

**SRT PARTS LIST****A. RECEIVER - BOARD ONLY**

| <u>Item</u>              | <u>Value/<br/>description</u> | <u>Qty</u> | <u>Location / PCB part<br/>reference #</u>   | <u>Manufacturer</u> | <u>Manufacturer part #</u> | <u>Distributor</u> | <u>Dist. Part #</u> | <u>Unit Price</u> | <u>Subtotal</u> |
|--------------------------|-------------------------------|------------|--|---------------------|----------------------------|--------------------|---------------------|-------------------|-----------------|
| <b><u>Capacitors</u></b> |                               |            |  |                     |                            |                    |                     |                   |                 |
| 1                        | 10pf                          | 2          | C1<br>C4   | Panasonic-ECG       | ECU-V1H100DCM              | DigiKey            | PCC100CCT-ND        | 0.09              | 0.18            |
| 2                        | 12pf                          | 2          | C600<br>C601   | Panasonic-ECG       | ECU-V1H120JCM              | DigiKey            | PCC120CCT-ND        | 0.10              | 0.20            |
| 3                        | 33pf                          | 3          | C3<br>C603<br>C604   | Panasonic-ECG       | ECU-V1H330JCM              | DigiKey            | PCC330CCT-ND        | 0.10              | 0.30            |
| 4                        | 100pf                         | 4          | C5<br>C6<br>C605<br>C613   | Panasonic-ECG       | ECU-V1H101JCH              | DigiKey            | PCC101CCT-ND        | 0.11              | 0.44            |
| 5                        | 1000 pf                       | 2          | C307<br>C607   | Panasonic-ECG       | ECU-V1H102JCH              | Digikey            | PCC102CCT-ND        | 0.16              | 0.32            |
| 6                        | 1200 pf                       | 1          | C106   | Panasonic-ECG       | ECU-V1H122KBM              | DigiKey            | PCC122BCT-ND        | 0.10              | 0.10            |
| 7                        | 2200 pf                       | 1          | C303   | Panasonic-ECG       | ECU-V1H222KBM              | DigiKey            | PCC222BCT-ND        | 0.10              | 0.10            |
| 8                        | 2700 pf                       | 1          | C302   | Panasonic-ECG       | ECU-V1H272KBM              | DigiKey            | PCC272BCT-ND        | 0.10              | 0.10            |
| 9                        | 6800 pf                       | 1          | C306   | Panasonic-ECG       | ECU-V1H682KBM              | Digikey            | PCC682BCT-ND        | 0.12              | 0.12            |
| 10                       | 10000 pf                      | 4          | C2<br>C107<br>C504<br>C609   | Panasonic-ECG       | ECU-V1H103KBM              | DigiKey            | PCC103BCT-ND        | 0.12              | 0.48            |
| 11                       | 22000 pf                      | 2          | C304<br>C308   | Panasonic-ECG       | ECU-V1H223KBM              | DigiKey            | PCC223BCT-ND        | 0.15              | 0.30            |
| 12                       | .1 uf                         | 8 *        | C104<br>C105<br>C310<br>C500<br>C502<br>C606<br>C608<br>C610   | Panasonic-ECG       | ECU-V1H104KBW              | Digikey            | PCC104BCT-ND        | *                 |                 |
| 13                       | .47 uf                        | 1          | C505   | Panasonic-ECG       | ECW-U1C474JB9              | DigiKey            | PCF1066CT-ND        | 1.39              | 1.39            |
| 14                       | 10 uf                         | 15 *       | C108<br>C109<br>C200<br>C201<br>C202<br>C203<br>C204<br>C300<br>C301<br>C305<br>C309<br>C501<br>C506<br>C602<br>C612 | Panasonic-ECG       | ECS-T1ED106R               | DigiKey            | PCS5106CT-ND        | *                 |                 |
| 15                       | 47 uf                         | 1          | C611   | Panasonic-ECG       | ECS-T1AD476R               | DigiKey            | PCS2476CT-ND        | 0.89              | 0.89            |

