

CUSTOM CONFIGURATION GUIDE

System Filter Values

System Calibration

System Filter Values

-10.50667744E-03, -45.37180997E-04,
55.56538701E-04, 15.81332646E-03,
21.03072777E-03, 17.00887643E-03,
28.93675119E-04, -17.45548472E-03,
-35.90085357E-03, -42.42102057E-03,
-28.77787314E-03, 78.84027436E-04,
62.99158186E-03, 12.50581294E-02,
17.88181216E-02, 20.99924833E-02

OPTIONAL ANALOGUE HIGH PASS FILTER:

high pass RC filter (optional - jumper selectable in RD3 - see RD3 Manual)

Installed - see as-shipped sheet

$f_{3db} = 0.5 \text{ Hz}$

OPTIONAL DIGITAL IIR HIGHPASS:

selectable in setup menu of RD3 (see RD3 manual for details)

Selected - see as-shipped sheet

$f_{3dB} = 0.0002 * F_s = 0.010 \text{ Hz}$

$a = 0.999374$

$b = 0.998749$

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November 17, 1994

CUSTOMER: Tabriz

RD3 Version: 1637

Software Version: 7.03

Output Sample Rate: $F_s = 50\text{s/s}$

RANGER SS-1 SEISMOMETER

$w_c = 2\pi \times 1.001 \text{ Hz}$ corner frequency

Zeros 0.0, 0.0

0.0, 0.0

Poles -0.707, 0.707,

-0.707, -0.707

ANALOGUE LOW PASS FILTER

Type of filter: 5th order Butterworth Lowpass

$f_{3\text{db}} = 28.6 \text{ Hz}$

$w_1 = 2\pi f_{3\text{db}} = 179.7 \text{ rad/s}$

$Q_1 = 1.61803$

$Q_2 = 0.618034$

Zeros None

Poles -23.138, 16.811,

-23.138, -16.811,

-8.880, 27.200,

-8.880, -27.200,

-28.6, 0.0

DIGITAL FIR LOWPASS:

$N = 68, f_{3\text{dB}} = 20$

$C_i = -64.77427669\text{E-}05, 95.37014557\text{E-}06,$

63.20217508E-05, 10.93024504E-04,

11.34508639E-04, 51.16841057E-05,

-71.70285680E-05, -20.94191499E-04,

-28.78003055E-04, -23.75035314E-04,

-36.72033199E-05, 25.88441595E-04,

52.05329508E-04, 59.42797288E-04,

37.76620142E-04, -10.77251276E-04,

-68.96917243E-04, -10.92189644E-03,