

EXTRACELLULAR AMPLIFIER CONVENTIONS (SOP 63)

16-channel multi-wire electrode FET buffer amplifier

Headstage connectors (2 - 10 pin connectors)

| | | | | | | | | | |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|-----------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| FET | FET | FET | FET | FET | FET | FET | FET | Gnd | FET |
| Chan 1 | Chan 2 | Chan 3 | Chan 4 | Chan 5 | Chan 6 | Chan 7 | Chan 8 | Gnd | Ref 1 |

| | | | | | | | | | |
|-----------|------------|------------|------------|------------|------------|------------|------------|----------|-----------|
| Chan 9 | Chan 10 | Chan 11 | Chan 12 | Chan 13 | Chan 14 | Chan 15 | Chan 16 | Gnd | Ref 2 |
| FET | FET | FET | FET | FET | FET | FET | FET | Gnd | FET |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

DB25P connections¹

| | | | | | | | | | | | |
|------------|------------|------------|------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------------|
| 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| Chan 13 | Chan 14 | Chan 15 | Chan 16 | N.C. | N.C. | Ref 1 | Ref 2 | N.C. | N.C. | N.C. | V _{DD} |

| | | | | | | | | | | | | |
|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|
| Gnd | Chan 1 | Chan 2 | Chan 3 | Chan 4 | Chan 5 | Chan 6 | Chan 7 | Chan 8 | Chan 9 | Chan 10 | Chan 11 | Chan 12 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |

DB9P/S connections (after differential preamp)

| | | | |
|-----------|-----------|-----------|-----------|
| 6 | 7 | 8 | 9 |
| Chan 5 | Chan 6 | Chan 7 | Chan 8 |

| | | | | |
|----------|-----------|-----------|-----------|-----------|
| Gnd | Chan 1 | Chan 2 | Chan 3 | Chan 4 |
| 1 | 2 | 3 | 4 | 5 |

| | | | |
|------------|------------|------------|------------|
| 6 | 7 | 8 | 9 |
| Chan 13 | Chan 14 | Chan 15 | Chan 16 |

| | | | | |
|----------|-----------|------------|------------|------------|
| Gnd | Chan 9 | Chan 10 | Chan 11 | Chan 12 |
| 1 | 2 | 3 | 4 | 5 |

¹ Modified from Larry Andrews' design (NB Labs, 1918 Avenue A, Denison, TX 75020)

| Output from headstage (2 x 10 pin μ -strip) | | | "Typical" Label | Input to differential pre-amps (DB-25) | |
|--|-------|-----------------------|--------------------|---|------------|
| 0 | C1-1 | ground | | P1-1 | |
| 1 | C1-2 | FET (source follower) | ctx 1a | P1-2 | Channel 1 |
| 2 | C1-3 | FET | ctx 1b | P1-3 | Channel 2 |
| 3 | C1-4 | FET | ctx 2a | P1-4 | Channel 3 |
| 4 | C1-5 | FET | ctx 2b | P1-5 | Channel 4 |
| 5 | C1-6 | FET | ctx 3a | P1-6 | Channel 5 |
| 6 | C1-7 | FET | ctx 3a | P1-7 | Channel 6 |
| 7 | C1-8 | FET | r_emg a | P1-14 | Channel 13 |
| 8 | C1-9 | FET | r_emg b | P1-15 | Channel 14 |
| 9 | C1-10 | FET | ctx ref | P1-21 | REF 2 |
| 10 | C2-1 | ground | | P1-24 | |
| 11 | C2-2 | FET | ctx 4a | P1-8 | Channel 7 |
| 12 | C2-3 | FET | ctx 4b | P1-9 | Channel 8 |
| 13 | C2-4 | FET | ctx 5a | P1-10 | Channel 9 |
| 14 | C2-5 | FET | ctx 5b | P1-11 | Channel 10 |
| 15 | C2-6 | FET | ctx 6a | P1-12 | Channel 11 |
| 16 | C2-7 | FET | ctx 6a | P1-13 | Channel 12 |
| 17 | C2-8 | FET | l_emg a | P1-16 | Channel 15 |
| 18 | C2-9 | FET | l_emg b | P1-17 | Channel 16 |
| 19 | C2-10 | FET | emg ref | P1-20 | REF 1 |
| | | V_{DD} | | P1-25 | |
| | | | | P1-18 | stim 1 |
| | | | | P1-19 | stim 2 |
| | | | | P1-22 | stim 3 |
| | | | | P1-23 | stim 4 |