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|--------------------------|-------------------------------|------------|---|----------------------------------|----------------------------|--------------------|---------------------|-------------------|-----------------|
| <b><u>Connectors</u></b> |                               |            |   |                                  |                            |                    |                     |                   |                 |
| 16                       | 3 pin SIP                     | 1 *        | PRG   | AMP                              | 644456-3                   | DigiKey            | A19351-ND           | *                 |                 |
| 17                       | Fconn                         | 2 *        | I/O<br>VIDEO  | Cui Stack                        | BA-1010                    | DigiKey            | CP-1010-ND          | *                 |                 |
| 18                       | PCB Fconn                     | 1 *        | RFIN  | Cui Stack                        | BA-1210                    | DigiKey            | CP-1210-ND          | *                 |                 |
| <b><u>Crystals</u></b>   |                               |            |   |                                  |                            |                    |                     |                   |                 |
| 19                       | 8 MHz                         | 1          | CR1   | Epson Electronics                | MA-505-8.00M-C2            | DigiKey            | SE2504CT-ND         | 1.56              | 1.56            |
| <b><u>Diodes</u></b>     |                               |            |   |                                  |                            |                    |                     |                   |                 |
| 20                       | Back diode                    | 1          | D500  | Germanium Power<br>Devices (GPD) | BD-4                       | GPD                | BD-4                | 37.00             | 37.00           |
| 21                       | Schottky                      | 2          | D300<br>D502  | Hewlett Packard                  | HSMS-2820-BLK              | Allied             | 787-1399            | 0.35              | 0.70            |
| 22                       | 10 v zener                    | 1          | Z200  | Motorola                         | MMSZ4697T1                 | Newark             | 07F9201             | 0.15              | 0.15            |
| <b><u>Filters</u></b>    |                               |            |   |                                  |                            |                    |                     |                   |                 |
| 23                       | RF Filter                     | 10         | F1<br>F2<br>F3<br>F4<br>F5<br>F6<br>F7<br>F8<br>F9<br>F10 | Panasonic-ECG                    | ELK-E220FA                 | DigiKey            | P9871CT-ND          | 0.79              | 7.90            |
| 24                       | RF Filter                     | 2          | F11<br>F12  | Panasonic-ECG                    | EXC-ECT220MBT              | DigiKey            | P9833CT-ND          | 0.16              | 0.32            |
| <b><u>Inductors</u></b>  |                               |            |   |                                  |                            |                    |                     |                   |                 |
| 25                       | 39nH                          | 1 *        | L1  | Panasonic-ECG                    | ELJ-RF39NJF                | DigiKey            | PCD1283CT-ND        | *                 |                 |
| <b><u>I.C.'s</u></b>     |                               |            |   |                                  |                            |                    |                     |                   |                 |
| 26                       | volt-freq conv.               | 1          | AD500   | Analog Devices                   | AD654JR                    | Newark             | 05F7166             | 4.82              | 4.82            |
| 27                       | comparator                    | 1 *        | CMP200  | Analog Devices                   | CMP402GS                   | Newark             | 52F2158             | *                 |                 |
| 28                       | power splitter                | 1          | J100  | Mini Circuits                    | JSPQ1875-W                 | Advanced<br>Tech   | JSPQ1875-W          | 17.95             | 17.95           |
| 29                       | VCO                           | 1          | JT600   | Mini Circuits                    | JT0S-2000                  | Advanced<br>Tech   | JT0S-2000           | 24.95             | 24.95           |
| 30                       | 8v LDO reg                    | 1          | L200  | National<br>Semiconductor        | LM293OT-8.0                | DigiKey            | LM293OT-8.0-ND      | 1.40              | 1.40            |
| 31                       | 5v reg                        | 1 *        | L201  | Motorola                         | MC78M05CDT                 | Newark             | 07F7474             | *                 |                 |
| 32                       | Freq. Syn.                    | 1          | LMX600  | National<br>Semiconductor        | LMX2325TM                  | DigiKey            | LMX2325TM-ND        | 11.34             | 11.34           |
| 33                       | Mixer                         | 2          | M100<br>M101  | Mini Circuits                    | RMS11F                     | Advanced<br>Tech   | RMS11F              | 6.25              | 12.50           |
| 34                       | Ln opamp                      | 2          | Q101<br>Q102  | Analog Devices                   | AD797AR                    | Newark             | 05F7660             | 7.77              | 15.54           |

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|-----------------------------|-------------------------------|------------|--|---------------------|----------------------------|--------------------|---------------------|-------------------|-----------------|
| <b><u>I.C.'s cont'd</u></b> |                               |            |  |                     |                            |                    |                     |                   |                 |
| 35                          | Hs opamp                      | 4          | Q103<br>Q104<br>Q300<br>Q301   | Analog Devices      | AD8011AR                   | Newark             | 66F1840             | 4.69              | 18.76           |
| 36                          | opamp                         | 2          | Q500<br>Q601   | Analog Devices      | OP27GS                     | Allied             | 630-8990            | 3.15              | 6.30            |
| 37                          | Stamp                         | 1 *        | STP200   | Parallax Inc        | BS1-IC                     | DigiKey            | Stamp1-ND           | *                 |                 |
| <b><u>PC Board</u></b>      |                               |            |  |                     |                            |                    |                     |                   |                 |
|                             |                               | 1          |  | Nashua Circuits     | SRT 2                      |                    |                     | 55.00             | 55.00           |
| <b><u>Resistors</u></b>     |                               |            |  |                     |                            |                    |                     |                   |                 |
| 38                          | 10 ohm, 1/8 watt              | 2          | R611<br>R612   | Panasonic-ECG       | ERJ-8GEYJ100V              | DigiKey            | P10ECT-ND           | 0.08              | 0.16            |
| 39                          | 20 ohm, 1/8 watt              | 3          | R117, R2<br>R603   | Panasonic-ECG       | ERJ-8GEYJ200V              | DigiKey            | P20ECT-ND           | 0.08              | 0.24            |
| 40                          | 27 ohm, 1/8 watt              | 2          | R102<br>R110   | Panasonic-ECG       | ERJ-8GEYJ270V              | DigiKey            | P27ECT-ND           | 0.08              | 0.16            |
| 41                          | 51 ohm, 1/8 watt              | 3          | R100<br>R600<br>R601   | Panasonic-ECG       | ERJ-8GEYJ510V              | DigiKey            | P51ECT-ND           | 0.08              | 0.24            |
| 42                          | 68 ohm, 1/8 watt              | 1          | R301   | Panasonic-ECG       | ERJ-8GEYJ680V              | DigiKey            | P68ECT-ND           | 0.08              | 0.08            |
| 43                          | 100 ohm, 1/8 watt             | 6          | R3<br>R308<br>R313<br>R316<br>R317<br>R602   | Panasonic-ECG       | ERJ-8GEYJ101V              | DigiKey            | P100ECT-ND          | 0.08              | 0.48            |
| 44                          | 120 ohm, 1 watt               | 1          | R203   | Panasonic-ECG       | ERJ-1WYJ121U               | DigiKey            | P120XCT-ND          | 0.87              | 0.87            |
| 45                          | 150 ohm, 1/8 watt             | 1 *        | R1   | Panasonic-ECG       | ERJ-8GEYJ151V              | DigiKey            | P150ECT-ND          | *                 |                 |
| 46                          | 200 ohm, 1/8 watt             | 3          | R101<br>R109<br>R604   | Panasonic-ECG       | ERJ-8GEYJ201V              | DigiKey            | P200ECT-ND          | 0.08              | 0.24            |
| 47                          | 470 ohm, 1/8 watt             | 3          | R107<br>R108<br>R205   | Panasonic-ECG       | ERJ-8GEYJ471V              | DigiKey            | P470ECT-ND          | 0.08              | 0.24            |
| 48                          | 1 K ohm, 1/8 watt             | 25 *       | R103<br>R104<br>R105<br>R106<br>R111<br>R112<br>R113<br>R114<br>R200<br>R204<br>R206<br>R207<br>R208<br>R300<br>R302<br>R304<br>R305<br>R306 | Panasonic-ECG       | ERJ-8GEYJ102V              | DigiKey            | P1.0KECT-ND         | *                 |                 |

