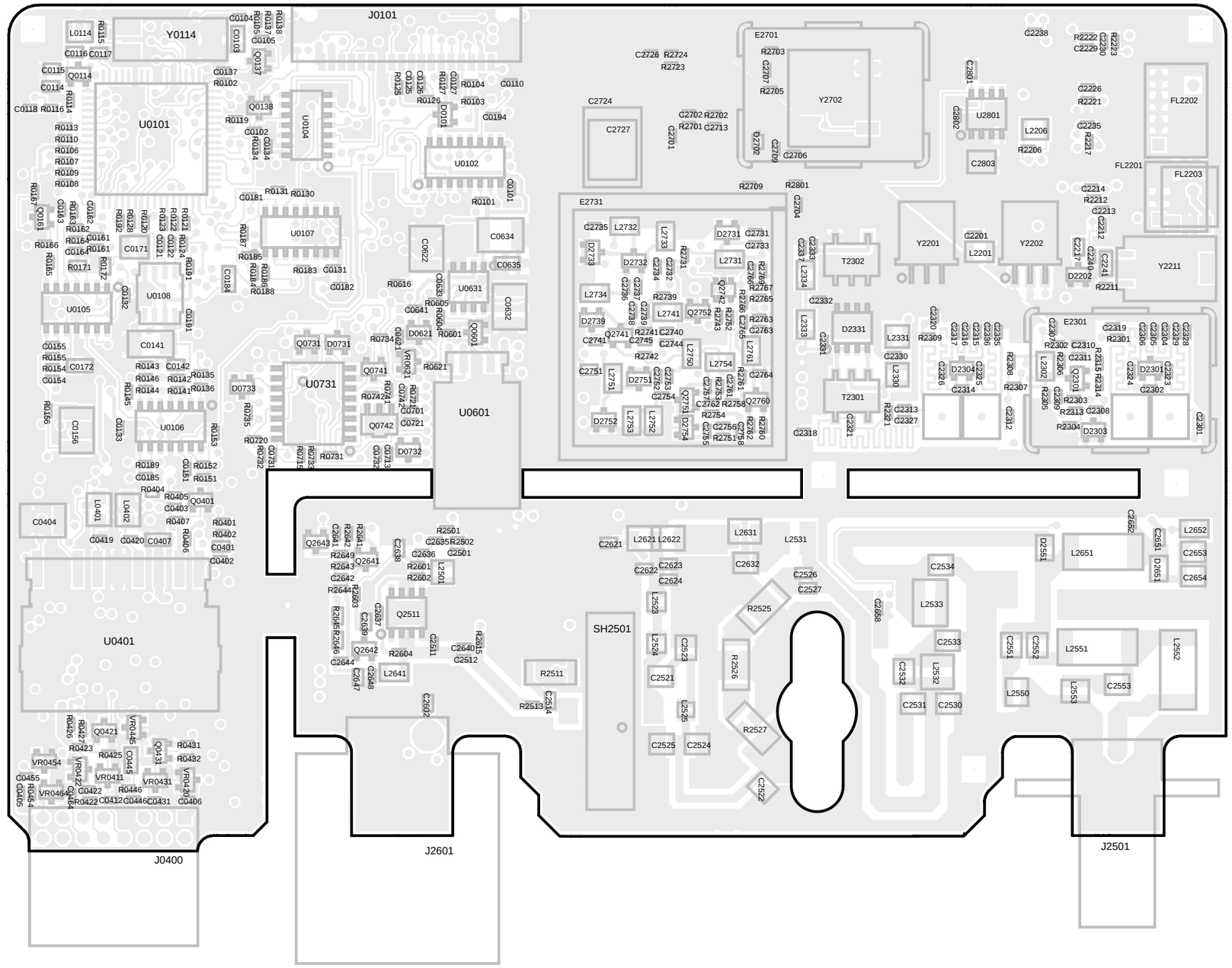
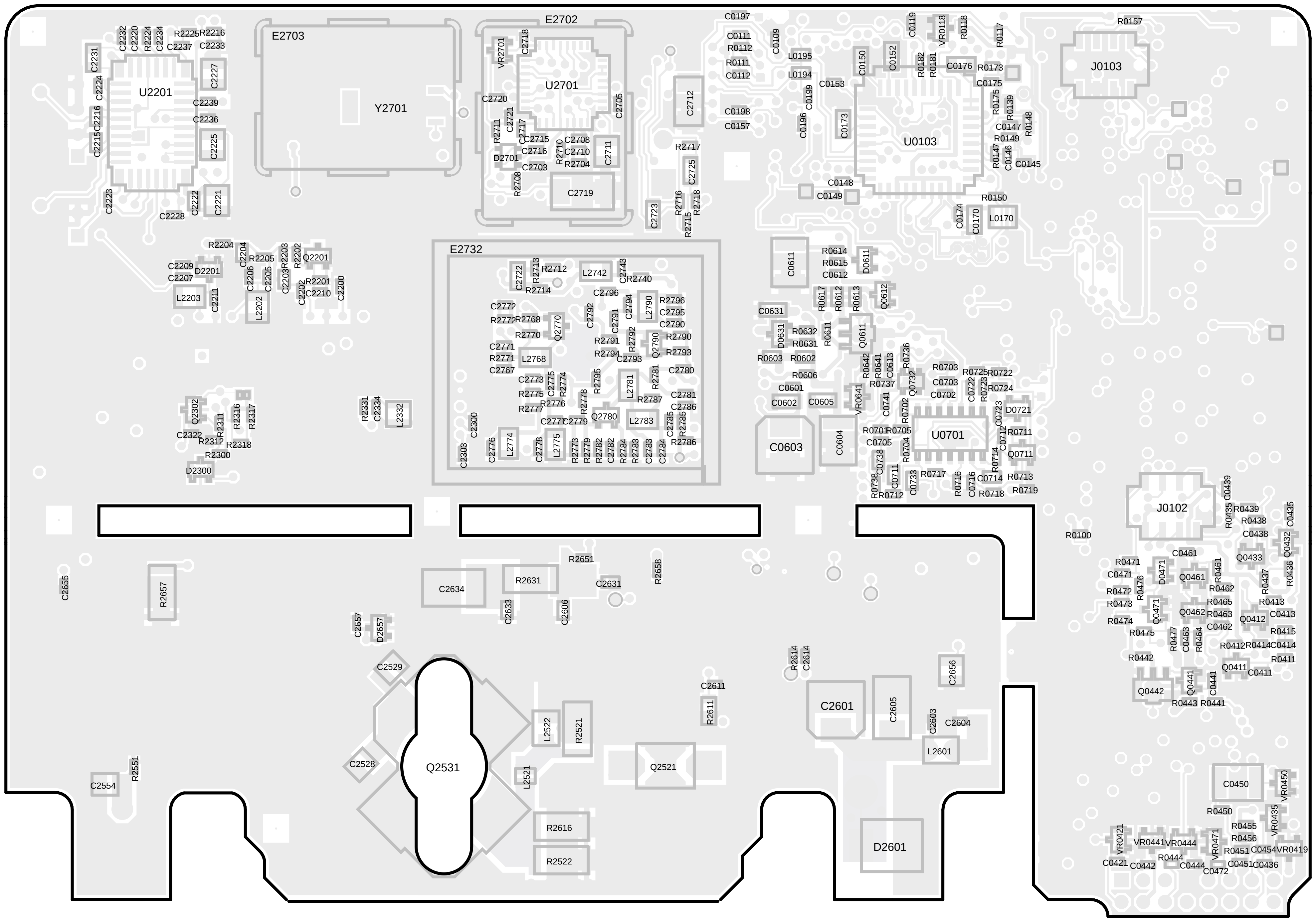
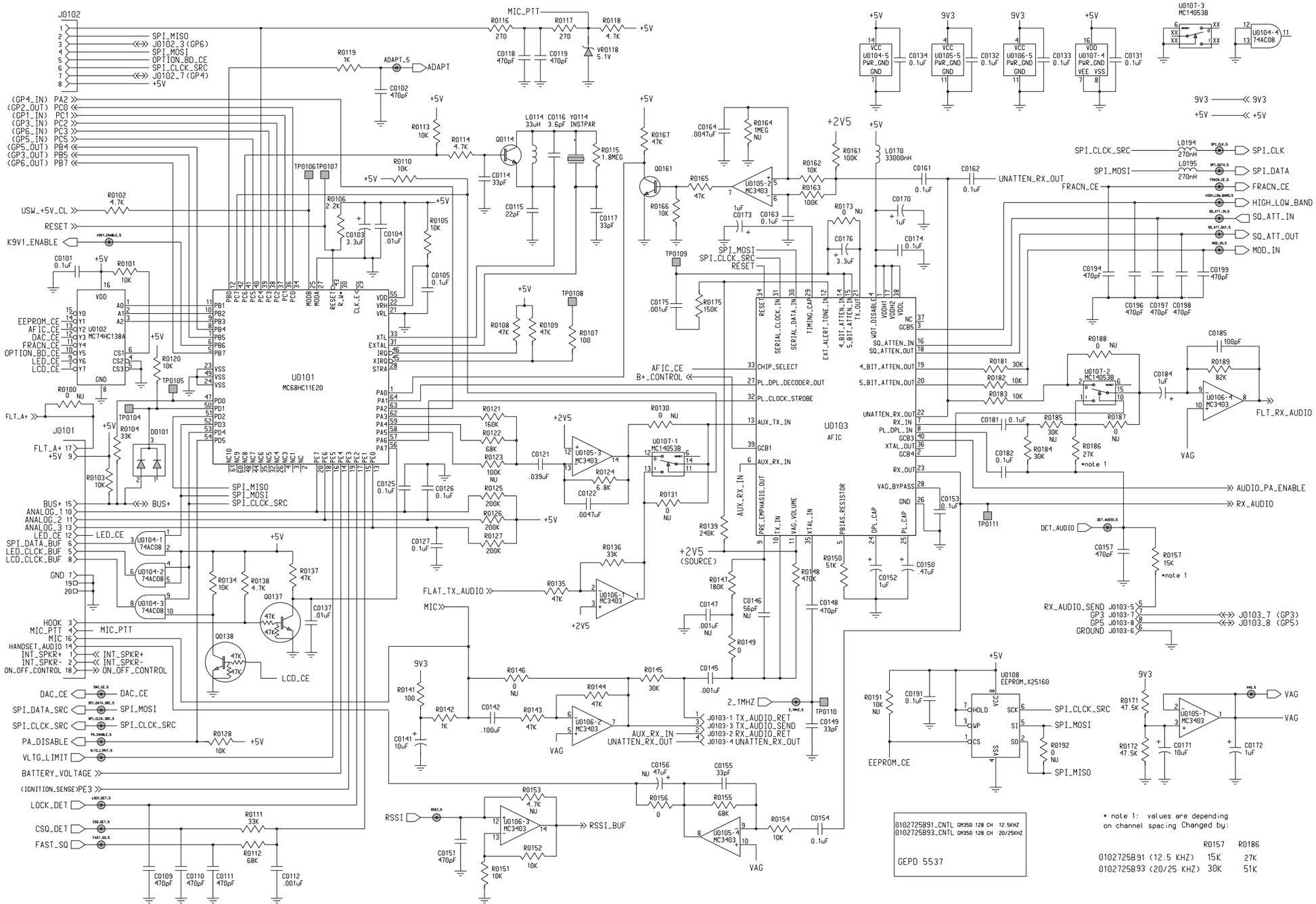
| Associated Schematics | |
|---|---|
| ***UHF PCB : 8486036Y04_T2*** | ***Page*** |
| 128ch Controller<br>128ch Controller_IO | 7.4-3<br>7.4-5 |
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| Power Control | 7.4-13 |
| Power Amplifier | 7.4-15 |
| Synthesizer | 7.4-17 |
| Voltage Controlled Oscillator | 7.4-19 |
| RX-FE | 7.4-21 |
| RX-IF | 7.4-23 |




