

### 6.3 Hardware Schematic – Transimpedance Configuration

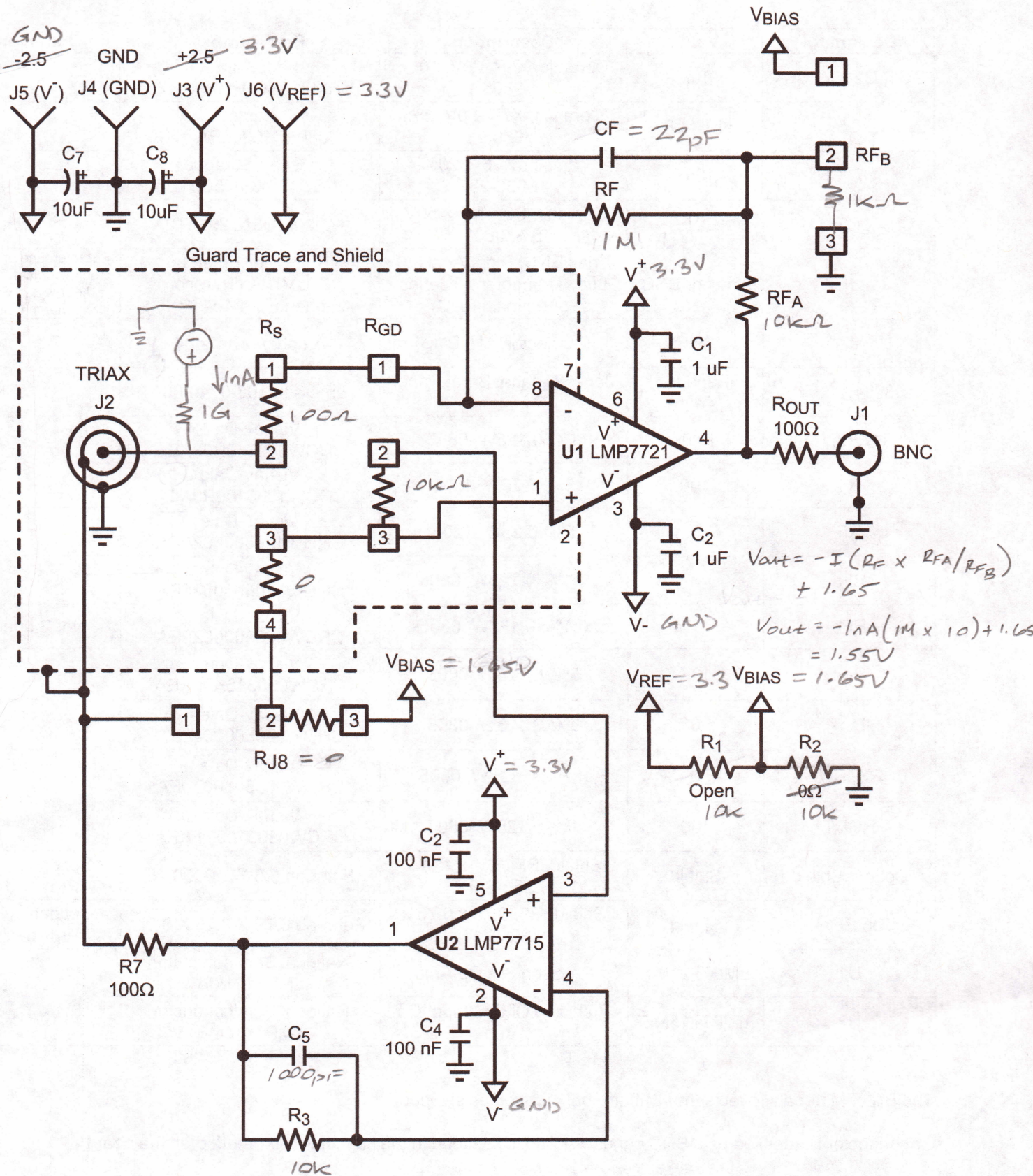


Figure 11. LMP7721 Transimpedance Configuration Schematic (GND referenced)