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|-------------|-------------------------------|------------|--|---------------------|----------------------------|--------------------|---------------------|-------------------|-----------------|
|             | 1 K ohm cont'd                |            | R310<br>R311<br>R312<br>R502<br>R504<br>R508<br>R512 |                     |                            |                    |                     |                   |                 |
| 49          | 1.2 K ohm, 1/8 watt           | 1          | R607   | Panasonic-ECG       | ERJ-8GEYJ122V              | DigiKey            | P1.2KECT-ND         | 0.08              | 0.08            |
| 50          | 2 K ohm, 1/8 watt             | 2          | R115<br>R503   | Panasonic-ECG       | ERJ-8GEYJ202V              | DigiKey            | P2.0KECT-ND         | 0.08              | 0.16            |
| 51          | 2.2 K ohm, 1/8 watt           | 6          | R202<br>R209<br>R210<br>R211<br>R212<br>R318         | Panasonic-ECG       | ERJ-8GEYJ222V              | DigiKey            | P2.2KECT-ND         | 0.08              | 0.48            |
| 52          | 2.7K ohm, 1/8 watt            | 3          | R116<br>R500<br>R510                                 | Panasonic-ECG       | ERJ-8GEYJ272V              | DigiKey            | P2.7KECT-ND         | 0.08              | 0.24            |
| 53          | 3.6K ohm, 1/8 watt            | 1          | R506   | Panasonic-ECG       | ERJ-8GEYJ362V              | DigiKey            | P3.6KECT-ND         | 0.08              | 0.08            |
| 54          | 5.1K ohm, 1/8 watt            | 6 *        | R201<br>R307<br>R314<br>R608<br>R609<br>R610         | Panasonic-ECG       | ERJ-8GEYJ512V              | DigiKey            | P5.1KECT-ND         | *                 |                 |
| 55          | 10 K ohm, 1/8 watt            | 1 *        | R511   | Panasonic-ECG       | ERJ-8GEYJ103V              | DigiKey            | P10KECT-ND          | *                 |                 |
| 56          | 18 K ohm, 1/8 watt            | 1          | R605   | Panasonic-ECG       | ERJ-8GEYJ183V              | DigiKey            | P18KECT-ND          | 0.08              | 0.08            |
| 57          | 22 K ohm, 1/8 watt            | 1 *        | R606   | Panasonic-ECG       | ERJ-8GEYJ223V              | DigiKey            | P22KECT-ND          | *                 |                 |
| 58          | 51 K ohm, 1/8 watt            | 3          | R309<br>R315<br>R509                                 | Panasonic-ECG       | ERJ-8GEYJ513V              | DigiKey            | P51KECT-ND          | 0.08              | 0.24            |

### Transistors

|    |                      |     |       |               |            |               |               |      |      |
|----|----------------------|-----|-------|---------------|------------|---------------|---------------|------|------|
| 59 | Monolithic Amplifier | 1 * | Q1    | Mini Circuits | MARS6-SM   | Advanced Tech | MARS6-SM      | *    |      |
| 60 | Monolithic Amplifier | 1   | Q600  | Mini Circuits | MARS4-SM   | Advanced Tech | MARS4-SM      | 1.34 | 1.34 |
| 61 | 100 v NPN            | 1   | TR200 | Zetex         | FCX493TA   | DigiKey       | FCX493CT-ND   | 1.05 | 1.05 |
| 62 | 40 v NPN             | 1 * | TR201 | Zetex         | FMMT3904TA | DigiKey       | FMMT3904CT-ND | *    |      |

## B. RECEIVER HARDWARE

### Board Mounting Hardware

|    |  |     |  |                    |              |               |                         |                |                |
|----|--|-----|--|--------------------|--------------|---------------|-------------------------|----------------|----------------|
| 63 | 1" standoffs<br>w/ 4-40 tapped<br>ends             | 4   |  | Johnson Components | 313-2477-032 | DigiKey       | J243-ND                 | 0.38           | 1.52           |
| 64 | 3/8" 4-40<br>binder head screws                    | 8 * |  |                    |              | McMaster Carr | 91793A108               | *              |                |
| 65 | Box, modified per<br>"receiver box" cad<br>drawing | 1   |  | Hammond            | 1590D        | Newark        | 81F3794<br>machine cost | 19.17<br>14.75 | 19.17<br>14.75 |

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|-------------------------------------|------------------------------------|------------|--|---------------------------------------|----------------------------|--------------------|---------------------|-------------------|-----------------|
| <b><u>Box Mounting Hardware</u></b> |                                    |            |  |                                       |                            |                    |                     |                   |                 |
| 66                                  | receiver<br>mounting bar           | 1          |  | see "SRT receiver box"<br>cad drawing |                            |                    | machine cost        | 9.40              | 9.40            |
| 67                                  | 1/2" 10-32 binder<br>head screws   | 2 *        |  |                                       |                            | McMaster Carr      | 91793A829           | *                 |                 |
| 68                                  | 1" 1/4-20 hex bolt                 | 4          |  |                                       |                            | McMaster Carr      | 92240A542           | 0.08              | 0.32            |
| 69                                  | 1/4-20 lockwashers                 | 4          |  |                                       |                            | McMaster Carr      | 92146A029           | 0.05              | 0.20            |
| 70                                  | 1/4-20 nuts                        | 4          |  |                                       |                            | McMaster Carr      | 91845A029           | 0.04              | 0.16            |
| 71                                  | C Band Feedhorn<br>Waveguide Cover | 1          |  | see "waveguide cover"<br>cad drawing  |                            |                    |                     | 6.50              | 6.50            |
| 72                                  | C Band Feed Horn                   | 1          |  | ADL                                   | RP1-C                      | ADL                | RP1-C               | 52.00             | 52.00           |