## Midband (66-88MHz) Main Board Component Side
## PCB No. 8486036B04_T2



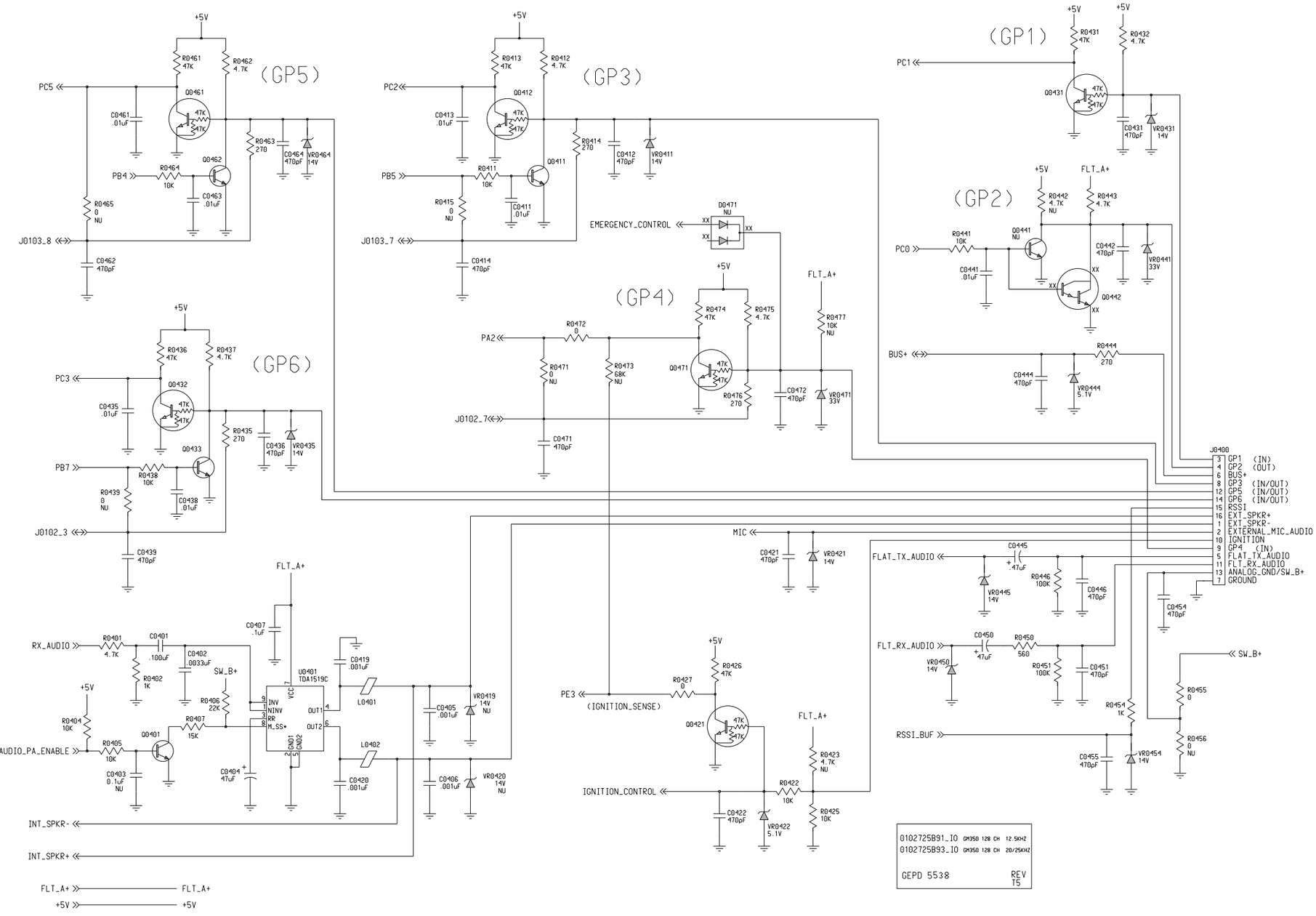

# Midband (66-88MHz) Main Board Solder Side
# PCB No. 8486036B04_T2




## Midband (66-88MHz) 128 channel Controller Schematic Diagram
## 1 of 2

## 128ch Controller Parts List

| Circuit Ref | Motorola Part No. | Description |
|---|---|---|
| C0101 | 2113743K15 | 100nF 16V |
| C0102 | 2113741F17 | 470pF 50V |
| C0103 | 2311049A42 | TANT CP 3.3uF 10% 6V |
| C0104 | 2113741F49 | 10nF 50V |
| C0105 | 2113743K15 | 100nF 16V |
| C0109 | 2113741F17 | 470pF 50V |
| C0110 | 2113741F17 | 470pF 50V |
| C0111 | 2113741F17 | 470pF 50V |
| C0112 | 2113741F25 | 1nF 50V |
| C0114 | 2113740A41 | 33pF 5% 50V |
| C0115 | 2113740A37 | 22pF 5% 50V |
| C0116 | 2113740G16 | CERAMIC CHIP 3.6 P |
| C0117 | 2113740A41 | 33pF 5% 50V |
| C0118 | 2113741F17 | 470pF 50V |
| C0119 | 2113741F17 | 470pF 50V |
| C0121 | 2113743K05 | 39nF 16V |
| C0122 | 2113741F41 | 4.7nF 50V |
| C0125 | 2113743K15 | 100nF 16V |
| C0126 | 2113743K15 | 100nF 16V |
| C0127 | 2113743K15 | 100nF 16V |
| C0131 | 2113743K15 | 100nF 16V |
| C0132 | 2113743K15 | 100nF 16V |
| C0133 | 2113743K15 | 100nF 16V |
| C0134 | 2113743K15 | 100nF 16V |
| C0137 | 2113741F49 | 10nF 50V |
| C0141 | 2311049J26 | TANT CP 10uF 20% 16V |
| C0142 | 2113743A19 | 100nF 16V |
| C0145 | 2113741F25 | 1nF 50V |
| C0148 | 2113741F17 | 470pF 50V |
| C0149 | 2113740F39 | 33pF 5% 50V |
| C0150 | 2311049A05 | TANT CP 470nF 10% 25V |
| C0151 | 2113741F17 | 470pF 50V |
| C0152 | 2311049A07 | TANT CP 1uF 10% 16V |
| C0153 | 2113743K15 | 100nF 16V |
| C0154 | 2113743K15 | 100nF 16V |
| C0155 | 2113740F39 | 33pF 5% 50V |
| C0157 | 2113741F17 | 470pF 50V |
| C0161 | 2113743K15 | 100nF 16V |
| C0162 | 2113743K15 | 100nF 16V |
| C0163 | 2113743K15 | 100nF 16V |
| C0164 | 2113741F41 | 4.7nF 50V |
| C0170 | 2311049A07 | TANT CP 1uF 10% 16V |
| C0171 | 2311049J23 | TANT CP 10uF 10% 6V |
| C0172 | 2311049A07 | TANT CP 1uF 10% 16V |
| C0173 | 2311049A07 | TANT CP 1uF 10% 16V |
| C0174 | 2113743K15 | 100nF 16V |
| C0175 | 2113741F25 | 1nF 50V |
| C0176 | 2311049A42 | TANT CP 3.3uF 10% 6V |
| C0181 | 2113743K15 | 100nF 16V |
| C0182 | 2113743K15 | 100nF 16V |
| C0184 | 2311049A07 | TANT CP 1uF 10% 16V |
| C0185 | 2113740F51 | 100pF 5% 50V NP0 |
| C0191 | 2113743K15 | 100nF 16V |
| C0194 | 2113741F17 | 470pF 50V |
| C0196 | 2113741F17 | 470pF 50V |
| C0197 | 2113741F17 | 470pF 50V |
| C0198 | 2113741F17 | 470pF 50V |
| C0199 | 2113741F17 | 470pF 50V |
| D0101 | 4813833C02 | DIODE DUAL SOT MMBD6100 |
| J0101 | 0902636Y01 | CONNECTOR FLEX SIDE ENTRY |
| J0102 | 0904424J03 | CONNECTOR 8 POS SMD |
| J0103 | 0904424J03 | CONNECTOR 8 POS SMD |
| L0114 | 2460578C43 | INDUCTOR CHIP 33.0UH |
| L0170 | 2462587K26 | CHIP IND 33000 |
| L0194 | 2462587Q40 | COIL CHIP 270nH |
| L0195 | 2462587Q40 | COIL CHIP 270nH |
| Q0114 | 4813824A10 | NPN 40V .2A |
| Q0137 | 4880048M01 | NPN DIG 47k/47k |
| Q0138 | 4880048M01 | NPN DIG 47k/47k |
| Q0161 | 4813824A10 | NPN 40V .2A B=50-150 |
| R0101 | 0662057A73 | 10k 1/16W 5% |
| R0102 | 0662057A65 | 4k7 1/16W 5% |
| R0103 | 0662057A73 | 10k 1/16W 5% |
| R0104 | 0662057A85 | 33k 1/16W 5% |
| R0105 | 0662057A73 | 10k 1/16W 5% |
| R0106 | 0662057A57 | 2k2 1/16W 5% |
| R0107 | 0662057A25 | 100 1/16W 5% |
| R0108 | 0662057A89 | 47k 1/16W 5% |
| R0109 | 0662057A89 | 47k 1/16W 5% |
| R0110 | 0662057A73 | 10k 1/16W 5% |
| R0111 | 0662057A85 | 33k 1/16W 5% |
| R0112 | 0662057A93 | 68k 1/16W 5% |
| R0113 | 0662057A73 | 10k 1/16W 5% |
| R0114 | 0662057A65 | 4k7 1/16W 5% |
| R0115 | 0662057B28 | 1.8M 1/16W 5% |
| R0116 | 0662057A35 | 270 1/16W 5% |
| R0117 | 0662057A35 | 270 1/16W 5% |
| R0118 | 0662057A65 | 4k7 1/16W 5% |
| R0119 | 0662057A49 | 1k 1/16W 5% |
| R0120 | 0662057A73 | 10k 1/16W 5% |
| R0121 | 0662057B03 | 160k 1/16W 5% |
| R0122 | 0662057A93 | 68k 1/16W 5% |
| R0124 | 0662057A69 | 6k8 1/16W 5% |
| R0125 | 0662057B05 | 200k 1/16W |
| R0126 | 0662057B05 | 200k 1/16W |
| R0127 | 0662057B05 | 200k 1/16W |
| R0128 | 0662057A73 | 10k 1/16W 5% |
| R0134 | 0662057A73 | 10k 1/16W 5% |
| R0135 | 0662057A89 | 47k 1/16W 5% |
| R0136 | 0662057A85 | 33k 1/16W 5% |
| R0137 | 0662057A89 | 47k 1/16W 5% |
| R0138 | 0662057A65 | 4k7 1/16W 5% |
| R0139 | 0662057B07 | 240k 1/16W |
| R0141 | 0662057A25 | 100 1/16W 5% |
| R0142 | 0662057A49 | 1k 1/16W 5% |
| R0143 | 0662057A89 | 47k 1/16W 5% |
| R0144 | 0662057A89 | 47k 1/16W 5% |
| R0145 | 0662057A84 | 30k 1/16W 5% |
| R0147 | 0662057B04 | 180k 1/16W 5% |
| R0148 | 0662057B14 | 470k 1/16W 5% |
| R0149 | 0662057B47 | 0 1/16W |
| R0150 | 0662057A90 | 51k 1/16W 5% |
| R0151 | 0662057A73 | 10k 1/16W 5% |
| R0152 | 0662057A73 | 10k 1/16W 5% |
| R0154 | 0662057A73 | 10k 1/16W 5% |
| R0155 | 0662057A93 | 68k 1/16W 5% |
| R0156 | 0662057B47 | 0 1/16W |
| R0157 | 0662057A77 | 15k 1/16W 5% (12.5kHz) |
| | 0662057A84 | 30k 1/16W 5% (20/25kHz) |
| R0161 | 0662057A97 | 100k 1/16W |
| R0162 | 0662057A73 | 10k 1/16W 5% |
| R0163 | 0662057A97 | 100k 1/16W |
| R0165 | 0662057A89 | 47k 1/16W 5% |
| R0166 | 0662057A73 | 10k 1/16W 5% |
| R0167 | 0662057A89 | 47k 1/16W 5% |
| R0171 | 0662057R92 | 47.5k .1W 1% |
| R0172 | 0662057R92 | 47.5k .1W 1% |
| R0175 | 0662057B02 | 150k 1/16W |
| R0181 | 0662057A84 | 30k 1/16W 5% |




## Midband (66-88MHz) 128 channel Controller_IO Schematic Diagram
## 2 of 2

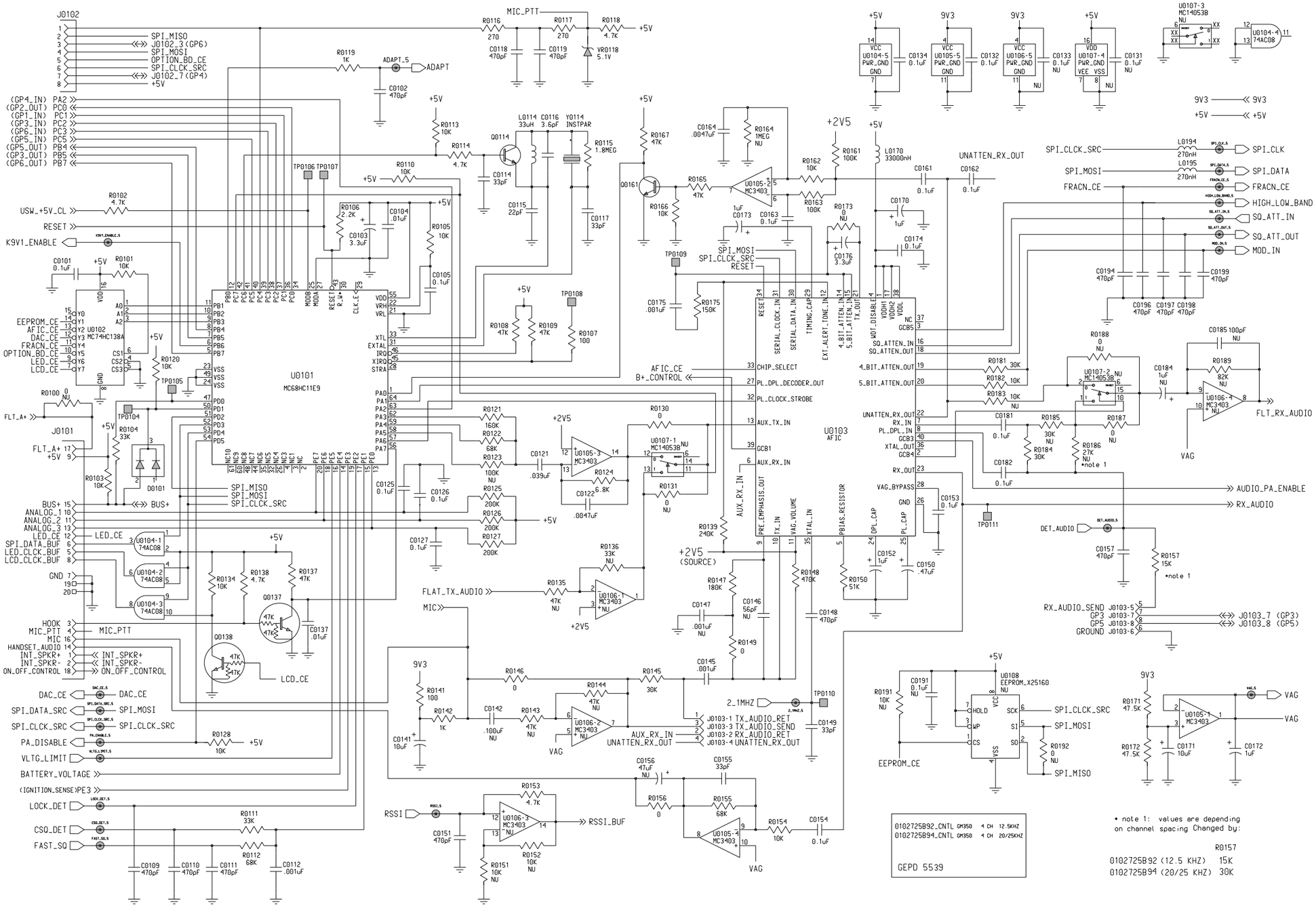
| Circuit Ref | Motorola Part No. | Description |
|---|---|---|
| R0182 | 0662057A73 | 10k 1/16W 5% |
| R0183 | 0662057A73 | 10k 1/16W 5% |
| R0184 | 0662057A84 | 30k 1/16W 5% |
| R0186 | 0662057A83 | 27k 1/16W 5% (12.5kHz) |
| | 0662057A90 | 51k 1/16W 5% (20/25kHz) |
| R0189 | 0662057A95 | 82k 1/16W 5% |
| U0101 | 5102898X66 | PROC350 PLAT S/W R010000 A3 |
| U0102 | 5113805A30 | IC 10F8 DCDR/REMUX 74HC138 |
| U0103 | 5105165R77 | CHIP CAR 40 PIN W/63G7 |
| U0104 | 5105492X36 | 74AC08 4 AND GATES |
| U0105 | 5183222M49 | IC QUAD OPAMP __3403_ |
| U0106 | 5183222M49 | IC QUAD OPAMP __3403_ |
| U0107 | 5113806A20 | IC MUX/DEMUX,TRIPLE 2- |
| U0108 | 5105462G78 | IC EEPROM 16K SPEI CMOS |
| VR0118 | 4813830A14 | DIODE 5.1V 5% 225mW |
| Y0114 | 4880113R01 | CRYSTAL 7.9488 |

