GDP-3224 Multi-Function Geophysical Receiver

Get maximum use from your equipment investment

The Zonge GDP-3224™ is an integrated, 24-bit multi-channel receiver for acquisition of controlled- and natural-source geoelectric and EM data.

- 24-bit analog system
- Expanded keyboard
- ½-VGA graphics display
- 100BaseT Ethernet port
- GPS timing, plus high-accuracy quartz clock
- Multiple, selectable data storage modes in a single data cache
- Remote control operation
- Broadband time-series recording
- High-speed data transfer

FEATURES

- 1 to 16 channels, user expandable
- 133 MHz 586 CPU
- Alphanumeric keypad
- Real-time data and statistics display
- Easy to use menu-driven software
- Resistivity, Time/Frequency Domain IP, CR, CSAMT, Harmonic analysis CSAMT (HACSAMT), AMT, MT, TEM & NanoTEM®
- Screen graphics: plots of time-domain decay, resistivity and phase, complex plane plots, etc., on a 480x320 ½-VGA, sunlight readable LCD
- Internal humidity and temperature sensors
- Time schedule program for remote operation with Zonge XMT-32S transmitter controller
- Optional GPS time synchronization with transmitter Use as a data logger for analog data, borehole data, etc.
- Full compatibility with GDP-32 series receivers.
- 0.015625 Hz to 8 KHz frequency range standard, 0.0001 Hz minimum for MT and 10240 Hz maximum for AMT

- One 24-bit A/D per channel for maximum speed and phase accuracy
- 512 MB Compact Flash Card (up to 4 GB) for program and data storage, sufficient to hold many days' worth of data
- 128 MB dRAM (up to 256 MB) for program execution
- Optional data storage device (up to 40 GB) Anti-alias, powerline notch, and telluric filtering
- Automatic SP buckout, gain setting, and calibration
- Rugged, environmentally sealed
- Modular design for upgrades and board replacement
- Complete support, field peripherals, service network, software, and training

TRUSTED GEOPHYSICS™

General

Broadband, multichannel, multifunction digital receiver.
Frequency range: 1/64Hz - 8KHz
   (0.0001Hz - 8KHz for MT and 1Hz to 10240Hz for AMT)
Number of channels: Large case, 1 to 16 (user expandable)
   Small case, 1 to 6 (user expandable).
Standard Survey capabilities: Resistivity, Frequency- and Time-
   Domain IP, Complex Resistivity, CSAMT (scalar, vector, tensor),
   Harmonic Analysis (CSAMT, Frequency-Domain EM, Transient
   Electromagnetics, NanoTEM®, MMR, Magnetic IP,
   Magnetotellurics, Downhole Logging.
Software language: C++ and assembly.
Size: Large case   43x41x23cm (17x16x9")
             Small case   43x31x23cm (17x12x9")
Weight: (including batteries and meter/connection panel):
   Small case 13.7 kg (29 lb)
   Large case
   8 channel, 10 amp-hr batteries, 16.6 kg (36.5 lb)
   8 channel, 20 amp-hr batteries, 20.5 kg (45 lb)
   16 channel, disk, 10 amp-hr batteries, 19.1 kg (42 lb)
Enclosure: Heavy-duty, environmentally sealed aluminum
Power: 12V rechargeable batteries (removable pack)
Over 10 hours nominal operation at 20ºC (8 channels and 20 amp-
   hr batteries). External battery input for extended operation in
   cold climates, or for more than 8 channels.
Temperature range: -40º to +50ºC (-40º to +122ºF)
Humidity range: 5% to 100%
Internal temperature and humidity sensors
Time base: Oven-controlled crystal oscillator; aging rate <5×10^{-10}
   per 24 hours (GPS disciplining optional)

Displays & Controls

High-contrast sunlight readable ½-VGA (480x320) DFT-technology
   LCD graphics display, with continuous view-angle adjustment
   (optional heater for use down to –40ºC).
Sealed 80-key keyboard
Analog signal meters and analog outputs
Power On-Off

Standard Analog

Input impedance: >10 MΩ at DC
Board Dynamic range: 212 db
Minimum detectable signal: 0.03 μV
Maximum input voltage: ±32V
SP offset adjustment: ±2.25V in 69μV steps (automatic)
Automatic gain ranging in binary steps from 1/8 to 1024
Common-mode rejection at 1000 Hz: >80 db
Phase accuracy: ±0.1 milliradians (0.006 degree)
Adjacent channel isolation at 100 Hz: >90 db
Filter Section: Quadruple-notch digital telluric filter
(50/150/250/450 Hz, 50/150/60/180 Hz, 60/180/300/540 Hz,
   specified by user)
Analog to Digital Converter (Standard Channel)
Resolution: 24 bits
Conversion time: 30 μ sec
One A/D per channel for maximum speed and phase accuracy

NanoTEM® Analog

Input impedance: 20 KΩ at DC
Dynamic range: 120 db
Minimum detectable signal: 4 μV
Automatic gain ranging in binary steps from 10 to 160
Analog to Digital Converter: 14 bits ± ½ LSB, 16 bits optional
Conversion time: 1.2 μsec
One A/D per channel for maximum data acquisition speed

Digital Section

Microprocessor: 133 MHz 586
Memory: 128 MB dRAM (up to 256 MB)
Mass Storage (program & data storage):
512 MB Compact Flash Card (up to 4 GB).
Data storage device with capacities to 40 GB optional
Serial ports: 2 RS-232C ports (16650) standard
Network Adapter: Ethernet adapter standard (100BaseT)
Mouse, CRT (VGA), and standard keyboard ports
Optimized Operating System

Additional Options

Number of channels: (maximum of 3 NanoTEM® channels)
   Large case: 1-16, Small case: 1-6
External battery and LCD heater for –40ºC operation

OTHER ACQUISITION SOFTWARE

External RPIP/TDIP/CR Control*:* Remote control through
   serial port on GDP-3224 for electrical resistance tomography
   (ERT).

Streaming RPIP/TDIP*:* Continuous acquisition of TDIP or
   RPIP data (time domain or resistivity/phase IP) using a
   towed electrode array.

Borehole TEM*:* Remote control through GDP-32/24 serial port
   for efficient logging of borehole TEM and MMR data.
   Compatible with Crone and Geonics 3-component probes.

Extended Broadband Time Series Data Recording*:*
   Continuous recording of up to 5 standard analog channels
   sampling at 32 K samples/sec (bandwidth 8 KHz with 2x
   oversampling) with no loss of data. Developed for recording
   broadband magnetotelluric measurements.

Equal-Interval Mode TEM (TEME)*:* Uniform sampling and
   storage of TEM transients as time series. Used for LOTEM
   data acquisition and any application that requires uniformly
   sampled TEM transients.

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