### **C. FILTER & HARDWARE**

|    |                                  |     |  |  |                        |               |                           |                          |               |
|----|----------------------------------|-----|--|--|------------------------|---------------|---------------------------|--------------------------|---------------|
| 73 | filter                           | 1   |  | K&L Microwave                            | 2FV50-1420 / T71-0 / 0 | K&L Microwave | 2FV50-1420 / T71-0 / C    | 285.00                   | 285.00        |
| 74 | filter mounting bar              | 1   |  | see "filter mounting bar"<br>cad drawing |                        |               |                           | 9.40                     | 9.40          |
| 75 | sma plug, straight               | 3   | 1 used on "srt<br>probe coax ass'y"<br>2 used on "filter<br>to preamp coax<br>ass'y"   | Amphenol                                 | 901-9868-RFX           | Digikey       | ARF 1209<br>assembly cost | 3.10<br>24.00            | 9.30<br>24.00 |
|    |                                  |     |  | see applicable cad drawing               |                        |               | assembly cost             | 24.00                    | 24.00         |
| 76 | ~16" .141 semi ridgid<br>cable   |     | ~9.5" used on "probe<br>coax ass'y"<br>~6.25" used on "filter to<br>preamp coax ass'y" | see applicable cad drawing               |                        |               |                           | 1.75 / ft.<br>1.75 / ft. | 1.35<br>0.91  |
| 77 | 3/8" 4-40 binder<br>head screws  | 2 * |  |  |                        | McMaster Carr | 91793A108                 | *                        |               |
| 78 | 1/2" 10-32 binder<br>head screws | 2 * |  |  |                        | McMaster Carr | 91793A829                 | *                        |               |

### **D. CALIBRATOR**

|    |  |   |  |         |          |               |                         |               |               |
|----|--|---|--|---------|----------|---------------|-------------------------|---------------|---------------|
| 79 | 1.5 rpm 12 v motor,<br>modified per "cal motor,<br>rework" cad drawing | 1 |  | Dayton  | 2L004    | Grainger      | 2L004<br>machine cost   | 33.32<br>7.30 | 33.32<br>7.30 |
| 80 | box, modified per<br>"cal motor box" cad<br>drawing                    | 1 |  | Hammond | 1591VSBK | Newark        | 87F2530<br>machine cost | 6.77<br>13.50 | 6.77<br>13.50 |
| 81 | 8 3/4" diameter<br>Echosorb HR-2                                       | 1 |  |         |          |               |                         |               |               |
| 82 | 18 AWG wire nuts   | 2 |  |         |          | McMaster Carr | 7108K8                  | 0.04          | 0.08          |
| 83 | 5/8" 10-32 binder<br>head screws                                       | 2 |  |         |          | McMaster Carr | 91793A830               | 0.08          | 0.16          |
| 84 | 3/8" 10-32 binder<br>head screws                                       | 3 |  |         |          | McMaster Carr | 91793A827               | 0.07          | 0.21          |
| 85 | 10-32 star washers   | 5 |  |         |          | McMaster Carr | 98449A011               | 0.02          | 0.10          |
| 86 | 10-32 nuts   | 5 |  |         |          | McMaster Carr | 91841A195               | 0.03          | 0.15          |
| 87 | 1 1/2" 6-32 binder<br>head screws                                      | 4 |  |         |          | McMaster Carr | 91793A157               | 0.08          | 0.32          |

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|-------------|--------------------------------------|------------|--|---------------------|----------------------------|--------------------|---------------------|-------------------|-----------------|
| 88          | 1/2" 6-32 screws                     | 4          |  |                     |                            | McMaster Carr      | 91793A151           | 0.05              | 0.2             |
| 89          | 6-32 starwashers                     | 6          |  |                     |                            | McMaster Carr      | 98449A007           | 0.02              | 0.12            |
| 90          | 6-32 flatwashers                     | 4          |  |                     |                            | McMaster Carr      | 92141A007           | 0.02              | 0.08            |
| 91          | 6-32 nuts                            | 6          |  |                     |                            | McMaster Carr      | 91841A007           | 0.03              | 0.18            |
| 92          | 3/4" 4-40 screw                      | 1          |  |                     |                            | McMaster Carr      | 91793A113           | 0.04              | 0.04            |
| 93          | 4-40 starwasher                      | 1 *        |  |                     |                            | McMaster Carr      | 98449A005           | *                 |                 |
| 94          | 4-40 flatwashers                     | 2          |  |                     |                            | McMaster Carr      | 92141A005           | 0.01              | 0.02            |
| 95          | 4-40 nut                             | 1 *        |  |                     |                            | McMaster Carr      | 91841A005           | *                 |                 |
| 96          | 1" 3/8-16 hex bolt                   | 1          |  |                     |                            | McMaster Carr      | 93190A624           | 0.33              | 0.33            |
| 97          | 3/8" starwashers                     | 2          |  |                     |                            | McMaster Carr      | 95795A029           | 0.11              | 0.22            |
| 98          | 2" long 6-32 tapped<br>hex standoffs | 2          |  | Keystone            | 2214                       | Newark             | 89F1929             | 0.90              | 1.80            |
| 99          | 8" tiewraps                          | 4          |  | Richco Plastic Co.  | WIT-18V-UVBM               | Digikey            | RP203-ND            | 0.04              | 0.16            |

