Common sense…uncommon innovation

GEOTECH INSTRUMENTS, LLC

FEATURES

- **Low power electronics**
- **Time proven and low cost solution**
- **Radio or phone telemetry**

The Seismic Amplifier Model 42.70, VCO Model 46.32, Pulse Calibrator Model PC-120 and Input/Output Board Model IO.40-1 are designed to be used in the Compact Remote Station (CRS) Model 45.50 for analog telemetry stations. The Seismic Amplifier 42.70 can have a multiplexer option in case more than 1 channel is installed. These boards feature low drift with temperature, excellent linearity and wide dynamic range. Nine different center frequencies can be used simultaneously to telemeter up to nine seismic channels. At the other end, at the Central Station, the Discriminator Model 46.12 is used to demultiplex signals from up to nine center frequencies in the range 340–3060 Hz. Up to eight discriminators Model 46.12 and one power supply Model 48.11/48.31 can be mounted in the 19 inch Chassis Model 49.03. Optionally, a PC-based digital data acquisiton system can be added.

ANALOG TELEMETRY SYSTEM

- **SEISMIC AMPLIFIER MODEL 42.70**
- **VOLTAGE CONTROLLED OSCILLATOR MODEL 46.32/46.32-1**
- **PULSE CALIBRATOR MODEL PC-120**
- **DISCRIMINATOR MODEL 46.12**
- **INPUT/OUTPUT BOARD MODEL IO.40-1**
- **RACK MOUNT CHASSIS MODEL 49.03**
- **POWER SUPPLY MODEL 48.11C and MODEL 48.31B-1**

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ANALOG TELEMETRY SYSTEM SPECIFICATIONS

SEISMIC AMPLIFIER MODEL 42.70

Input Type	Balanced or single ended
Input Impedance	20 kohm (balanced)
Noise Level	3 μV_{pp} referred to input
Common Mode Rejection	Adjustable to 106 dB
Output Type	Single ended
Output Level	10 V_{pp} @ 100 ohm
Voltage Gain	x1 to x16384 in 6dB steps
Drift	35 μV/deg C adjustable to
Filters	LP: 1, 5, 12.5, 25 Hz HP: 0.01, 0.2, 0.5 Hz
Power	±10.5 mA @ ±11... ±15 V
Operating Temperature	-30^o to +60^o C

VOLTAGE CONTROLLED OSCILLATOR MODEL 46.32

Input	20 Kohm single ended
Sensitivity	±5 V for full scale deviation
Channels	±125 Hz deviation centered on: 340, 680, 1020, 1360, 1700, 2040, 2380, 2720 and 3060 Hz.
Output	1 V rms @ 600 ohm load; transformer coupled with multiplexer option (46.32-1)
Dynamic Range	60 dB over 25 Hz bandwidth
Linearity	0.2% of full scale
Drift	0.02% of center frequency per deg C
Power	±10 mA @ ±11... ±15 V
Operating Temperature	-30^o to +60^o C

PULSE CALIBRATOR MODEL PC-120

Calibration Interval	1 to 72 hours
Pulse Duration	1 to 72 seconds
Pulse Current	0.7 μA to 100 mA
Reference Frequency	1 MHz
Power	3 mA (quiescent) 110 mA (maximum) @ ±12 V
Operating Temperature	-30^o to +60^o C

DISCRIMINATOR MODEL 46.12

Input	Transformer coupled
Sensitivity	30 mV to 2 V rms @ 10 kohm
Channels	centered on: 340, 680, 1020, 1360, 1700, 2040, 2380, 2720 and 3060 Hz.
Deviation	±125 Hz, with LED front panel indicators
Output Type	Single ended
Output Level	10 V_{pp} for ±125 Hz
Output Current	10 mA maximum
Dynamic Range	60 dB over 25 Hz bandwidth
Linearity	0.2% of full scale
Drift	0.02% of center frequency per deg C
Filter response	DC to 5, 10, 25, 50, 100 Hz (3 pole Butterworth LP)
Carrier Detection	Output clamped to zero for loss of carrier
Power	±25 mA @ ±11... ±15 V
Operating Temperature	-30^o to +60^o C

Seismic Amplifier Model 42.70 replaces old Model 42.50, VCO Model 46.32/46.32-1 replaces old Model 46.22/46.22-1, and Pulse calibrator Model PC-120 replaces old Model PC-100. Also, the Compact Remote Station Model 45.50 replaces the old Field Package Model 49.50.