## 7.0 Bill of Materials

| Designator     | Value        | Description                                                        | Part Number                                                      | Comment                                                                          |
|----------------|--------------|--------------------------------------------------------------------|------------------------------------------------------------------|----------------------------------------------------------------------------------|
| C1, C2, C4, C6 | 1uF          | Ceramic, X5R, 25V, 10%, 0805                                       | MuRata<br>GRM216R61E105KA12D                                     |                                                                                  |
| C5             | 1000pF       | Ceramic, X7R, 50V, 5%, 0805                                        | Kemet<br>C0805C102J5RACTU                                        |                                                                                  |
| C7, C8         | 10uF         | Tantalum, 25V, 20%, 6032-28                                        | Vishay-Sprague<br>293D106X0025C2TE3                              |                                                                                  |
| CF             | DNS          | Ceramic, C0G/NP0, 50V, 5%, 0603                                    | AVX 06035A220JAT2A                                               |                                                                                  |
| J1             | Triax or BNC | Triax BNC, Right Angle, 3 Lug, Trompeter 70 series or optional BNC | Trompeter-Emerson<br>CBJR70A (Triax) or<br>Amphenol 112404 (BNC) | For reference only. Connector identical to J2 provided with kit but not mounted. |
| J2             | BNC          | Connector, TH, BNC,                                                | Amphenol 112404                                                  |                                                                                  |
| J3, J4, J5, J6 | Banana, 4mm  | Jack, Banana, Bare, Panel Mount                                    | Emerson 108-0740-001                                             |                                                                                  |
| R1, R2, R3     | 10.0k        | 1%, 0.125W, 0805                                                   | Vishay-Dale<br>CRCW080510K0FKEA                                  |                                                                                  |
| R4             | 100          | 5%, 0.25W, 1206                                                    | Vishay-Dale<br>CRCW1206100RJNEA                                  |                                                                                  |
| RF             | 0            | 5%, 0.25W, 1206                                                    | Vishay-Dale<br>CRCW12060000Z0EA                                  |                                                                                  |
| RFa            | 0            | 0.1%, 0.125W, 0805                                                 | Vishay-Dale<br>CRCW08050000Z0EA                                  |                                                                                  |
| RFb            | Open         | 0.1%, 0.125W, 0805                                                 | Vishay-Dale<br>CRCW08050000Z0EA                                  | Not Stuffed                                                                      |
| Rgd            | 10K          | 5%, 0.125W, 0603                                                   | Vishay-Dale<br>CRCW060310K0FKEA                                  |                                                                                  |
| RJ8            | 0            | 5%, 0.125W, 0805                                                   | Vishay-Dale<br>CRCW08050000Z0EA                                  |                                                                                  |
| RS, RS'        | 0            | 0.1%, 0.125W, 0805                                                 | Vishay-Dale<br>CRCW08050000Z0EA                                  |                                                                                  |
| ROUT           | 100          | 1%, 0.125W, 0805                                                   | Vishay-Dale<br>CRCW0805100RFKEA                                  |                                                                                  |
| Bottom Shield  | Shield       | Shield, RF, 0.5" x 1.0" x 0.25", SMT                               | FotoFab 0.5 X 1.0 X 0.25                                         | Optional. Not Provided.                                                          |
| Top Shield     | Shield       | Shield, RF, 0.75 x 0.75 x 0.25, SMT                                | FotoFab 0.75 X 0.75 X 0.25                                       | Optional. Not Provided.                                                          |
| U1             | LMP7721MA    | Precision 3fA Op Amp                                               | National Semiconductor<br>LMP7721MA                              |                                                                                  |
| U2             | LMP7715MF    | Precision CMOS Input Op Amp                                        | National Semiconductor<br>LMP7715MF                              |                                                                                  |

The Bill of Materials reflects the "Buffer" configuration as shipped.

J1 connector is supplied as a BNC connector and is included in the kit, but is NOT stuffed on the board.