### Machined Parts

|     |                                    |   |  |  |  |  |              |       |       |
|-----|------------------------------------|---|--|--|--|--|--------------|-------|-------|
| 100 | L Band outer<br>circular shield    | 1 |  | see "L-band probe<br>modification to satellite<br>tv feed" cad drawing |  |  | machine cost | 15.00 | 15.00 |
| 101 | calibrator motor<br>shaft          | 1 |  | see "shaft, cal motor"<br>cad drawing                                  |  |  | machine cost | 14.50 | 14.50 |
| 102 | calibrator motor<br>mounting plate | 1 |  | see "cal motor mtg plate"<br>cad drawing                               |  |  | machine cost | 6.45  | 6.45  |
| 103 | load frame                         | 1 |  | see "srt load frame"<br>cad drawing                                    |  |  | machine cost | 15.00 | 15.00 |
| 104 | load bracket                       | 1 |  | see "srt load bracket"<br>cad drawing                                  |  |  | machine cost | 8.35  | 8.35  |
| 105 | load strap                         | 1 |  | see "srt load strap"<br>cad drawing                                    |  |  | machine cost | 7.35  | 7.35  |
| 106 | load reinforcement<br>plate        | 1 |  | see "srt load reinforcement<br>plate" cad drawing                      |  |  | machine cost | 6.45  | 6.45  |

## E. GROUND UNIT - BOARD ONLY

### Capacitors

|     |       |     |              |               |               |         |              |   |  |
|-----|-------|-----|--------------|---------------|---------------|---------|--------------|---|--|
| 107 | .1uf  | 2 * | C402<br>C403 | Panasonic-ECG | ECU-V1H104KBW | Digikey | PCC104BCT-ND | * |  |
| 108 | 10 uf | 2 * | C400<br>C401 | Panasonic-ECG | ECS-T1ED106R  | Digikey | PCS5106CT-ND | * |  |

### Connectors

|     |           |     |     |     |          |         |           |   |  |
|-----|-----------|-----|-----|-----|----------|---------|-----------|---|--|
| 109 | 3 pin SIP | 1 * | PGM | AMP | 644456-3 | Digikey | A19351-ND | * |  |
|-----|-----------|-----|-----|-----|----------|---------|-----------|---|--|

### I.C.'s

|     |                                    |     |                         |                      |            |         |              |       |       |
|-----|------------------------------------|-----|-------------------------|----------------------|------------|---------|--------------|-------|-------|
| 110 | H Bridge                           | 3   | AZ-HB<br>EL-HB<br>LD-HB | National Semiconduct | LMD18200T  | Digikey | LMD18200T-ND | 23.55 | 70.65 |
| 111 | 5v reg                             | 1 * | L400                    | Motorola             | MC78M05CDT | Newark  | 07F7474      | *     |       |
| 112 | 3 terminal adjustable<br>regulator | 1   | L401                    | Motorola             | LM317BD2T  | Newark  | 01F2148      | 0.98  | 0.98  |

\* Indicates part found in multiple locations. See section I for total count.  
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| <u>Item</u>                 | <u>Value/<br/>description</u> | <u>Qty</u> | <u>Location / PCB part<br/>reference #</u>   | <u>Manufacturer</u> | <u>Manufacturer part #</u> | <u>Distributor</u> | <u>Dist. Part #</u> | <u>Unit Price</u> | <u>Subtotal</u> |
|-----------------------------|-------------------------------|------------|--|---------------------|----------------------------|--------------------|---------------------|-------------------|-----------------|
| <b><u>I.C.'s cont'd</u></b> |                               |            |  |                     |                            |                    |                     |                   |                 |
| 113                         | comparator                    | 1 *        | Q400   | Analog Devices      | CMP402GS                   | Newark             | 52F2158             | *                 |                 |
| 114                         | Stamp                         | 1 *        | Stamp1                                       | Parallax Inc        | BS1-IC                     | DigiKey            | Stamp1-ND           | *                 |                 |
| 115                         | <b><u>PC Board</u></b>        | 1          |  | Nashua Circuits     | Srt Ground Controller 2    |                    |                     | 55.00             | 55.00           |
| <b><u>Resistors</u></b>     |                               |            |  |                     |                            |                    |                     |                   |                 |
| 116                         | 20 ohm, 1 watt                | 1          | R405   | Panasonic-ECG       | ERJ-1WYJ200U               | Digikey            | P20XCT-ND           | 0.88              | 0.88            |
| 117                         | 150 ohm, 1/8 watt             | 1 *        | R417   | Panasonic-ECG       | ERJ-8GEYJ151V              | DigiKey            | P150ECT-ND          | *                 |                 |
| 118                         | 240 ohm, 1/8 watt             | 1          | R404   | Panasonic-ECG       | ERJ-8GEYJ241V              | DigiKey            | P240ECT-ND          | 0.08              | 0.08            |
| 119                         | 200 ohm, 2 watt               | 1          | R419   | Panasonic-ECG       | ERG-2S2J201                | DigiKey            | P200W-2BK-ND        | 0.27              | 0.27            |
| 120                         | 1 K ohm, 1/8 watt             | 6 *        | R400<br>R408<br>R409<br>R410<br>R412<br>R414 | Panasonic-ECG       | ERJ-8GEYJ102V              | DigiKey            | P1.0KECT-ND         | *                 |                 |
| 121                         | 3.9K ohm, 1/8 watt            | 1          | R406   | Panasonic-ECG       | ERJ-8GEYJ392V              | Digikey            | P3.9KECT-ND         | 0.08              | 0.08            |
| 122                         | 4.3K ohm, 1/8 watt            | 1          | R407   | Panasonic-ECG       | ERJ-8GEYJ432V              | Digikey            | P4.3KECT-ND         | 0.08              | 0.08            |
| 123                         | 5.1K ohm, 1/8 watt            | 2 *        | R413<br>R415                                 | Panasonic-ECG       | ERJ-8GEYJ512V              | DigiKey            | P5.1KECT-ND         | *                 |                 |
| 124                         | 10 K ohm, 1/8 watt            | 2 *        | R401<br>R402                                 | Panasonic-ECG       | ERJ-8GEYJ103V              | DigiKey            | P10KECT-ND          | *                 |                 |
| 125                         | 13K ohm, 1/8 watt             | 1          | R403   | Panasonic-ECG       | ERJ-8GEYJ133V              | DigiKey            | P13KECT-ND          | 0.08              | 0.08            |
| 126                         | 22 K ohm, 1/8 watt            | 1 *        | R416   | Panasonic-ECG       | ERJ-8GEYJ223V              | DigiKey            | P22KECT-ND          | *                 |                 |
| <b><u>Transistors</u></b>   |                               |            |  |                     |                            |                    |                     |                   |                 |
| 127                         | 40V NPN                       | 2 *        | TR400<br>TR401                               | Zetex               | FMMT3904TA                 | Digikey            | FMMT3904CT-ND       | *                 |                 |