## 128ch Controller_IO Parts List

| Circuit Ref | Motorola Part No. | Description |
|---|---|---|
| C0401 | 2113743A19 | 100nF 16V |
| C0402 | 2113741F37 | 3.3nF 50V |
| C0404 | 2311049A99 | TANT CP 47uF 20% 10V |
| C0405 | 2113741F25 | 1nF 50V |
| C0406 | 2113741F25 | 1nF 50V |
| C0407 | 2109720D14 | CER LOW DIST 100nF |
| C0411 | 2113741F49 | 10nF 50V |
| C0412 | 2113741F17 | 470pF 50V |
| C0413 | 2113741F49 | 10nF 50V |
| C0414 | 2113741F17 | 470pF 50V |
| C0419 | 2113741F25 | 1nF 50V |
| C0420 | 2113741F25 | 1nF 50V |
| C0421 | 2113741F17 | 470pF 50V |
| C0422 | 2113741F17 | 470pF 50V |
| C0431 | 2113741F17 | 470pF 50V |
| C0435 | 2113741F49 | 10nF 50V |
| C0436 | 2113741F17 | 470pF 50V |
| C0438 | 2113741F49 | 10nF 50V |
| C0439 | 2113741F17 | 470pF 50V |
| C0441 | 2113741F49 | 10nF 50V |
| C0442 | 2113741F17 | 470pF 50V |
| C0444 | 2113741F17 | 470pF 50V |
| C0445 | 2311049A05 | TANT CP 470nF 10% 25V |
| C0446 | 2113741F17 | 470pF 50V |
| C0450 | 2311049A99 | pF 50V |
| C0455 | 2113741F17 | 470pF 50V |
| C0461 | 2113741F49 | 10nF 50V |
| C0462 | 2113741F17 | 470pF 50V |
| C0463 | 2113741F49 | 10nF 50V |
| C0464 | 2113741F17 | 470pF 50V |
| C0471 | 2113741F17 | 470pF 50V |

| Circuit Ref | Motorola Part No. | Description |
|---|---|---|
| C0472 | 2113741F17 | 470pF 50V |
| J0400 | 2804503J01 | CONNECTOR ACCY 16 PIN |
| L0401 | 2484657R01 | Ferrite Bead |
| L0402 | 2484657R01 | Ferrite Bead |
| Q0401 | 4813824A10 | NPN 40V .2A B=50-150 |
| Q0411 | 4813824A10 | NPN 40V .2A B=50-150 |
| Q0412 | 4880048M01 | NPN DIG 47k/47k |
| Q0421 | 4880048M01 | NPN DIG 47k/47k |
| Q0431 | 4880048M01 | NPN DIG 47k/47k |
| Q0432 | 4880048M01 | NPN DIG 47k/47k |
| Q0433 | 4813824A10 | NPN 40V .2A B=50-150 |
| Q0442 | 4880052M01 | NPN DRLNGTN MXTA |
| Q0461 | 4880048M01 | NPN DIG 47k/47k |
| Q0462 | 4813824A10 | NPN 40V .2A B=50-150 |
| Q0471 | 4880048M01 | NPN DIG 47k/47k |
| R0401 | 0662057A65 | 4k7 1/16W 5% |
| R0402 | 0662057A49 | 1k 1/16W 5% |
| R0404 | 0662057A73 | 10k 1/16W 5% |
| R0405 | 0662057A73 | 10k 1/16W 5% |
| R0406 | 0662057A81 | 22k 1/16W 5% |
| R0407 | 0662057A77 | 15k 1/16W 5% |
| R0411 | 0662057A73 | 10k 1/16W 5% |
| R0412 | 0662057A65 | 4k7 1/16W 5% |
| R0413 | 0662057A89 | 47k 1/16W 5% |
| R0414 | 0662057A35 | 270 1/16W 5% |
| R0422 | 0662057A73 | 10k 1/16W 5% |
| R0425 | 0662057A73 | 10k 1/16W 5% |
| R0426 | 0662057A89 | 47k 1/16W 5% |
| R0427 | 0662057B47 | 0 1/16W |
| R0431 | 0662057A89 | 47k 1/16W 5% |
| R0432 | 0662057A65 | 4k7 1/16W 5% |
| R0435 | 0662057A35 | 270 1/16W 5% |
| R0436 | 0662057A89 | 47k 1/16W 5% |

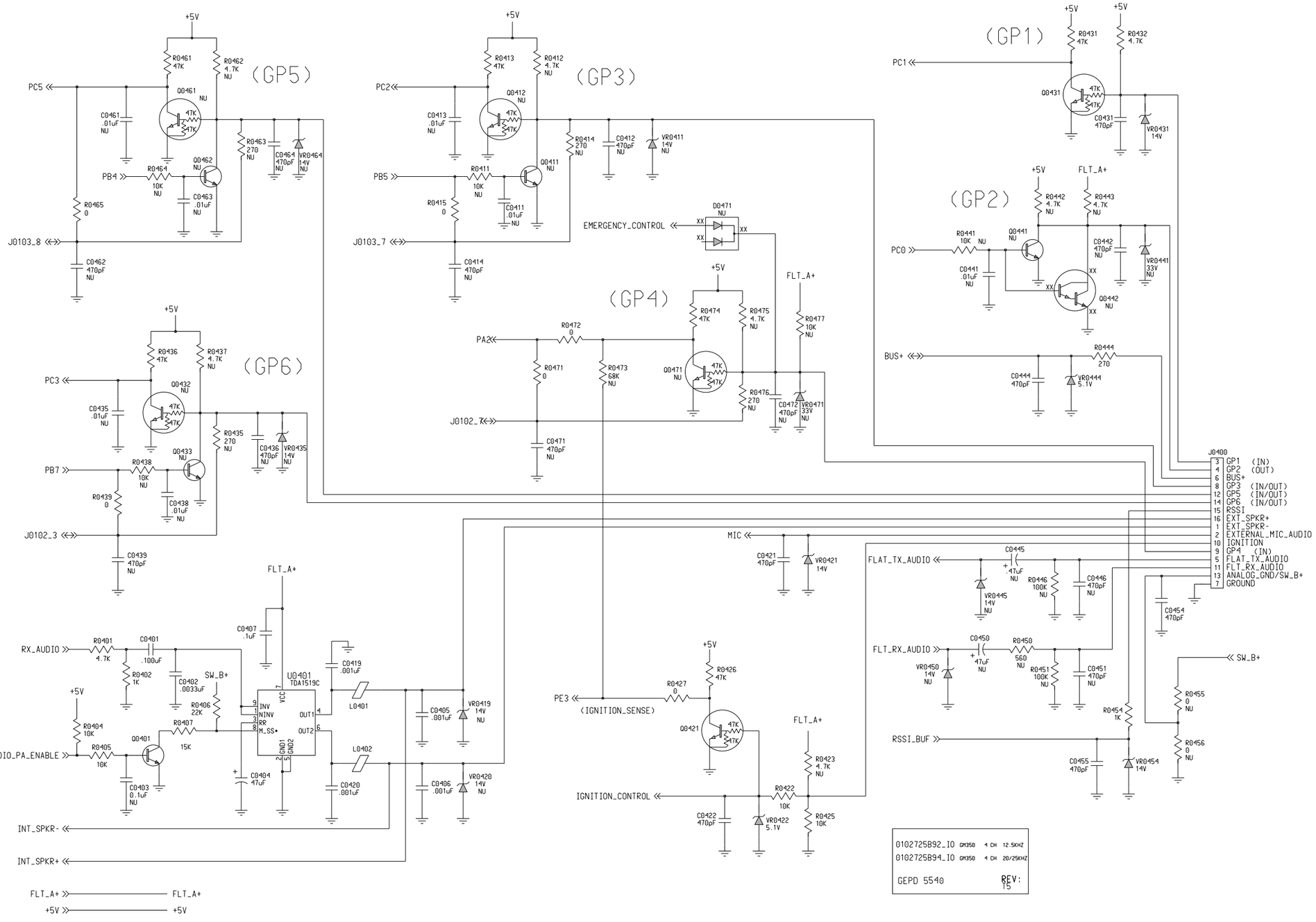
| Circuit Ref | Motorola Part No. | Description |
|---|---|---|
| R0437 | 0662057A65 | 4k7 1/16W 5% |
| R0438 | 0662057A73 | 10k 1/16W 5% |
| R0441 | 0662057A73 | 10k 1/16W 5% |
| R0443 | 0662057A65 | 4k7 1/16W 5% |
| R0444 | 0662057A35 | 270 1/16W 5% |
| R0446 | 0662057A97 | 100k 1/16W |
| R0450 | 0662057A43 | 560 1/16W 5% |
| R0451 | 0662057A97 | 100k 1/16W |
| R0454 | 0662057A49 | 1k 1/16W 5% |
| R0455 | 0662057B47 | 0 1/16W |
| R0461 | 0662057A89 | 47k 1/16W 5% |
| R0462 | 0662057A65 | 4k7 1/16W 5% |
| R0463 | 0662057A35 | 270 1/16W 5% |
| R0464 | 0662057A73 | 10k 1/16W 5% |
| R0472 | 0662057B47 | 0 1/16W |
| R0474 | 0662057A89 | 47k 1/16W 5% |
| R0475 | 0662057A65 | 4k7 1/16W 5% |
| R0476 | 0662057A35 | 270 1/16W 5% |
| U0401 | 5109699X01 | AUDIO PA TDA1915C |
| VR0411 | 4813830A27 | DIODE 14V 5% 225mW |
| VR0421 | 4813830A27 | DIODE 14V 5% 225mW |
| VR0422 | 4813830A14 | DIODE 5.1V 5% 225mW |
| VR0431 | 4813830A27 | DIODE 14V 5% 225mW |
| VR0435 | 4813830A27 | DIODE 14V 5% 225mW |
| VR0441 | 4813830A40 | SOC23 AUTO SDN |
| VR0444 | 4813830A14 | DIODE 5.1V 5% 225mW |
| VR0445 | 4813830A27 | DIODE 14V 5% 225mW |
| VR0450 | 4813830A27 | DIODE 14V 5% 225mW |
| VR0454 | 4813830A27 | DIODE 14V 5% 225mW |
| VR0464 | 4813830A27 | DIODE 14V 5% 225mW |
| VR0471 | 4813830A40 | SOC23 AUTO SDN |




