

HFM SEGY data byte values

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• Binary Header:

- Bytes 13-14 number of data traces
- Bytes 17-18 sample interval
- Bytes 21-22 number of samples per trace
- Bytes 25-26 1= IBM floating point

• Trace Header:

- Bytes 1-4 → channel number
- Bytes 5-8 → channel number
- Bytes 9-12 → event number
- Bytes 13-16 → channel number
- Bytes 21-24 → channel number
- Bytes 29-30 → Trace ID. 1=X axis, 2=Y axis, 3=Z axis
- Bytes 41-44 → Cable Length * 100.0
- Bytes 45-48 → Receiver depth msl* 100.0 (NULL for raw)
- Bytes 49-52 → Source depth msl* 100.0 (NULL for raw)
- Bytes 53-56 → TVD * 100.0 (NULL for raw)
- Bytes 69-70 → Depth Scalar, divide by this number to recover the original value) +100
- Bytes 71-72 → Coordinate Scalar, divide by this number to recover the original value) +100
- Bytes 73-76 → Source Position X * 100.0 (NULL for raw)
- Bytes 77-80 → Source Position Y * 100.0 (NULL for raw)
- Bytes 81-84 → Receiver Position X * 100.0 (NULL for raw)
- Bytes 85-88 → Receiver Position Y * 100.0 (NULL for raw)
- Bytes 105-106 → Milliseconds
- Bytes 115-116 → Number of data samples per trace
- Bytes 117-118 → Sampling period in micro-seconds
- Bytes 121-122 → Gain
- Bytes 157-158 → Year
- Bytes 159-160 → Day of year (0-365)
- Bytes 161-162 → Hour of day (0-24)
- Bytes 163-164 → Minute (0-59)
- Bytes 165-166 → Seconds (0-59)
- Bytes 181-184 → P pick time (NULL for raw)
- Bytes 185-188 → S pick time (NULL for raw)
- Bytes 189-193 → P and S Time scaler (1000000)
- Bytes 203-204 → trace units for raw 0=bits, for located events 7=m/s²
- Bytes 205-208 → m/s² per bit mantissa (2333 for raw, 1 for located)
- Bytes 209-210 → m/s² per bit exponent (-10 for raw, 0 for located)
- Bytes 211-212 → ground motion units 7=m/s²
- Bytes 213-214 → Tool Number
- Bytes 233-236 → P model time (NULL for raw)
- Bytes 237-240 → S model time (NULL for raw)

- **Trace values:**

- located event SEGY: acceleration in meters per second squared
- raw continuous SEGY: $m/s^2 = bits * 2.333 * 10^{-7} / gain$