## **F. GROUND UNIT HARDWARE**

|     |                                     |      |          |                    |              |               |           |      |      |
|-----|-------------------------------------|------|----------|--------------------|--------------|---------------|-----------|------|------|
| 128 | 1" 4-40 binder head screw           | 0    | not used |                    |              | McMaster Carr | 91793A115 | 0.05 | 0    |
| 129 | 1/2" 4-40 binder head screws        | 10   |          |                    |              | McMaster Carr | 91793A110 | 0.04 | 0.4  |
| 130 | 1/4" 4-40 binder head screws        | 15   |          |                    |              | McMaster Carr | 91793A106 | 0.03 | 0.45 |
| 131 | 4-40 starwashers                    | 10 * |          |                    |              | McMaster Carr | 98449A005 | *    |      |
| 132 | 4-40 nuts                           | 9*   |          |                    |              | McMaster Carr | 91841A005 | *    |      |
| 133 | 1/2" 4-40 tapped circular standoffs | 8    |          | Johnson Components | 313-2477-016 | Digikey       | J241-ND   | 0.23 | 1.84 |
| 134 | 1/2" insulated standoff             | 0    | not used | Johnson Components | 314-1431-016 | Digikey       | J235-ND   | 0.11 | 0    |

\* Indicates part found in multiple locations. See section I for total count.  
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| <u>Item</u>  | <u>Value/<br/>description</u>                     | <u>Qty</u> | <u>Location / PCB part<br/>reference #</u> | <u>Manufacturer</u>                                | <u>Manufacturer part #</u> | <u>Distributor</u>                                | <u>Dist. Part #</u> | <u>Unit Price</u> | <u>Subtotal</u> |
|--------------|---|------------|--|--|----------------------------|---|---------------------|-------------------|-----------------|
| <b>Misc.</b> |   |            |  |  |                            |   |                     |                   |                 |
| 135          | box   | 1          |  | Hammond  | 1444-16                    | Newark  | 95F2611             | 13.58             | 13.58           |
| 136          | D-sub recp, 9 pin                                 | 1          |  | Amp  | 747905-2                   | fabricated, less cover, add additional<br>Digikey | A2047-ND            | 8.92<br>2.39      | 8.92<br>2.39    |
| 137          | Fconn   | 1 *        |  | Cui Stack  | BA-1010                    | DigiKey   | CP-1010-ND          | *                 |                 |
| 138          | 3/8" ID grommet                                   | 1          |  | Richco   | HG-6                       | Digikey   | RP455-ND            | 0.32              | 0.32            |
| 139          | 1/4" hold down                                    | 1          |  | Richco   | N-4-BK                     | Digikey   | RP325-ND            | 0.08              | 0.08            |
| 140          | circular plastic<br>connector (CPC),<br>9 contact | 1          |  | Amp  | 206705-1                   | Newark  | 44F8389             | 1.99              | 1.99            |
| 141          | male pins   | 9          |  | Amp  | 1-66361-0                  | Allied  | 512-1297            | 0.19              | 1.71            |
| 142          | LED   | 1          |  | Chicago Miniture                                   | 5100H1                     | Digikey   | L10001-ND           | 1.62              | 1.62            |
| 143          | switch, spdt                                      | 1          |  | C&K Components                                     | 7101P3YZQE                 | Digikey   | CKN1019-ND          | 4.65              | 4.65            |
| 144          | 24 volt power supply                              | 1          |  | Cosel  | LDA100W-24                 | Allied  | 800-0130            | 115.42            | 115.42          |
| 145          | power cord  | 1          |  | Belden   | 17237-B1-8                 | Newark  | 36F1821             | 2.80              | 2.80            |
| 146          | box cover   | 1          |  | see "SRT Ground Box<br>Rework & Cover" cad drawing |                            |   |                     |                   |                 |
| 147          | rubber feet                                       | 4          |  | Electronic Specialty<br>Markets \ 3M               | SJ-5523                    | Digikey   | SJ5523-0            | 0.20              | 0.80            |