## Midband (66-88MHz) 4 channel Controller Schematic Diagram
## 1 of 2

## 4 ch Controller Parts List

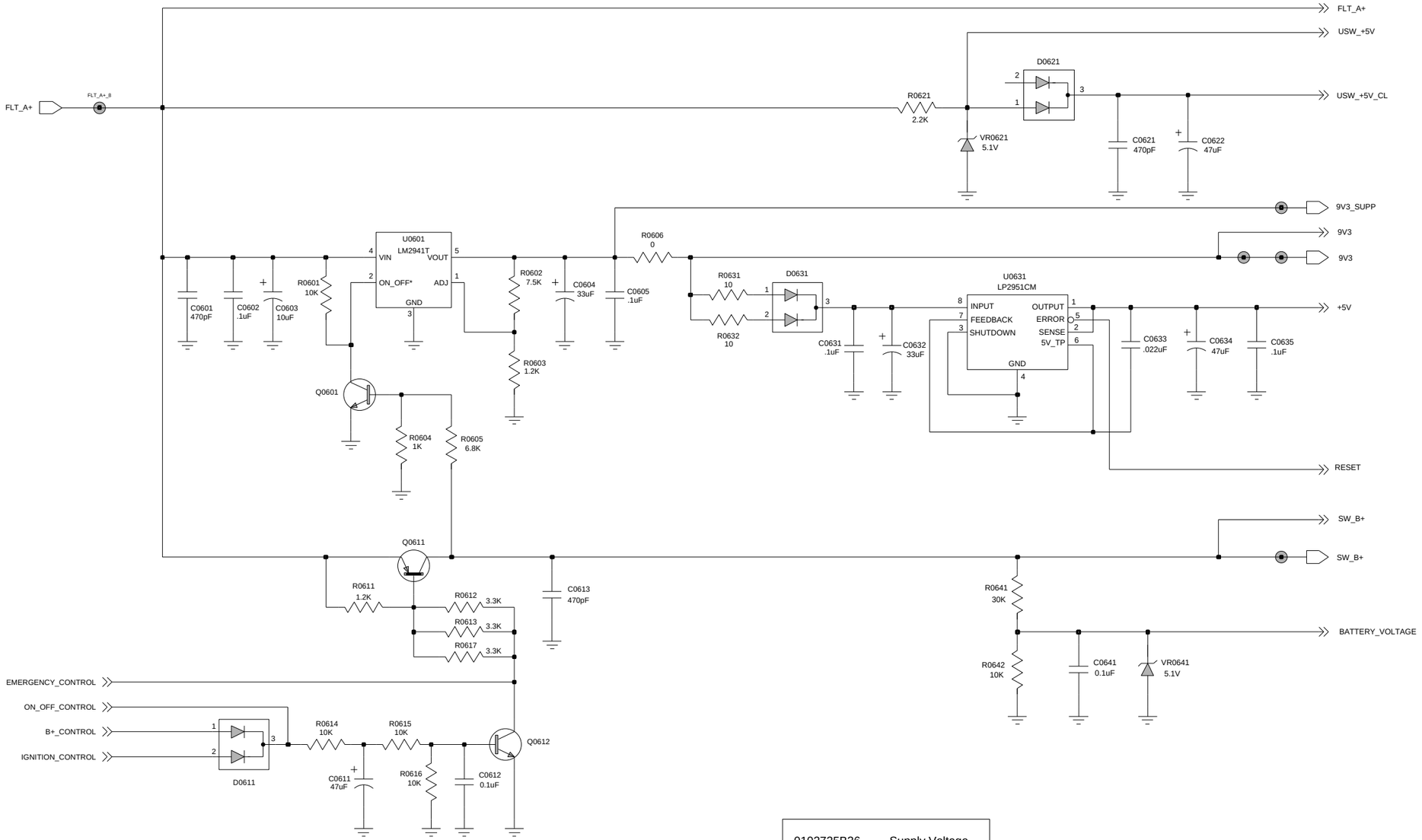
| Circuit Ref | Motorola Part No. | Description |
|---|---|---|
| C0101 | 2113743K15 | 100nF 16V |
| C0102 | 2113741F17 | 470pF 50V |
| C0103 | 2311049A42 | TANT CP 3.3uF 10% 6V |
| C0104 | 2113741F49 | 10nF 50V |
| C0105 | 2113743K15 | 100nF 16V |
| C0109 | 2113741F17 | 470pF 50V |
| C0110 | 2113741F17 | 470pF 50V |
| C0111 | 2113741F17 | 470pF 50V |
| C0112 | 2113741F25 | 1nF 50V |
| C0114 | 2113740A41 | 33pF 5% 50V |
| C0115 | 2113740A37 | 22pF 5% 50V |
| C0116 | 2113740G16 | CERAMIC CHIP 3.6 P |
| C0117 | 2113740A41 | 33pF 5% 50V |
| C0118 | 2113741F17 | 470pF 50V |
| C0119 | 2113741F17 | 470pF 50V |
| C0121 | 2113743K05 | 39nF 16V Y5V |
| C0122 | 2113741F41 | 4.7nF 50V |
| C0125 | 2113743K15 | 100nF 16V |
| C0126 | 2113743K15 | 100nF 16V |
| C0127 | 2113743K15 | 100nF 16V |
| C0132 | 2113743K15 | 100nF 16V |
| C0134 | 2113743K15 | 100nF 16V |
| C0137 | 2113741F49 | 10nF 50V |
| C0141 | 2311049J26 | TANT CP 10uF 20% 16V |
| C0145 | 2113741F25 | 1nF 50V |
| C0148 | 2113741F17 | 470pF 50V |
| C0149 | 2113740F39 | 33pF 5% 50V |
| C0150 | 2311049A05 | TANT CP 470nF 10% 25V |
| C0151 | 2113741F17 | 470pF 50V |
| C0152 | 2311049A07 | TANT CP 1uF 10% 16V |
| C0153 | 2113743K15 | 100nF 16V |
| C0154 | 2113743K15 | 100nF 16V |
| C0155 | 2113740F39 | 33pF 5% 50V |
| C0157 | 2113741F17 | 470pF 50V |
| C0161 | 2113743K15 | 100nF 16V |
| C0162 | 2113743K15 | 100nF 16V |
| C0163 | 2113743K15 | 100nF 16V |
| C0164 | 2113741F41 | 4.7nF 50V |
| C0170 | 2311049A07 | TANT CP 1uF 10% 16V |
| C0171 | 2311049J23 | TANT CP 10uF 10% 6V |
| C0172 | 2311049A07 | TANT CP 1uF 10% 16V |
| C0173 | 2311049A07 | TANT CP 1uF 10% 16V |
| C0174 | 2113743K15 | 100nF 16V |
| C0175 | 2113741F25 | 1nF 50V |
| C0176 | 2311049A42 | TANT CP 3.3uF 10% 6V |
| C0181 | 2113743K15 | 100nF 16V |
| C0182 | 2113743K15 | 100nF 16V |
| C0194 | 2113741F17 | 470pF 50V |
| C0196 | 2113741F17 | 470pF 50V |
| C0197 | 2113741F17 | 470pF 50V |
| C0198 | 2113741F17 | 470pF 50V |
| C0199 | 2113741F17 | 470pF 50V |
| D0101 | 4813833C02 | DUAL SOT MMBD6100 |
| J0101 | 0902636Y01 | Connector Flex Side Entry |
| J0102 | 0904424J03 | Connector 8 POS SMD T&R |
| J0103 | 0904424J03 | Connector 8 POS SMD T&R |
| L0114 | 2460578C43 | INDUCTOR CHIP 33.0UH 1 |
| L0170 | 2462587K26 | CHIP IND 33000 NH |
| L0194 | 2462587Q40 | COIL CHIP 270nH |
| L0195 | 2462587Q40 | COIL CHIP 270nH |
| Q0114 | 4813824A10 | NPN 40V .2A |
| Q0137 | 4880048M01 | NPN DIG 47k/47k |
| Q0138 | 4880048M01 | NPN DIG 47k/47k |
| Q0161 | 4813824A10 | NPN 40V .2A |
| R0101 | 0662057A73 | 10k 1/16W 5% |
| R0102 | 0662057A65 | 4k7 1/16W 5% |
| R0103 | 0662057A73 | 10k 1/16W 5% |
| R0104 | 0662057A85 | 33k 1/16W 5% |
| R0105 | 0662057A73 | 10k 1/16W 5% |
| R0106 | 0662057A57 | 2k2 1/16W 5% |
| R0107 | 0662057A25 | 100 1/16W 5% |
| R0108 | 0662057A89 | 47k 1/16W 5% |
| R0109 | 0662057A89 | 47k 1/16W 5% |
| R0110 | 0662057A73 | 10k 1/16W 5% |
| R0111 | 0662057A85 | 33k 1/16W 5% |
| R0112 | 0662057A93 | 68k 1/16W 5% |
| R0113 | 0662057A73 | 10k 1/16W 5% |
| R0114 | 0662057A65 | 4k7 1/16W 5% |
| R0115 | 0662057B28 | 1.8M 1/16W 5% |
| R0116 | 0662057A35 | 270 1/16W 5% |
| R0117 | 0662057A35 | 270 1/16W 5% |
| R0118 | 0662057A65 | 4k7 1/16W 5% |
| R0119 | 0662057A49 | 1k 1/16W 5% |
| R0120 | 0662057A73 | 10k 1/16W 5% |
| R0121 | 0662057B03 | 160k 1/16W 5% |
| R0122 | 0662057A93 | 68k 1/16W 5% |
| R0124 | 0662057A69 | 6k8 1/16W 5% |
| R0125 | 0662057B05 | 200k 1/16W |
| R0126 | 0662057B05 | 200k 1/16W |
| R0127 | 0662057B05 | 200k 1/16W |
| R0128 | 0662057A73 | 10k 1/16W 5% |
| R0130 | 0662057B47 | 0 1/16W |
| R0134 | 0662057A73 | 10k 1/16W 5% |
| R0137 | 0662057A89 | 47k 1/16W 5% |
| R0138 | 0662057A65 | 4k7 1/16W 5% |
| R0139 | 0662057B07 | 240k 1/16W |
| R0141 | 0662057A25 | 100 1/16W 5% |
| R0142 | 0662057A49 | 1k 1/16W 5% |
| R0145 | 0662057A84 | 30k 1/16W 5% |
| R0146 | 0662057B47 | 0 1/16W |
| R0147 | 0662057B04 | 180k 1/16W 5% |
| R0148 | 0662057B14 | 470k 1/16W 5% |
| R0149 | 0662057B47 | 0 1/16W |
| R0150 | 0662057A90 | 51k 1/16W 5% |
| R0153 | 0662057A65 | 4k7 1/16W 5% |
| R0154 | 0662057A73 | 10k 1/16W 5% |
| R0155 | 0662057A93 | 68k 1/16W 5% |
| R0156 | 0662057B47 | 0 1/16W |
| R0157 | 0662057A77 | 15k 1/16W 5% (12.5kHz) |
| | 0662057A84 | 30k 1/16W 5% (20/25kHz) |
| R0161 | 0662057A97 | 100k 1/16W |
| R0162 | 0662057A73 | 10k 1/16W 5% |
| R0163 | 0662057A97 | 100k 1/16W |
| R0165 | 0662057A89 | 47k 1/16W 5% |
| R0166 | 0662057A73 | 10k 1/16W 5% |
| R0167 | 0662057A89 | 47k 1/16W 5% |
| R0171 | 0662057R92 | 47.5k .1W 1% |
| R0172 | 0662057R92 | 47.5k .1W 1% |
| R0175 | 0662057B02 | 150k 1/16W |
| R0181 | 0662057A84 | 30k 1/16W 5% |
| R0182 | 0662057A73 | 10k 1/16W 5% |
| R0184 | 0662057A84 | 30k 1/16W 5% |
| U0101 | 5102898X67 | PROC350 PLAT S/W R010000 A2 |
| U0102 | 5113805A30 | IC 10F8 DCDR/REMUX 74HC138 |
| U0103 | 5105165R77 | CHIP CAR 40 PIN W/63G7 |
| U0104 | 5105492X36 | 74AC08 4 AND GATES |
| U0105 | 5183222M49 | IC QUAD OPAMP __3403_ |
| VR0118 | 4813830A14 | DIODE 5.1V 5% 225mW |
| Y0114 | 4880113R01 | CRYSTAL 7.9488 |




## Midband (66-88MHz) 4 channel Controller_IO Schematic Diagram 2 of 2

## 4 ch Controller_IO
## Parts List

| Circuit Ref | Motorola Part No. | Description |
|---|---|---|
| C0401 | 2113743A19 | CHIP 100nF 16V |
| C0402 | 2113741F37 | CHIP 3.3nF 50V |
| C0404 | 2311049A99 | TANT CP 47uF 20% 10V |
| C0405 | 2113741F25 | CHIP 1nF 50V |
| C0406 | 2113741F25 | CHIP 1nF 50V |
| C0407 | 2109720D14 | CER  LOW DIST 100nF |
| C0419 | 2113741F25 | CHIP 1nF 50V |
| C0420 | 2113741F25 | CHIP 1nF 50V |
| C0421 | 2113741F17 | CHIP 470pF 50V |
| C0422 | 2113741F17 | CHIP 470pF 50V |
| C0431 | 2113741F17 | CHIP 470pF 50V |
| C0444 | 2113741F17 | CHIP 470pF 50V |
| C0454 | 2113741F17 | CHIP 470pF 50V |
| C0455 | 2113741F17 | CHIP 470pF 50V |
| J0400 | 2804503J01 | CONNECTOR ACCY 16 PIN |
| L0401 | 2484657R01 | Ferrite Bead |
| L0402 | 2484657R01 | Ferrite Bead |
| Q0401 | 4813824A10 | NPN 40V .2A |
| Q0421 | 4880048M01 | NPN DIG 47k/47k |
| Q0431 | 4880048M01 | NPN DIG 47k/47k |
| R0401 | 0662057A65 | CHP 4k7 1/16W |
| R0402 | 0662057A49 | CHP 1k 1/16W 5% |
| R0404 | 0662057A73 | CHP 10k 1/16W |
| R0405 | 0662057A73 | CHP 10k 1/16W |
| R0406 | 0662057A81 | CHP 22k 1/16W |
| R0407 | 0662057A77 | CHP 15k 1/16W |
| R0413 | 0662057A89 | CHP 47k 1/16W |
| R0415 | 0662057B47 | CHIP 0 1/16W |
| R0422 | 0662057A73 | CHP 10k 1/16W |
| R0425 | 0662057A73 | CHP 10k 1/16W |
| R0426 | 0662057A89 | CHP 47k 1/16W |
| R0427 | 0662057B47 | CHIP 0 1/16W |
| R0431 | 0662057A89 | CHP 47k 1/16W |
| R0432 | 0662057A65 | CHP 4k7 1/16W |
| R0436 | 0662057A89 | CHP 47k 1/16W |
| R0439 | 0662057B47 | CHIP 0 1/16W |
| R0444 | 0662057A35 | CHP 270 1/16W |
| R0454 | 0662057A49 | CHP 1k 1/16W 5% |
| R0461 | 0662057A89 | CHP 47k 1/16W |
| R0465 | 0662057B47 | CHIP 0 1/16W |
| R0471 | 0662057B47 | CHIP 0 1/16W |
| R0472 | 0662057B47 | CHIP 0 1/16W |
| R0474 | 0662057A89 | CHP 47k 1/16W |
| U0401 | 5109699X01 | AUDIO PA TDA1915C |
| VR0421 | 4813830A27 | DIODE 14V 5% 225mW |
| VR0422 | 4813830A14 | DIODE 5.1V 5% 225mW |
| VR0431 | 4813830A27 | DIODE 14V 5% 225mW |
| VR0444 | 4813830A14 | DIODE 5.1V 5% 225mW |
| VR0454 | 4813830A27 | DIODE 14V 5% 225mW |

