



|              |       |           |             |            |            |             |         |                   |
|--------------|-------|-----------|-------------|------------|------------|-------------|---------|-------------------|
|              |       | Input (V) | Digital Val | V/Bit      | V/M/S      | M/S/bit     |         |                   |
| Chan 1 (Z)   | Pos   | 4.5281    | 3448259     |            |            |             |         |                   |
|              | Neg   | -4.5282   | -3688983    |            |            |             |         |                   |
|              | Total | 9.0563    | 7137242     | 1.269E-6   | 1589       | 798.540E-12 |         |                   |
| Chan 2 (N)   | Pos   | 4.5279    | 3428611     |            |            |             |         |                   |
|              | Neg   | -4.5281   | -3669935    |            |            |             |         |                   |
|              | Total | 9.056     | 7098546     | 1.276E-6   | 1607       | 793.873E-12 |         |                   |
| Chan 3 (E)   | Pos   | 4.5275    | 3415924     |            |            |             |         |                   |
|              | Neg   | -4.5277   | -3650067    |            |            |             |         |                   |
|              | Total | 9.0552    | 7065991     | 1.282E-6   | 1622       | 790.086E-12 |         |                   |
| Mux Chan Cal |       |           |             |            |            |             |         |                   |
| Chan No      |       | Vin       |             | Pos Counts | Neg Counts | V/Bit       |         |                   |
| 0            |       | Value     | #VALUE!     | Value      | Value      | #VALUE!     |         | average of aux ir |
| 1            |       | Value     | #VALUE!     | Value      | Value      | #VALUE!     |         |                   |
| 2            |       | Value     | #VALUE!     | Value      | Value      | #VALUE!     |         |                   |
| 3            |       | Value     | #VALUE!     | Value      | Value      | #VALUE!     |         |                   |
| 4            |       | Value     | #VALUE!     | Value      | Value      | #VALUE!     |         |                   |
| 5            |       | Value     | #VALUE!     | Value      | Value      | #VALUE!     |         |                   |
| 6            |       | Value     | #VALUE!     | Value      | Value      | #VALUE!     |         |                   |
| 7            |       | Value     | #VALUE!     | Value      | Value      | #VALUE!     | V/M/S/S | M/S/S/Bit         |
| Z Mass 8     |       | 4.5675    | 9.135       | 16383      | -15902     | 282.949E-6  | 18.5    | 15.295E-6         |
| N Mass 9     |       | 4.5666    | 9.1332      | 16383      | -15927     | 282.674E-6  | 16.2    | 17.449E-6         |
| E Mass 10    |       | 4.565     | 9.13        | 16383      | -15824     | 283.479E-6  | 16.7    | 16.975E-6         |
|              |       | counts    | Deg K       |            |            |             |         |                   |
| temperature  |       | 23425     | 293.4       | 12.525E-3  |            |             |         |                   |

## CMG-40T CALIBRATION SHEET

WORKS ORDER: 0807                      DATE: 19/11/98  
SERIAL NUMBER: T4712                      TESTED BY: SDG

|             | Velocity<br>Output<br>V/m/s<br>(Differential) | Mass Position<br>Output<br>(Acceleration<br>output)<br>V/m/s <sup>2</sup> | Feedback Coil<br>Constant<br>Amp/m/s <sup>2</sup> |
|-------------|---|---|---|
| VERTICAL    | 2 x 1589                                      | 18.5  | 0.003935  |
| NORTH/SOUTH | 2 x 1607                                      | 16.2  | 0.003458  |
| EAST/WEST   | 2 x 1622                                      | 16.7  | 0.003557  |

Power Consumption: 70 mA @ + 12 V input  
Calibration Resistor: 10 K

NOTE: A factor of 2 x must be used when the sensor outputs are used differentially (also known as push-pull or balanced output). Under no conditions should the negative outputs be connected to the signal ground. A separate signal ground pin is provided.

## POLES AND ZERO TABLE

WORKS ORDER NUMBER:0807

SENSOR SERIAL NO: T4712

Velocity response output, Vertical Sensor:

| <u>POLES (HZ)</u>                                | <u>ZEROS HZ</u> |
|--|-----------------|
| $-23.56 \times 10^{-3} \pm 23.56 \times 10^{-3}$ | 0               |
| -50  | 0               |
|  | 159             |

Normalizing factor at 1 Hz: A = -0.314

Sensor Sensitivity: See Calibration Sheet.

Velocity response output, Horizontal Sensors:

| <u>POLES (HZ)</u>                                | <u>ZEROS (HZ)</u> |
|--|-------------------|
| $-23.56 \times 10^{-3} \pm 23.56 \times 10^{-3}$ | 0                 |
| -50  | 0                 |
|  | 159               |

Normalizing factor at 1 Hz: A = -0.314

Sensor Sensitivity: See Calibration Sheet.

**NOTE:** The above poles and zeros apply to the vertical and the horizontal sensors and are given in units of Hz. To convert to Radian/sec multiply each pole or zero with  $2\pi$ . The normalizing factor A should also be recalculated.