### G. CABLES & CONNECTORS

|     |                            |                              |  |                        |           |         |            |                        |              |
|-----|----------------------------|------------------------------|--|------------------------|-----------|---------|------------|------------------------|--------------|
| 148 | 9 conductor, 16 AWG        | 1 - 100 ft                   | ground box<br>cable  | Belden                 | 9621      | Newark  | 02F5348    | 133.85                 | 133.85       |
| 149 | cable end CPC<br>9 contact | 1                            | ground box<br>cable  | AMP                    | 206708-1  | Newark  | 44F8388    | 2.56                   | 2.56         |
| 150 | strain relief              | 1                            | ground box<br>cable  | AMP                    | 206966-1  | Newark  | 44F8395    | 3.08                   | 3.08         |
| 151 | sockets                    | 9                            | ground box<br>cable  | AMP                    | 1-66360-0 | Allied  | 512-1325   | 0.22                   | 1.98         |
| 152 | RG-59                      | 1 - 125 ft<br>or<br>2-125 ft | for I/O cable<br>only<br>if connecting<br>video test cable | Belden                 | 1505A     | Newark  | 04F4520    | 155.25<br>.3105 per ft | 77.63        |
| 153 | cable end f conn           | 2<br>or<br>4                 | for I/O cable<br>only<br>if connecting<br>video test cable | CUI Stack              | BA 0410   | Digikey | CP-0410-ND | 0.44                   | 0.88<br>0.88 |
| 154 | 2 conductor, 18 gauge      | 1 - 25 ft                    | calibrator cable   | Belden                 | 8461      | Newark  | 02F5270    | .17 per ft             | 4.24         |
| 155 | DB9M-DB9F, 2M long         | 1                            | D sub computer cable                                       | Assmann Electronics II | AK131-2   | Digikey | AE1020-ND  | 5.35                   | 5.35         |

\* Indicates part found in multiple locations. See section I for total count.

## H. PREAMP

| <u>Item</u>               | <u>Value/<br/>description</u>                        | <u>Qty</u> | <u>Location / PCB part<br/>reference #</u> | <u>Manufacturer</u> | <u>Manufacturer part #</u> | <u>Distributor</u> | <u>Dist. Part #</u>     | <u>Unit Price</u> | <u>Subtotal</u> |
|---------------------------|--|------------|--|---------------------|----------------------------|--------------------|-------------------------|-------------------|-----------------|
| <b><u>Capacitors</u></b>  |  |            |  |                     |                            |                    |                         |                   |                 |
| 156                       | 2 pf   | 1          | C1   | Panasonic-ECG       | ECU-V1H020CCN              | Digikey            | PCC020CNCT-ND           | 0.07              | 0.07            |
| 157                       | 10 pf  | 2          | C2<br>C5                                   | Panasonic-ECG       | ECU-V1H100DCN              | Digikey            | PCC100CNCT-ND           | 0.07              | 0.14            |
| 158                       | 33 pf  | 1          | C3   | Panasonic-ECG       | ECU-V1H330JCG              | Digikey            | PCC330CGCT-ND           | 0.07              | 0.07            |
| 159                       | 10,000 pf  | 2          | C4<br>C6                                   | Panasonic-ECG       | ECU-V1H103KBG              | Digikey            | PCC103BNCT-ND           | 0.08              | 0.16            |
| <b><u>Connectors</u></b>  |  |            |  |                     |                            |                    |                         |                   |                 |
| 160                       | SMA, end launch                                      | 1          | CN1  | Johnson Components  | 142-0701-871               | Allied             | 528-1996                | 9.60              | 9.60            |
| 161                       | PCB Fconn  | 1 *        | CN2  | Cui Stack           | BA-1210                    | DigiKey            | CP-1210-ND              | *                 |                 |
| <b><u>Filters</u></b>     |  |            |  |                     |                            |                    |                         |                   |                 |
| 162                       | 1420 MHZ ceramic filter                              | 1          | F1   | K&L Microwave       | 3DR25-1420 / T40-1.6       | K&L Microwave      | 3DR25-1420 / T40-1.6    | 50.00             | 50.00           |
| <b><u>Inductors</u></b>   |  |            |  |                     |                            |                    |                         |                   |                 |
| 163                       | 39nH   | 1 *        | L2   | Panasonic-ECG       | ELJ-RF39NJF                | DigiKey            | PCD1283CT-ND            | *                 |                 |
| 164                       | <b><u>PC Board</u></b>                               | 1          |  | Nashua Circuits     | SRT PREAMP 2A              |                    |                         | 20.00             | 20.00           |
| <b><u>Resistors</u></b>   |  |            |  |                     |                            |                    |                         |                   |                 |
| 165                       | 51 ohm, 1/10 watt                                    | 1          | R1   | Panasonic-ECG       | ERJ-6GEYJ510               | DigiKey            | P51ACT-ND               | 0.08              | 0.08            |
| 166                       | 100 ohm, 1/10 watt                                   | 1          | R3   | Panasonic-ECG       | ERJ-6GEYJ101               | DigiKey            | P100ACT-ND              | 0.08              | 0.08            |
| 167                       | 200 ohm, 1/10 watt                                   | 1          | R2   | Panasonic-ECG       | ERJ-6GEYJ201               | DigiKey            | P200ACT-ND              | 0.08              | 0.08            |
| <b><u>Transistors</u></b> |  |            |  |                     |                            |                    |                         |                   |                 |
| 168                       | PHEMT  | 1          | Q1   | Hewlett Packard     | ATF-34143                  | Newark             | 92B7273                 | 4.95              | 4.95            |
| 169                       | Monolithic Amplifier                                 | 1 *        | Q2   | Mini Circuits       | MARS6-SM                   | Advanced Tech      | MARS6-SM                | *                 |                 |
| <b><u>Misc.</u></b>       |  |            |  |                     |                            |                    |                         |                   |                 |
| 170                       | box, modified per "SRT<br>PREAMP BOX" cad<br>drawing | 1          |  | Pomona              | 3754                       | Newark             | 34F1263<br>machine cost | 8.35<br>8.50      | 8.35<br>8.50    |
| 171                       | F conn adapter,<br>male / male                       | 1          |  | Cui Stack           | BA-2010                    | DigiKey            | CP-2010-ND              | 1.24              | 1.24            |