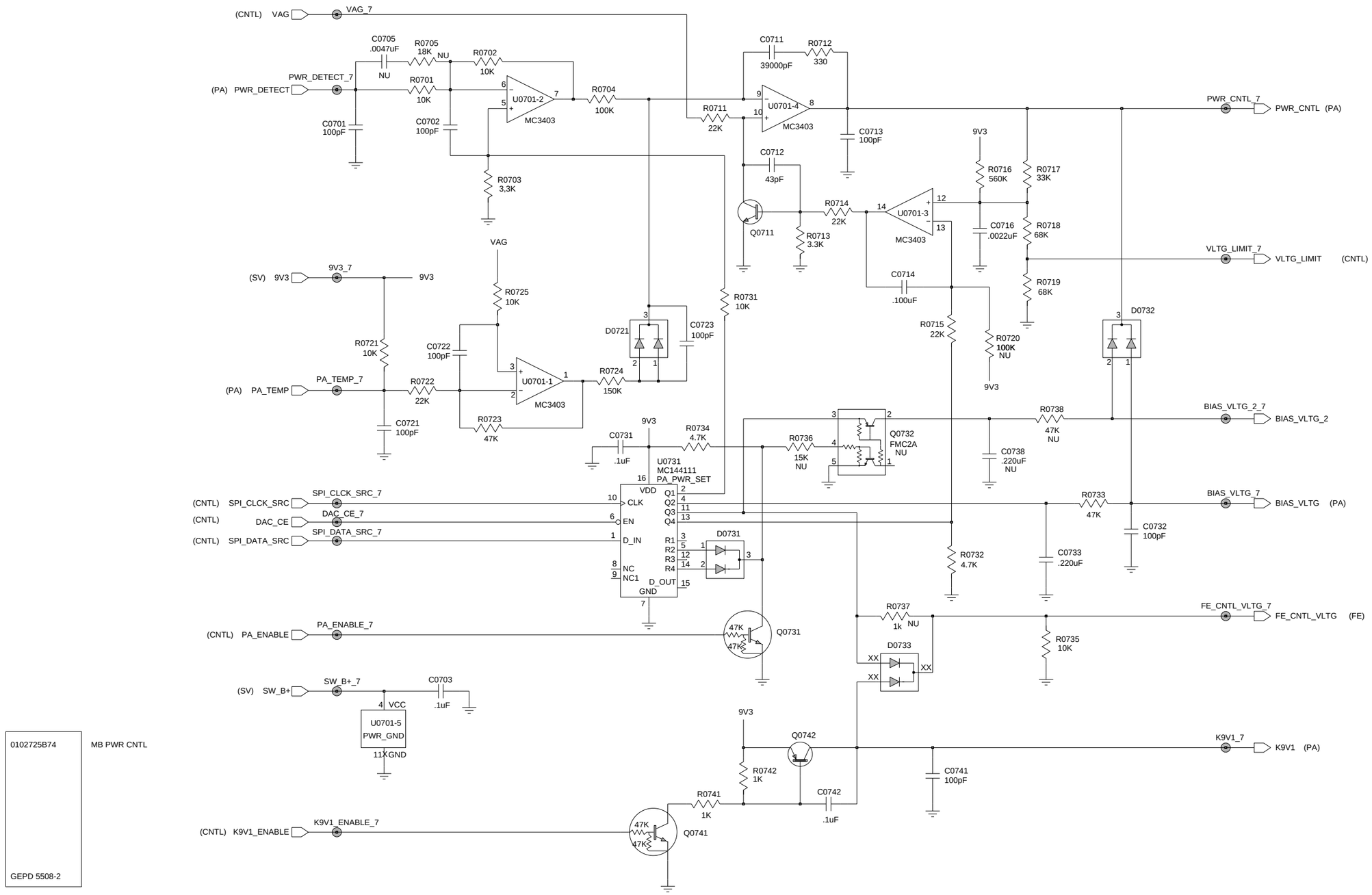



| | |
|---|---|
| 0102725B36 | Supply Voltage |
| GEPD5449-1 | |

Midband (66-88MHz) Supply Voltage Schematic Diagram

## Supply Voltage Parts List

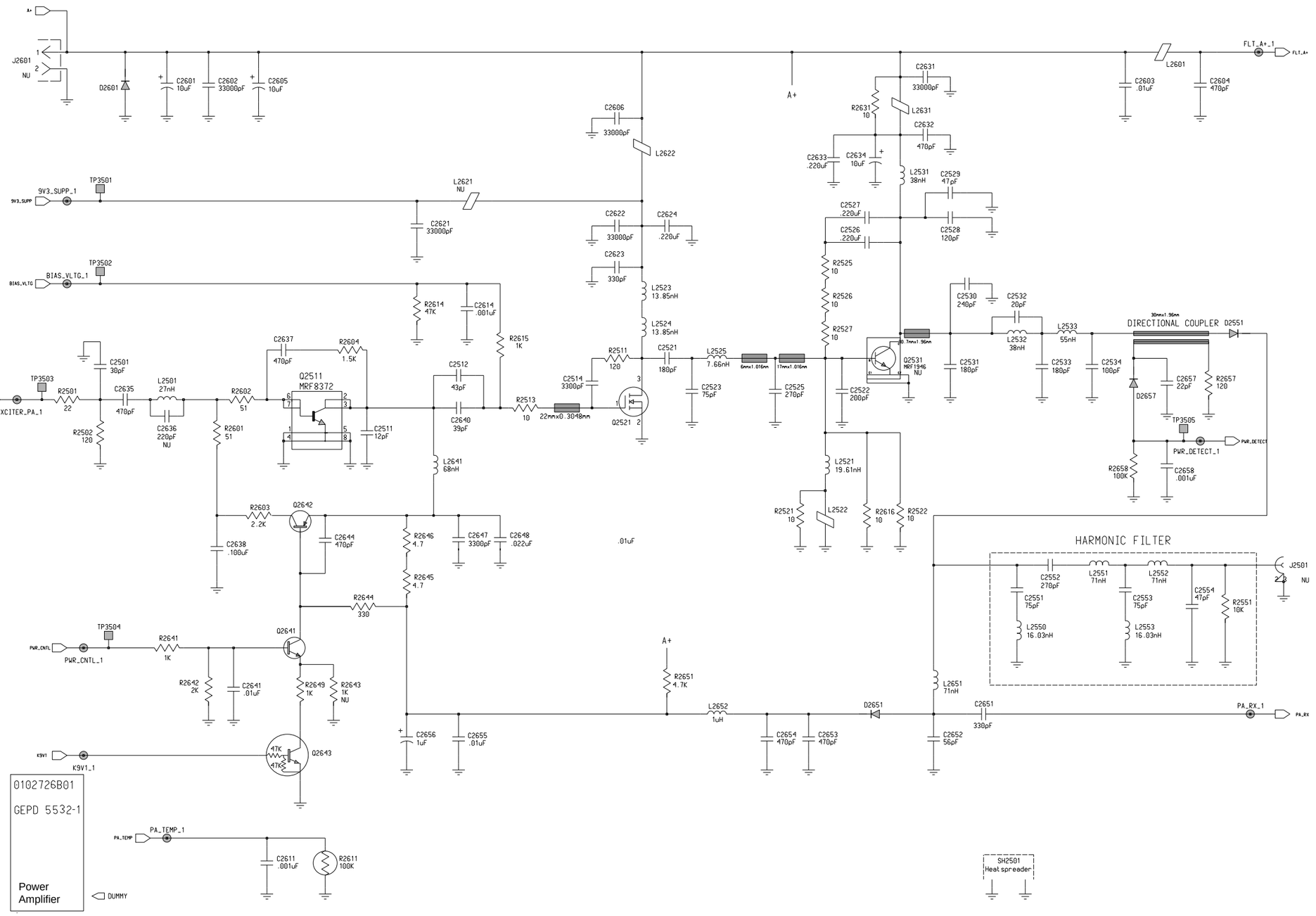
| Circuit Ref | Motorola Part No. | Description |
|---|---|---|
| C0601 | 2113741F17 | 470pF 50V |
| C0602 | 2109720D14 | LOW DIST 100nF |
| C0603 | 2380090M24 | 10uF 50V 20% |
| C0604 | 2311049J40 | TANT CP 33uF 20% 16V |
| C0605 | 2109720D14 | LOW DIST 100nF |
| C0611 | 2311049J44 | TANT CP 47uF 20% 10V |
| C0612 | 2113743K15 | 100nF 16V Y5V |
| C0613 | 2113741F17 | 470pF 50V |
| C0621 | 2113741F17 | 470pF 50V |
| C0622 | 2311049J44 | TANT CP 47uF 20% 10V |
| C0631 | 2109720D14 | LOW DIST 100nF |
| C0632 | 2311049J40 | TANT CP 33uF 20% 16V |
| C0633 | 2113743E07 | 22nF 16V |
| C0634 | 2311049J44 | TANT CP 47uF 20% 10V |
| C0635 | 2109720D14 | LOW DIST 100nF |
| C0641 | 2113743K15 | 100nF 16V Y5V |
| D0611 | 4813833C02 | DUAL SOT MMBD6100 |
| D0621 | 4813833C02 | DUAL SOT MMBD6100 |
| D0631 | 4813833C02 | DUAL SOT MMBD6100 |
| Q0601 | 4813824A10 | NPN 40V .2A B=50-150 |
| Q0611 | 4805128M27 | PNP SOT89 BSR33 LH |
| Q0612 | 4813824A10 | NPN 40V .2A B=50-150 |
| R0601 | 0662057A73 | 10k 1/16W 5% |
| R0602 | 0660076E70 | FILM 7500 1 1 |
| R0603 | 0660076E51 | FILM 1200 1 1 |
| R0604 | 0662057A61 | 3k3 1/16W 5% |
| R0605 | 0662057A81 | 22k 1/16W 5% |
| R0606 | 0662057B47 | 0 1/16W |
| R0611 | 0662057A47 | 820 1/16W 5% |
| R0612 | 0660076A61 | 3300 5 1/8 |
| R0613 | 0660076A61 | 3300 5 1/8 |
| R0614 | 0662057A49 | 1k 1/16W 5% |
| R0615 | 0662057A73 | 10k 1/16W 5% |
| R0616 | 0662057A73 | 10k 1/16W 5% |
| R0617 | 0660076A61 | 3300 5 1/8 |
| R0621 | 0662057A57 | 2k2 1/16W 5% |
| R0631 | 0662057A01 | 10 1/16W 5% |
| R0632 | 0662057A01 | 10 1/16W 5% |
| R0641 | 0662057A84 | 30k 1/16W 5% |
| R0642 | 0662057A73 | 10k 1/16W 5% |
| U0601 | 5105625U25 | IC 9.3V REG 2941 |
| U0631 | 5105469E65 | IC VLTG REGLTR LP2951C |
| VR0621 | 4813830A14 | 5.1V 5% 225mW |
| VR0641 | 4813830A14 | 5.1V 5% 225mW |




Midband (66-88MHz) Power Control Schematic Diagram

## Power Control Parts List

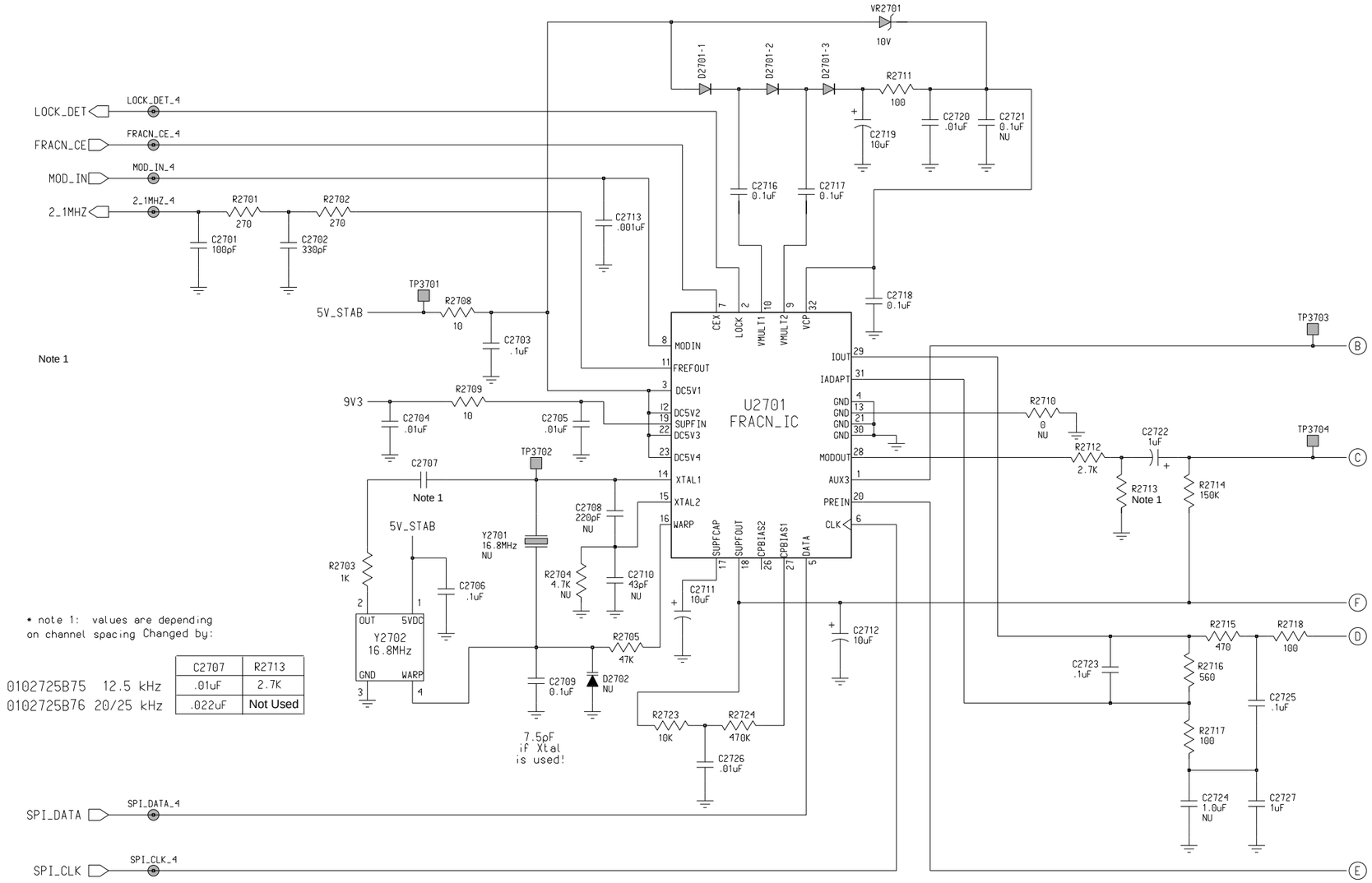
| Circuit Ref | Motorola Part No. | Description |
|---|---|---|
| C0701 | 2113740F51 | 100pF 5% 50V |
| C0702 | 2113740F51 | 100pF 5% 50V |
| C0703 | 2113743E20 | 100nF 16V |
| C0711 | 2113741A59 | CL2 |
| C0712 | 2113740F42 | 43pF 5% 50V |
| C0713 | 2113740F51 | 100pF 5% 50V |
| C0714 | 2113743A19 | 100nF 16V |
| C0716 | 2113741F33 | 2.2nF 50V |
| C0721 | 2113740F51 | 100pF 5% 50V |
| C0722 | 2113740F51 | 100pF 5% 50V |
| C0723 | 2113740F51 | 100pF 5% 50V |
| C0731 | 2113743E20 | 100nF 16V |
| C0732 | 2113740F51 | 100pF 5% 50V |
| C0733 | 2113743A23 | 220nF 16V |
| C0741 | 2113740F51 | 100pF 5% 50V |
| C0742 | 2113743E20 | 100nF 16V |
| D0721 | 4813833C02 | DUAL SOT MMBD6100 |
| D0731 | 4813833C02 | DUAL SOT MMBD6100 |
| D0732 | 4813833C02 | DUAL SOT MMBD6100 |
| D0733 | 4813833C02 | DUAL SOT MMBD6100 |
| Q0711 | 4813824A10 | NPN 40V .2A B=50-150# |
| Q0731 | 4880048M01 | NPN DIG 47k/47k |
| Q0741 | 4880048M01 | NPN DIG 47k/47k |
| Q0742 | 4805128M27 | PNP SOT89  BSR33 LH |
| R0701 | 0662057A73 | 10k 1/16W 5% |
| R0702 | 0662057A73 | 10k 1/16W 5% |
| R0703 | 0662057A61 | 3k3 1/16W 5% |
| R0704 | 0662057A93 | 68k 1/16W 5% |
| R0711 | 0662057A81 | 22k 1/16W 5% |
| R0712 | 0662057A37 | 330 1/16W 5% |
| R0713 | 0662057A61 | 3k3 1/16W 5% |
| R0714 | 0662057A81 | 22k 1/16W 5% |
| R0715 | 0662057A81 | 22k 1/16W 5% |
| R0716 | 0662057B16 | 560k 1/16W 5% |
| R0717 | 0662057A85 | 33k 1/16W 5% |
| R0718 | 0662057A93 | 68k 1/16W 5% |
| R0719 | 0662057A93 | 68k 1/16W 5% |
| R0721 | 0662057A76 | 13k 1/16W 5% |
| R0722 | 0662057A81 | 22k 1/16W 5% |
| R0723 | 0662057A89 | 47k 1/16W 5% |
| R0724 | 0662057A97 | 100k 1/16W |
| R0725 | 0662057A73 | 10k 1/16W 5% |
| R0731 | 0662057A73 | 10k 1/16W 5% |
| R0732 | 0662057A65 | 4k7 1/16W 5% |
| R0733 | 0662057A89 | 47k 1/16W 5% |
| R0734 | 0662057A65 | 4k7 1/16W 5% |
| R0735 | 0662057A73 | 10k 1/16W 5% |
| R0741 | 0662057A49 | 1k 1/16W 5% |
| R0742 | 0662057A49 | 1k 1/16W 5% |
| U0701 | 5183222M49 | IC QUAD OPAMP __3403_ |
| U0731 | 5113811G02 | IC D/A CONV & BIT 4 CHAN |




Midband (66-88MHz) Power Amplifier 5-25W Schematic Diagram

## Power Amplifier 5-25W Parts List

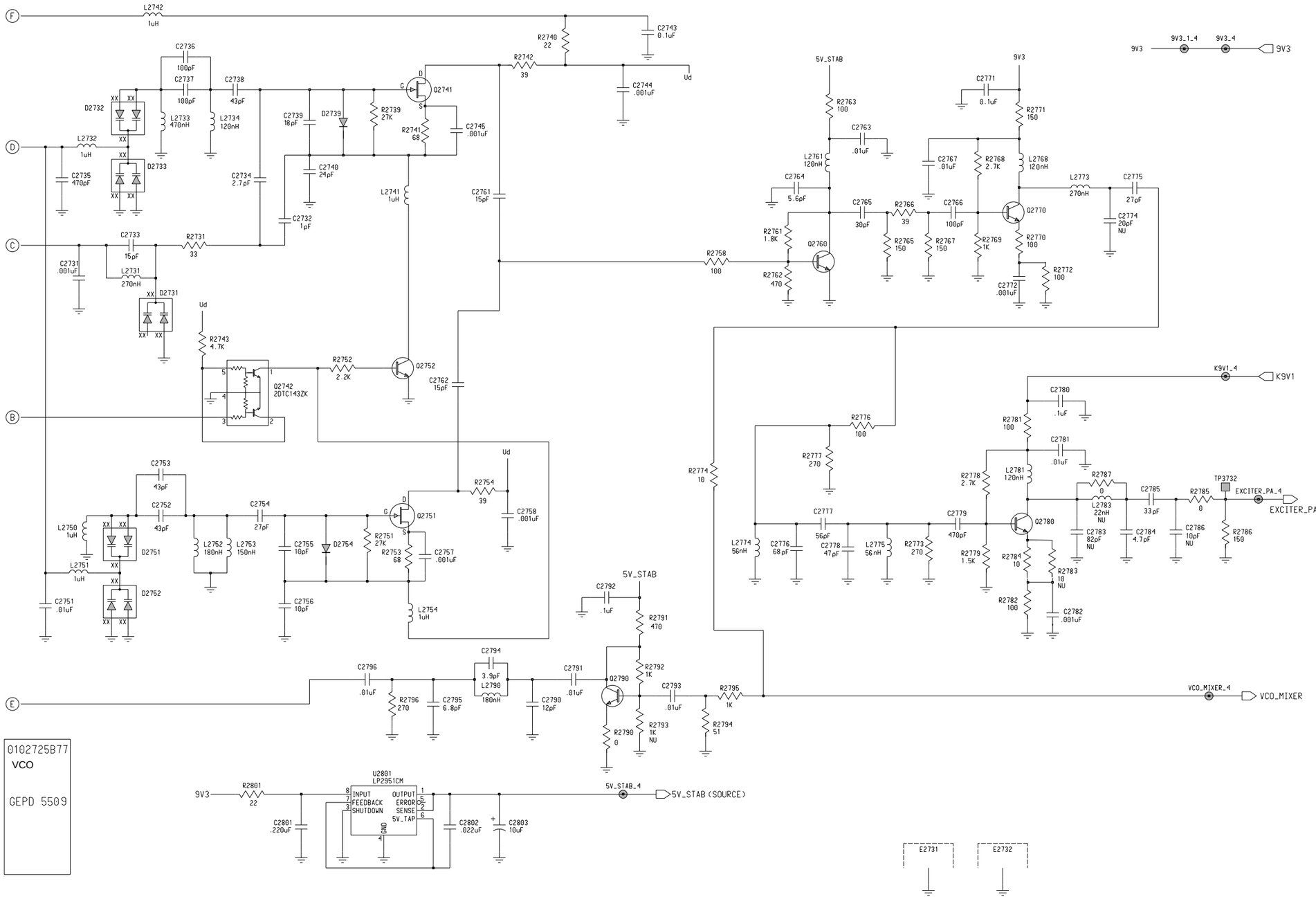
| Circuit Ref | Motorola Part No. | Description |
|---|---|---|
| C2511 | 2113740F29 | 12pF 5% 50V |
| C2512 | 2113740F42 | 43pF 5% 50V |
| C2514 | 2113743A23 | 220nF 16V |
| C2521 | 2111078B49 | 180pF 5% |
| C2522 | 2111078B49 | 180pF 5% |
| C2523 | 2111078B36 | 56pF 5% |
| C2524 | 2111078B48 | 160pF 5% |
| C2525 | 2111078B53 | 270pF 5% |
| C2527 | 2111078B59 | 470pF 5% |
| C2528 | 2111078B44 | 120pF 5% |
| C2529 | 2111078B34 | 47pF 5% |
| C2530 | 2111078B44 | 120pF 5% |
| C2531 | 2111078B49 | 180pF 5% |
| C2532 | 2111078B25 | 27pF 5% |
| C2533 | 2111078B49 | 180pF 5% |
| C2534 | 2111078B42 | 100pF 5% |
| C2551 | 2111078B39 | 75pF 5% |
| C2552 | 2111078B53 | 270pF 5% |
| C2553 | 2111078B39 | 75pF 5% |
| C2554 | 2111078B34 | 47pF 5% |
| C2601 | 2380090M24 | LYT 10uF 50V 20% |
| C2602 | 2113741A57 | 33nF 50V |
| C2603 | 2113741F49 | 10nF 50V |
| C2604 | 2113741F17 | 470pF 50V |
| C2605 | 2311049A45 | TANT CP 10uF 10% 35V |
| C2606 | 2113741A57 | 33nF 50V |
| C2611 | 2113741F25 | 1nF 50V |
| C2614 | 2113741F49 | 10nF 50V |
| C2621 | 2113741A57 | 33nF 50V |
| C2622 | 2113741A57 | 33nF 50V |
| C2623 | 2113740A67 | 330pF 5% 50V |
| C2624 | 2113743A23 | 220nF 16V |
| C2631 | 2113741A57 | 33nF 50V |
| C2632 | 2111078B59 | HQ 470pF 5% |
| C2633 | 2113743A23 | 220nF 16V |
| C2634 | 2311049A08 | TANT CP 1uF 10% 35V |
| C2635 | 2113741F17 | 470pF 50V |
| C2637 | 2113741F49 | 10nF 50V |
| C2638 | 2113743A19 | 100nF 16V |
| C2639 | 2113741A33 | 3.3nF 50V |
| C2640 | 2113740F41 | 39pF 5% 50V |
| C2641 | 2113741F49 | 10nF 50V |
| C2642 | 2113741F17 | 470pF 50V |
| C2644 | 2113741F17 | 470pF 50V |
| C2647 | 2113741A33 | 3.3nF 50V |
| C2648 | 2113743E07 | 22nF 16V |
| C2651 | 2113740A67 | 330pF 5% 50V |
| C2652 | 2113740F45 | 56pF 5% 50V |
| C2653 | 2111078B59 | HQ 470pF 5% |
| C2654 | 2111078B52 | HQ 240 pF 5% |
| C2655 | 2113741F49 | 10nF 50V |
| C2656 | 2311049A08 | TANT CP 1uF 10% 35V |
| C2657 | 2113740F35 | 22pF 5% 50V |
| C2658 | 2113741F25 | 1nF 50V |
| D2551 | 4802482J02 | DIODE PIN MA/COM |
| D2601 | 4813832B35 | DIODE TRANSORB |
| D2651 | 4802482J02 | DIODE PIN MA/COM |
| D2657 | 4880236E05 | DIODE CHIP SCHOTTKY |
| J2501 | 0905902V01 | PWR CONNECTOR 2 PIN |
| J2601 | 0905901V02 | BNC CONNECTOR RENAISSANCE |
| L2501 | 2462587X46 | IND CHIP LO-PRO 27.0 |
| L2521 | 2460591B80 | SQUARE COIL 19.61nH |
| L2522 | 2484657R01 | Ferrite Bead |
| L2523 | 2460591C23 | SQUARE COIL 16nH 3T |
| L2524 | 2460591C23 | SQUARE COIL 16nH 3T |
| L2525 | 2460591A11 | SQUARE COIL 7.66nH 3T |
| L2531 | 2460591M77 | SQUARE COIL 38nH 4T |
| L2532 | 2460591M77 | SQUARE COIL 38nH 4T |
| L2533 | 2460591W04 | SQUARE COIL RFD-022-15 |
| L2550 | 2460591L29 | SQUARE COIL 16.30nH 3T |
| L2551 | 2402015D02 | SQUARE COIL 9 TNS |
| L2552 | 2402015D02 | SQUARE COIL 9 TNS |
| L2553 | 2460591L29 | SQUARE COIL 16.30nH 3T |
| L2601 | 2484657R01 | Ferrite Bead |
| L2622 | 2484657R01 | Ferrite Bead |
| L2631 | 2484657R01 | Ferrite Bead |
| L2641 | 2462587T13 | COIL CHIP 68nH |
| L2651 | 2402015D02 | SQUARE COIL 9 TNS |
| L2652 | 2462587T30 | COIL CHIP 1uH |
| Q2511 | 4813827A26 | RF NPN MRF8372 SO8 |
| Q2521 | 4813827A36 | MRF 500 |
| Q2531 | 4880225C22 | RF PWR MRF1946A |
| Q2641 | 4813824A10 | NPN 40V .2A B=50-150 |
| Q2642 | 4813824A17 | PNP 40V .2A B=100 |
| Q2643 | 4880048M01 | NPN DIG 47k/47k |
| R2501 | 0662057A09 | 22 1/16W 5% |
| R2502 | 0662057A27 | 120 1/16W 5% |
| R2511 | 0683962T51 | 120 1W 5% |
| R2513 | 0662057A01 | 10 1/16W 5% |
| R2525 | 0680194M18 | DDA 51 1W 5% |
| R2526 | 0680194M18 | DDA 51 1W 5% |
| R2527 | 0680194M18 | DDA 51 1W 5% |
| R2551 | 0662057A73 | 10k 1/16W 5% |
| R2601 | 0662057A18 | 51 1/16W 5% |
| R2602 | 0662057A18 | 51 1/16W 5% |
| R2603 | 0662057A57 | 2k2 1/16W 5% |
| R2604 | 0662057A53 | 1k5 1/16W 5% |
| R2611 | 0680149M02 | Thermistor Chip 100K@25C |
| R2614 | 0662057A89 | 47k 1/16W 5% |
| R2615 | 0662057A49 | 1k 1/16W 5% |
| R2616 | 0680194M01 | 10 1W 5% |
| R2631 | 0680194M01 | 10 1W 5% |
| R2641 | 0662057A49 | 1k 1/16W 5% |
| R2642 | 0662057A56 | 2k 1/16W 5% |
| R2644 | 0662057A37 | 330 1/16W 5% |
| R2645 | 0662057C19 | 4R7 1/10W 5% |
| R2646 | 0662057C19 | 4R7 1/10W 5% |
| R2649 | 0662057A49 | 1k 1/16W 5% |
| R2651 | 0662057A65 | 4k7 1/16W 5% |
| R2657 | 0683962T51 | 120 1W 5% |
| R2658 | 0662057A97 | 100k 1/16WSH2501 |
| | 2602642Y01 | Heat Spreader Baby Bear |