\* Indicates part found in multiple locations. See section I for total count.  
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**I. COMMON PARTS COUNT**

| <u>Description</u>        | <u>Distributor</u> | <u>Distributor part #</u> | <u>Section A<br/>Receiver Subtotal</u> | <u>Section E<br/>Ground unit subtotal</u> | <u>Section H<br/>Preamp subtotal</u> | <u>TOTAL</u> | <u>Unit Price</u> | <u>Subtotal</u> |
|---------------------------|--------------------|---------------------------|--|---|--------------------------------------|--------------|-------------------|-----------------|
| <b><u>Capacitors</u></b>  |                    |                           |  |   |                                      |              |                   |                 |
| .1 uf                     | Digikey            | PCC104BCT-ND              | 8 (Item # 12)                          | 2 (Item # 107)                            |                                      | 10           | 0.28              | 2.80            |
| 10 uf                     | Digikey            | PCS5106CT-ND              | 15 (Item # 14)                         | 2 (Item # 108)                            |                                      | 17           | 0.81              | 13.77           |
| <b><u>Connectors</u></b>  |                    |                           |  |   |                                      |              |                   |                 |
| 3 pin SIP                 | Digikey            | A19351-ND                 | 1 (Item # 16)                          | 1 (Item # 109)                            |                                      | 2            | 0.23              | 0.46            |
| F conn                    | Digikey            | CP-1010-ND                | 2 (Item # 17)                          | 1 (Item # 137)                            |                                      | 3            | 0.53              | 1.59            |
| PCB F conn                | Digikey            | CP-1210-ND                | 1 (Item # 18)                          |   | 1 (Item # 161)                       | 2            | 0.77              | 1.54            |
| <b><u>Inductors</u></b>   |                    |                           |  |   |                                      |              |                   |                 |
| 39 nH                     | Digikey            | PCD1283CT-ND              | 1 (Item # 25)                          |   | 1 (Item # 163)                       | 2            | 0.60              | 1.20            |
| <b><u>I.C.'s</u></b>      |                    |                           |  |   |                                      |              |                   |                 |
| comparator, 402GS         | Newark             | 52F2158                   | 1 (Item # 27)                          | 1 (Item # 113)                            |                                      | 2            | 6.65              | 13.30           |
| 5 v reg                   | Newark             | 07F7474                   | 1 (Item # 31)                          | 1 (Item # 111)                            |                                      | 2            | 0.71              | 1.42            |
| Stamp                     | Digikey            | Stamp1-ND                 | 1 (Item # 37)                          | 1 (Item # 114)                            |                                      | 2            | 34.00             | 68.00           |
| <b><u>Resistors</u></b>   |                    |                           |  |   |                                      |              |                   |                 |
| 150 ohm, 1/8 watt         | Digikey            | P150ECT-ND                | 1 (Item # 45)                          | 1 (Item # 117)                            |                                      | 2            | 0.08              | 0.16            |
| 1 K ohm, 1/8 watt         | Digikey            | P1.0KECT-ND               | 25 (Item # 48)                         | 6 (Item # 120)                            |                                      | 31           | 0.08              | 2.48            |
| 5.1 K ohm, 1/8 watt       | Digikey            | P5.1KECT-ND               | 6 (Item # 54)                          | 2 (Item # 123)                            |                                      | 8            | 0.08              | 0.64            |
| 10 K ohm, 1/8 watt        | Digikey            | P10KECT-ND                | 1 (Item # 55)                          | 2 (Item # 124)                            |                                      | 3            | 0.08              | 0.24            |
| 22 K ohm, 1/8 watt        | Digikey            | P22KECT-ND                | 1 (Item # 57)                          | 1 (Item # 126)                            |                                      | 2            | 0.08              | 0.16            |
| <b><u>Transistors</u></b> |                    |                           |  |   |                                      |              |                   |                 |
| MARS 6-SM                 | Advanced Tech      | MARS6-SM                  | 1 (Item # 59)                          |   | 1 (Item # 169)                       | 2            | 1.21              | 2.42            |
| FMMT3904                  | Digikey            | FMMT3904CT-ND             | 1 (Item # 62)                          | 2 (Item # 127)                            |                                      | 3            | 0.36              | 1.08            |

**HARDWARE**

| <u>Description</u>          | <u>Distributor /<br/>Part #</u> | <u>Section B<br/>Receiver Hardware</u> | <u>Section C<br/>Filter &amp; Hardware</u> | <u>Section D<br/>Calibrator</u> | <u>Section F<br/>Ground Unit</u> | <u>Total</u> |      |                |
|-----------------------------|---------------------------------|--|--|---------------------------------|----------------------------------|--------------|------|----------------|
| 3/8" 4-40 binderhead screw  | McMaster Carr<br>91793A108      | 8 (Item # 64)                          | 2 (Item # 77)                              |                                 |                                  | 10           | 0.03 | 0.30           |
| 1/2" 10-32 binderhead screw | McMaster Carr<br>91793A829      | 2 (Item # 67)                          | 2 (Item # 78)                              |                                 |                                  | 4            | 0.08 | 0.32           |
| 4-40 starwashers            | McMaster Carr<br>98449A005      |  |  | 1 (Item # 93)                   | 10 (Item # 131)                  | 11           | 0.02 | 0.22           |
| 4-40 nuts                   | McMaster Carr<br>91841A005      |  |  | 1 (Item # 95)                   | 10 (Item # 132)                  | 11           | 0.02 | 0.22           |
| <b><u>Grand Total</u></b>   |                                 |  |  |                                 |                                  |              |      | <b>1554.87</b> |