Midband (66-88MHz) Synthesizer Schematic Diagram

## Synthesizer Parts List

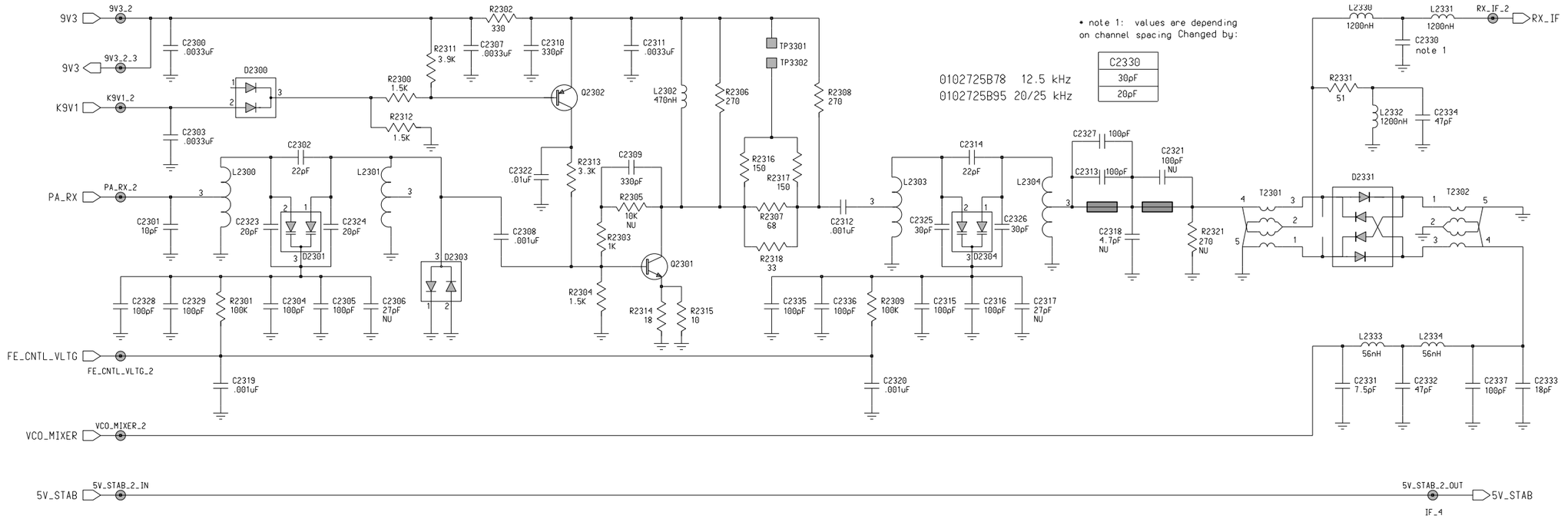
| Circuit Ref | Motorola Part No. | Description |
|---|---|---|
| C2701 | 2113740F51 | 100pF 5% 50V |
| C2702 | 2113741F13 | 330pF 50V |
| C2703 | 2113743E20 | 100nF 16V |
| C2704 | 2113741F49 | 10nF 50V |
| C2705 | 2113741F49 | 10nF 50V |
| C2706 | 2113743E20 | 100nF 16V |
| C2707 | 2113741F49 | 10nF 50V (12.5kHz) |
| | 2113743E07 | 22nF 50V (20/25kHz) |
| C2709 | 2113743E20 | 100nF 16V |
| C2711 | 2311049A63 | TANT CP 10uF 10% 10V |
| C2712 | 2311049J26 | TANT CP 10uF 20% 16V |
| C2713 | 2113741F25 | 1nF 50V |
| C2715 | 2113740F39 | 33pF 5% 50V |
| C2716 | 2113743E20 | 100nF 16V |
| C2717 | 2113743E20 | 100nF 16V |
| C2718 | 2113743E20 | 100nF 16V |
| C2719 | 2311049A19 | TANT CP 10uF 10% 25V |
| C2720 | 2113741F49 | 10nF 50V |
| C2722 | 2311049A07 | TANT CP 1uF 10% 16V |
| C2723 | 2109720D14 | CER  LOW DIST 100nF |
| C2725 | 2109720D14 | CER  LOW DIST 100nF |
| C2726 | 2113741F49 | 10nF 50V |
| C2727 | 0811051A19 | MTLZ POLY 1uF 5% |
| D2701 | 4802233J09 | DIODE TRIPLE SOT143-RH |
| E2702 | 2605915V01 | SHLD PCB MOUNT 1 |
| R2701 | 0662057A35 | 270 1/16W 5% |
| R2702 | 0662057A35 | 270 1/16W 5% |
| R2703 | 0662057A49 | 1k 1/16W 5% |
| R2705 | 0662057A89 | 47k 1/16W 5% |
| R2708 | 0662057A01 | 10 1/16W 5% |
| R2709 | 0662057A01 | 10 1/16W 5% |
| R2711 | 0662057A25 | 100 1/16W 5% |
| R2712 | 0662057A59 | 2k7 1/16W 5% |
| R2713 | 0662057A59 | 2k7 1/16W 5% (12.5kHz) |
| R2714 | 0662057B02 | 150k 1/16W |
| R2715 | 0662057A41 | 470 1/16W 5% |
| R2716 | 0662057A43 | 560 1/16W 5% |
| R2717 | 0662057A25 | 100 1/16W 5% |
| R2718 | 0662057A25 | 100 1/16W 5% |
| R2723 | 0662057A73 | 10k 1/16W 5% |
| R2724 | 0662057B14 | 470k 1/16W 5% |
| U2701 | 5105457W72 | CC QFP CONT FRAC-N |
| VR2701 | 4813830A23 | Diode 10V 5% 20mA 350mW |
| Y2702 | 4809863M01 | REF OSC 16.8MHz Tempus |




## Midband (66-88MHz) Voltage Controlled Oscillator Schematic Diagram

## Voltage Controlled Oscillator Parts List

| Circuit Ref | Motorola Part No. | Description |
|---|---|---|
| C2731 | 2113741F25 | 1nF 50V |
| C2732 | 2113740F03 | 1pF 5% 50V |
| C2733 | 2113740F31 | 15pF 5% 50V |
| C2734 | 2113740F13 | 2.7pF 5% 50V |
| C2735 | 2113741F17 | 470pF 50V |
| C2736 | 2113740F51 | 100pF 5% 50V |
| C2737 | 2113740F51 | 100pF 5% 50V |
| C2738 | 2113740F42 | 43pF 5% 50V |
| C2739 | 2113740F33 | 18pF 5% 50V |
| C2740 | 2113740F36 | 24pF 5% 50V |
| C2743 | 2113743E20 | 100nF 16V |
| C2744 | 2113741F25 | 1nF 50V |
| C2745 | 2113741F25 | 1nF 50V |
| C2751 | 2109720D01 | CER LOW DIST 10nF |
| C2752 | 2113740F42 | 43pF 5% 50V |
| C2753 | 2113740F42 | 43pF 5% 50V |
| C2754 | 2113740F37 | 27pF 5% 50V |
| C2755 | 2113740F27 | 10pF 5% 50V |
| C2756 | 2113740F27 | 10pF 5% 50V |
| C2757 | 2113741F25 | 1nF 50V |
| C2758 | 2113741F25 | 1nF 50V |
| C2761 | 2113740F31 | 15pF 5% 50V |
| C2762 | 2113740F31 | 15pF 5% 50V |
| C2763 | 2113741F49 | 10nF 50V |
| C2764 | 2113740F21 | 5.6pF 5% 50V |
| C2765 | 2113740F38 | 30pF 5% 50V |
| C2766 | 2113740F51 | 100pF 5% 50V |
| C2767 | 2113741F49 | 10nF 50V |
| C2771 | 2113743E20 | 100nF 16V |
| C2772 | 2113741F25 | 1nF 50V |
| C2775 | 2113740F37 | 27pF 5% 50V |
| C2776 | 2113740F47 | 68pF 5% 50V |
| C2777 | 2113740F37 | 27pF 5% 50V |
| C2778 | 2113740F43 | 47pF 5% 50V |
| C2779 | 2113741F17 | 470pF 50V |
| C2780 | 2113743E20 | 100nF 16V |
| C2781 | 2113741F49 | 10nF 50V |
| C2782 | 2113741F25 | 1nF 50V |
| C2784 | 2113740F19 | 4.7pF 5% 50V |
| C2785 | 2113740F39 | 33pF 5% 50V |
| C2790 | 2113740F29 | 12pF 5% 50V |
| C2791 | 2113741F49 | 10nF 50V |
| C2792 | 2113743E20 | 100nF 16V |
| C2793 | 2113741F49 | 10nF 50V |
| C2794 | 2113740F17 | 3.9pF 5% 50V |
| C2795 | 2113740F23 | 6.8pF 5% 50V |
| C2796 | 2113741F49 | 10nF 50V |
| C2801 | 2113743A23 | 220nF 16V |
| C2802 | 2113743E07 | 22nF 16V |
| C2803 | 2311049A63 | TANT CP 10uF 10% 10V |
| D2731 | 4805649Q13 | DIODE VCTR 1SV228 |
| D2732 | 4805649Q13 | DIODE VCTR 1SV228 |
| D2733 | 4805649Q13 | DIODE VCTR 1SV228 |
| D2739 | 4880236E05 | DIODE CHIP SCHOTTKY |
| D2751 | 4805649Q13 | DIODE VCTR 1SV228 |
| D2752 | 4805649Q13 | DIODE VCTR 1SV228 |
| D2754 | 4880236E05 | DIODE CHIP SCHOTTKY |
| E2731 | 2602641Y01 | SHIELD, VCO |
| L2731 | 2462587T20 | 270nH |
| L2732 | 2462587T30 | 1uH |
| L2733 | 2462587T23 | 470nH |
| L2734 | 2462587T16 | 120nH |
| L2741 | 2462587T30 | 1uH |
| L2742 | 2462587T30 | 1uH |
| L2750 | 2462587T30 | 1uH |
| L2751 | 2462587T30 | 1uH |
| L2752 | 2462587T18 | 180nH |
| L2753 | 2462587T17 | 150nH |
| L2754 | 2462587T30 | 1uH |
| L2761 | 2462587T16 | 120nH |
| L2768 | 2462587T16 | 120nH |
| L2774 | 2462587T12 | 56nH 5% |
| L2775 | 2462587T12 | 56nH 5% |
| L2781 | 2462587T16 | 120nH |
| L2790 | 2462587T18 | 180nH |
| Q2741 | 4813823A05 | N-CH RF JFETMMBU310LT1 |
| Q2742 | 4805921T09 | XSTR DUAL ROHM FMG8 |
| Q2751 | 4813823A05 | N-CH RF JFETMMBU310LT1 |
| Q2752 | 4813824A10 | NPN 40V .2A B=50-150 |
| Q2760 | 4813827A07 | NPN SML SIG MMBR9 |
| Q2770 | 4813827A07 | NPN SML SIG MMBR9 |
| Q2780 | 4813827A07 | NPN SML SIG MMBR9 |
| Q2790 | 4813827A07 | NPN SML SIG MMBR9 |
| R2731 | 0662057A13 | 33 1/16W 5% |
| R2739 | 0662057A83 | 27k 1/16W 5% |
| R2740 | 0662057A09 | 22 1/16W 5% |
| R2741 | 0662057A21 | 68 1/16W 5% |
| R2742 | 0662057A15 | 39 1/16W 5% |
| R2743 | 0662057A65 | 4k7 1/16W 5% |
| R2751 | 0662057A83 | 27k 1/16W 5% |
| R2752 | 0662057A57 | 2k2 1/16W 5% |
| R2753 | 0662057A21 | 68 1/16W 5% |
| R2754 | 0662057A15 | 39 1/16W 5% |
| R2758 | 0662057A25 | 100 1/16W 5% |
| R2760 | 0662057A01 | 10 1/16W 5% |
| R2761 | 0662057A55 | 1k8 1/16W 5% |
| R2762 | 0662057A41 | 470 1/16W 5% |
| R2763 | 0662057A25 | 100 1/16W 5% |
| R2765 | 0662057A29 | 150 1/16W 5% |
| R2766 | 0662057A15 | 39 1/16W 5% |
| R2767 | 0662057A29 | 150 1/16W 5% |
| R2768 | 0662057A59 | 2k7 1/16W 5% |
| R2769 | 0662057A49 | 1k 1/16W 5% |
| R2770 | 0662057A01 | 10 1/16W 5% |
| R2771 | 0662057A29 | 150 1/16W 5% |
| R2772 | 0662057A25 | 100 1/16W 5% |
| R2773 | 0662057A35 | 270 1/16W 5% |
| R2774 | 0662057A01 | 10 1/16W 5% |
| R2775 | 0662057A29 | 150 1/16W 5% |
| R2776 | 0662057A25 | 100 1/16W 5% |
| R2777 | 0662057A35 | 270 1/16W 5% |
| R2778 | 0662057A59 | 2k7 1/16W 5% |
| R2779 | 0662057A53 | 1k5 1/16W 5% |
| R2781 | 0662057A25 | 100 1/16W 5% |
| R2782 | 0662057A25 | 100 1/16W 5% |
| R2783 | 0662057A01 | 10 1/16W 5% |
| R2784 | 0662057A01 | 10 1/16W 5% |
| R2785 | 0662057B47 | 0 1/16W |
| R2786 | 0662057A29 | 150 1/16W 5% |
| R2787 | 0662057B47 | 0 1/16W |
| R2790 | 0662057B47 | 0 1/16W |
| R2791 | 0662057A41 | 470 1/16W 5% |
| R2792 | 0662057A49 | 1k 1/16W 5% |
| R2794 | 0662057A18 | 51 1/16W 5% |
| R2795 | 0662057A49 | 1k 1/16W 5% |
| R2796 | 0662057A35 | 270 1/16W 5% |
| R2801 | 0662057A09 | 22 1/16W 5% |
| U2801 | 5105469E65 | IC VLTG REGLTR LP2951C |

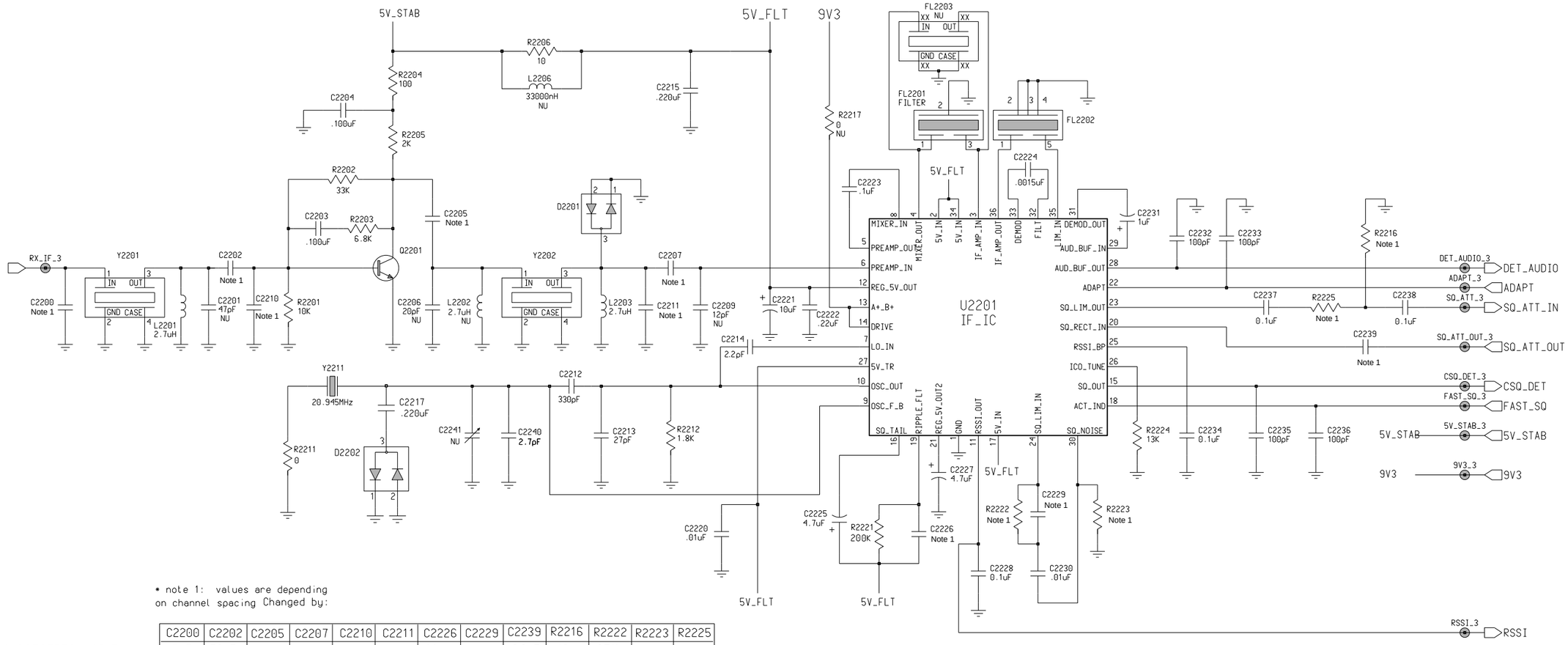



| | | |
|---|---|---|
| 0102725B78 | GEPD 5506 | 12.5 KHz Channel Spacing |
| 0102725B95 | GEPD 5507 | 20/25 KHz Channel Spacing |

Midband (66-88MHz) RX-FE Schematic Diagram

## RX-FE
## Parts List

| Circuit Ref | Motorola Part No. | Description |
|---|---|---|
| C2300 | 2113741F37 | 3.3nF 50V |
| C2301 | 2113740F27 | 10pF 5% 50V |
| C2302 | 2113740F35 | 22pF 5% 50V |
| C2303 | 2113741F37 | 3.3nF 50V |
| C2304 | 2113740F51 | 100pF 5% 50V |
| C2305 | 2113740F51 | 100pF 5% 50V |
| C2307 | 2113741F37 | 3.3nF 50V |
| C2308 | 2113741F25 | 1nF 50V |
| C2309 | 2113741F13 | 330pF 50V |
| C2310 | 2113741F13 | 330pF 50V |
| C2311 | 2113741F37 | 3.3nF 50V |
| C2312 | 2113741F25 | 1nF 50V |
| C2313 | 2113740F51 | 100pF 5% 50V |
| C2314 | 2113740F35 | 22pF 5% 50V |
| C2315 | 2113740F51 | 100pF 5% 50V |
| C2316 | 2113740F51 | 100pF 5% 50V |
| C2319 | 2113741F25 | 1nF 50V |
| C2320 | 2113741F25 | 1nF 50V |
| C2322 | 2113741F49 | 10nF 50V |
| C2323 | 2113740F34 | 20pF 5% 50V |
| C2324 | 2113740F34 | 20pF 5% 50V |
| C2325 | 2113740F38 | 30pF 5% 50V |
| C2326 | 2113740F38 | 30pF 5% 50V |
| C2327 | 2113740F51 | 100pF 5% 50V |
| C2328 | 2113740F51 | 100pF 5% 50V |
| C2329 | 2113740F51 | 100pF 5% 50V |
| C2330 | 2113740F38 | 30pF 5% 50V (12.5kHz) |
| | 2113740F34 | 20pF 5% 50V (20/25kHz) |
| C2331 | 2113740F24 | 7.5pF 5% 50V |
| C2332 | 2113740F43 | 47pF 5% 50V |
| C2333 | 2113740F33 | 18pF 5% 50V |
| C2334 | 2113740F43 | 47pF 5% 50V |
| C2335 | 2113740F51 | 100pF 5% 50V |
| C2336 | 2113740F51 | 100pF 5% 50V |
| C2337 | 2113740F51 | 100pF 5% 50V |
| D2300 | 4813833C02 | DUAL SOT MMBD6100 |
| D2301 | 4805649Q13 | VCTR 1SV228 |
| D2303 | 4880154K03 | DUAL SCHOTTKY |
| D2304 | 4805649Q13 | VCTR 1SV228 |
| D2331 | 4880174R01 | QUAD SOIC 8 PIN |
| E2301 | 2605915V01 | SHLD PCB MOUNT 1 |
| L2302 | 2462587T23 | Coil Chip 470nH |
| L2330 | 2462587N69 | CHIP IND 1200 NH |
| L2331 | 2462587N69 | CHIP IND 1200 NH |
| L2332 | 2462587N69 | CHIP IND 1200 NH |
| L2333 | 2462587T12 | Coli Chip 56nH |
| L2334 | 2462587T12 | Coil Chip 56nH |
| Q2301 | 4813827A07 | NPN SML SIG MMBR9 |
| Q2302 | 4805128M16 | PNP SOT MMBT3906 |
| R2300 | 0662057A53 | 1k5 1/16W 5% |
| R2301 | 0662057A97 | 100k 1/16W |
| R2302 | 0662057A37 | 330 1/16W 5% |
| R2303 | 0662057A49 | 1k 1/16W 5% |
| R2304 | 0662057A53 | 1k5 1/16W 5% |
| R2306 | 0662057A35 | 270 1/16W 5% |
| R2307 | 0662057A21 | 68 1/16W 5% |
| R2308 | 0662057A35 | 270 1/16W 5% |
| R2309 | 0662057A97 | 100k 1/16W |
| R2311 | 0662057A63 | 3k9 1/16W 5% |
| R2312 | 0662057A53 | 1k5 1/16W 5% |
| R2313 | 0662057A61 | 3k3 1/16W 5% |
| R2314 | 0662057A07 | 18 1/16W 5% |
| R2315 | 0662057A01 | 10 1/16W 5% |
| R2316 | 0662057A29 | 150 1/16W 5% |
| R2317 | 0662057A29 | 150 1/16W 5% |
| R2318 | 0662057A13 | 33 1/16W 5% |
| R2331 | 0662057A18 | 51 1/16W 5% |
| T2301 | 2505515V03 | XFMR JEDI MIXER SMD 4:1 |
| T2302 | 2505515V03 | XFMR JEDI MIXER SMD 4:1 |




• note 1: values are depending on channel spacing Changed by:

| | C2200 | C2202 | C2205 | C2207 | C2210 | C2211 | C2226 | C2229 | C2239 | R2216 | R2222 | R2223 | R2225 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0102725B79 12.5 kHz | 15pF | 56pF | 43pF | 56pF | 30pF | 12pF | 100nF | 4.7nF | 68pF | 10K | 27K | 6.8K | .100uF |
| 0102725B80 20/25 kHz | 18pF | 24pF | 15pF | 47pF | 56pF | 9.1pF | 0.1uF | .001uF | 51pF | 6.8K | 68K | 3.9K | 3.3K |

| | |
|---|---|
| 0102725B79 GEPD 5501-1 | 12.5 kHz channel spacing |
| 0102725B80 GEPD 5502-1 | 20/25 kHz channel spacing |

Midband (66-88MHz) RX-IF Schematic Diagram

## RX-IF
## Parts List

| Circuit Ref | Motorola Part No. | Description |
|---|---|---|
| C2200 | 2113740F31 | 15pF 5% 50V (12.5kHz) |
| | 2113740F33 | 18pF 5% 50V (20/25KHz) |
| C2202 | 2113740F45 | 56pF 5% 50V (12.5kHz) |
| | 2113740F36 | 24pF 5% 50V (20/25kHz) |
| C2203 | 2113743A19 | 100nF 16V |
| C2204 | 2113743A19 | 100nF 16V |
| C2205 | 2113740F42 | 43pF 5% 50V (12.5kHz) |
| | 2113740F31 | 15pF 5% 50V (20/25kHz) |
| C2207 | 2113740F45 | 56pF 5% 50V (12.5kHz) |
| | 2113740F43 | 47pF 5% 50V (20/25kHz) |
| C2210 | 2113740F38 | 30pF 5% 50V (12.5kHz) |
| | 2113740F45 | 56pF 5% 50V (20/25kHz) |
| C2211 | 2113740F29 | 12pF 5% 50V (12.5kHz) |
| | 2113740F26 | 9.1pF 5% 50V (20/25kHz) |
| C2212 | 2113740F63 | 330pF 5% 50V |
| C2213 | 2113740F37 | 27pF 5% 50V |
| C2214 | 2113740F11 | 2.2pF 5% 50V |
| C2215 | 2113743A23 | 220nF 16V |
| C2216 | 2113743A23 | 220nF 16V |
| C2220 | 2113741F49 | 10nF 50V |
| C2221 | 2311049A63 | TANT CP 10uF 10% 10V |
| C2222 | 2113743A23 | 220nF 16V |
| C2223 | 2113743E20 | 100nF 16V |
| C2224 | 2113741F29 | 1.5nF 50V |
| C2225 | 2311049J11 | TANT CP 4.7uF 10% 16V |
| C2226 | 2113743E20 | 100nF 16V (12.5kHz) |
| | 2113743K15 | 100nF 16V (20/25kHz) |
| C2227 | 2311049J11 | TANT CP 4.7uF 10% 16V |
| C2228 | 2113743E20 | 100nF 16V |
| C2229 | 2113741F41 | 4.7nF 50V (12.5kHz) |
| | 2113741F25 | 1nF 50V (20/25kHz) |

| Circuit Ref | Motorola Part No. | Description |
|---|---|---|
| C2230 | 2113741F49 | 10nF 50V |
| C2231 | 2311049A07 | TANT CP 1uF 10% 16V |
| C2232 | 2113740F51 | 100pF 5% 50V |
| C2233 | 2113740F51 | 100pF 5% 50V |
| C2234 | 2113743E20 | 100nF 16V |
| C2235 | 2113740F51 | 100pF 5% 50V |
| C2236 | 2113740F51 | 100pF 5% 50V |
| C2237 | 2113743E20 | 100nF 16V |
| C2238 | 2113743E20 | 100nF 16V |
| C2239 | 2113740F47 | 68pF 5% 50V |
| D2201 | 4880154K03 | DIODE DUAL SCHOTTKY |
| D2202 | 4880154K03 | DIODE DUAL SCHOTTKY |
| FL2201 | 9180098D06 | FILTER CER 4-EL 455kHz |
| FL2202 | 9180097D06 | FILTER CER 6-EL 455kHz |
| L2201 | 2462587M23 | CHIP IND 2.7uH 5% |
| L2203 | 2462587M23 | CHIP IND 2.7uH 5% |
| Q2201 | 4813827A07 | TSTR NPN SML SIG MMBR9 |
| R2201 | 0662057A73 | 10k 1/16W 5% |
| R2202 | 0662057A85 | 33k 1/16W 5% |
| R2203 | 0662057A69 | 6k8 1/16W 5% |
| R2204 | 0662057A25 | 100 1/16W 5% |
| R2205 | 0662057A56 | 2k 1/16W 5% |
| R2206 | 0662057A01 | 10 1/16W 5% |
| R2211 | 0662057B47 | 0 1/16W |
| R2212 | 0662057A55 | 1k8 1/16W 5% |
| R2216 | 0662057A73 | 10k 1/16W 5% (12.5kHz) |
| | 0662057A69 | 6k8 1/16W 5% (20/25kHz) |
| R2221 | 0662057B05 | 200k 1/16W |
| R2222 | 0662057A83 | 27k 1/16W 5% (12.5kHz) |
| | 0662057A93 | 68k 1/16W 5% (20/25kHz) |
| R2223 | 0662057A69 | 6k8 1/16W 5% (12.5kHz) |
| | 0662057A63 | 3k9 1/16W 5% (20/25kHz) |

| Circuit Ref | Motorola Part No. | Description |
|---|---|---|
| R2224 | 0662057A76 | 13k 1/16W 5% |
| R2225 | 0662057A25 | 100 1/16W 5% (12.5kHz) |
| | 0662057A61 | 3k3 1/16W 5% (20/25kHz) |
| U2201 | 5180207R01 | IF IC |
| Y2201 | 4886022B01 | X-TAL FILTER 21.4 12.5 HI |
| | 4886022B03 | X-TAL FILTER 21.4 25 HI |
| Y2202 | 4886022B02 | X-TAL FILTER 21.4 12.5 STD |
| | 4886022B04 | X-TAL FILTER 21.4 25 STD |
| Y2211 | 4886058B01 | X-TAL 20.945 MHz |