

**MIDTRONICS****Advancing
Battery Management**

EXP-1000HD Expandable Electrical Diagnostic Analyzer Platform

DESIGNED SPECIFICALLY FOR HEAVY-DUTY/FLEET VEHICLES

The EXP-1000 HD was designed specifically for the Heavy-Duty and Fleet markets. With the latest advances in battery testing technology and improved electrical system testing, the EXP-1000 HD features:

More Functions and Expandability

From battery, starter, and alternator diagnostics to circuit integrity testing, the EXP-1000HD is a versatile and reliable electrical diagnostic tool. With the ability to perform more tests with one tool, you can be more efficient, cut costs, and easily update to the newest technologies.

Specially Designed for HD/ Commercial Fleet Market

- Battery pack testing for effective preventative maintenance testing
- Multiple battery routine:
1-6 batteries included in the test process and on the printed report
- Special commercial battery algorithms for Group 31, 8D, and 4D batteries

Battery Testing Technology

Midtronics Patented dynamic conductive testing technology combines direct temperature measurement with deep scan technology to generate more accurate decisions

Advanced Electrical System Diagnostics

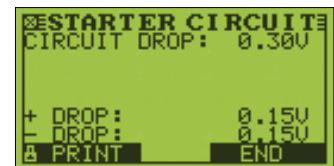
Digital Signal Processing (DSP) analyzes the amplitude level *and* frequency of the diode ripple pattern to improve accuracy and identify open or shorted diodes and open-phase conditions

Conductance Cable Drop Test

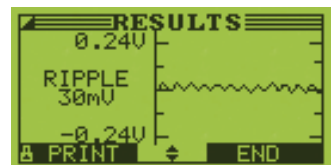
Interactive routines using dual cable sets for more effective analysis of voltage drop across chassis ground, starter system, alternator system, and generic system testing



Test 1-6 batteries



Cable drop test results



Charging system test results; ripple current

Specially Designed for the HD/Commercial Fleet Market

- Battery pack testing for effective preventive maintenance testing
- Multiple battery routine: 1-6 batteries included in the test process and on the printed test report
- Special commercial battery algorithms for Group 31 batteries, 8D, and 4D batteries
- Truck vs. automotive selection sets application-specific test parameters for system and cable drop testing

New Dynamic Conductance Battery Testing Technology

- Combines direct temperature measurement with deep scan technology to improve accuracy and decisiveness

Advanced Electrical System Diagnostics Featuring Digital Signal Processing

- Digital Signal Processing (DSP) provides the ability to analyze the amplitude level and frequency of the diode ripple pattern for improved accuracy and identification of open or shorted diodes and open-phase conditions, (multiple diode failure or winding problems).

DMM Function for Advanced Diagnostics

- AC/DC Volts
- Temperature
- AC/DC Amps
- Ohm meter
- Diode test
- Scope mode
- Volts/Amps mode

Patented Conductance Cable Drop Test

- Interactive routines using dual cable sets for more effective analysis of voltage drop across chassis ground, starter system, alternator system, and generic system testing

Enhanced Communications Capabilities

- IR printer option
- Data card reader/writer for future upgrades

Advanced User Interface

- Large graphical screen for icons and improved explanations
- Scroll bar capability means fewer overall screens
- Icon-based menus, and hot keys improve logic and flow

Program Management Tools

- User ID system to help drive and manage product use
- Enhanced counters report testing data, including lifetime use, results dispersion, and number of tests by user ID

Perform preventive maintenance testing in less than five minutes to reduce operating costs and increase the reliability of your fleet.



Alternator Circuit Test Procedure

SELECT CIRCUIT

- 1 STARTER CIRCUIT
- 2 ALT CIRCUIT
- 3 CHASSIS GROUND
- 4 OTHER CIRCUIT

BACK NEXT

ALTERNATOR CIRCUIT

SET AMPS

135.0 A

USE KEYPAD TO ENTER DEFAULT

BACK NEXT

ALT CIRCUIT

TESTING AT 135A

CONNECT MAIN CLAMPS (+) TO ALTERNATOR OUTPUT STUD (B+) & (-) NEGATIVE CLAMP TO ALTERNATOR GROUND

BACK NEXT

ALT CIRCUIT

CONNECT DMM CABLE CLAMPS TO BATTERY POSITIVE (+) POST AND BATTERY NEGATIVE (-) POST

BACK POST NEXT

ALT CIRCUIT

CIRCUIT DROP: 0.25V

+ DROP: 0.25V

- DROP: 0.00V

PRINT END

EXP-1000HD Features



More Functions and Expandability

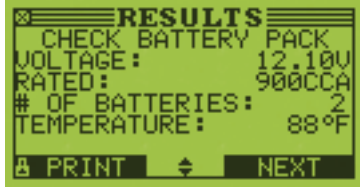
From battery, starter, and alternator diagnostics to circuit integrity testing, the EXP-1000HD is the most versatile and reliable electrical diagnostic tool on the market today.

With the ability to perform more tests with one tool, you can be more efficient, cut costs, and easily update to the newest technologies.

Specific testing such as battery pack tests and expanded cable drop circuit tests, are targeted directly at the heavy-duty/commercial fleet market.



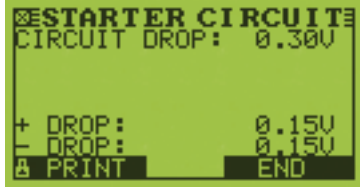
Test 1-6 batteries



Battery pack test results

Full System Reporting

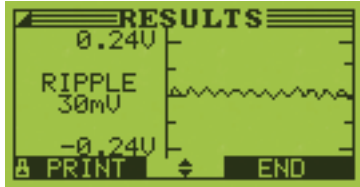
The EXP-1000HD combines battery testing, starter and charging system diagnostics all-in-one complete report, including results from individual battery tests and pack tests.



Cable drop test results

Digital Signal Processing (DSP) Capability

For advanced alternator diagnostics the EXP-1000HD uses superior DSP capability to digitize the measured alternator output voltage and evaluate the spectral content of the signal. This digitized signal allows the EXP-1000HD to combine pattern recognition with the amplitude level of the AC signal for improved accuracy and identification of open or shorted diodes and open phase conditions, (multiple diode failure or winding problems).



Charging system test results; ripple current

EXP-1000HD

Expandable Electrical Diagnostic Analyzer Platform

Specifications:

Model:

EXP-1000 HD EXP-1000 HD Analyzer, 10-ft cable set/standard clamps, lead stud adapter set, carrying case

EXP-1000 HD KIT Everything included with EXP-1000HD plus infrared printer

EXP-1000 HD EXP-1000 HD Analyzer, 10-ft cable set/standard clamps, lead stud adapter kit carrying case, amp clamp, DMM adapter & probe kit, 10-ft DMM cable assembly

EXP-1000 HD Everything included with EXP-1000 HD AMP, plus infrared printer

Applications:

- 6 and 12 volt HD-commercial, all battery chemistries
- 12 and 24 volt charging system diagnostics

Power Requirements:

- (6) AA Alkaline batteries

Operating Range:

- 6 and 12 volt batteries
- 1-6 battery pack test
- 1-6 individual battery testing

Rating System Range

CCA	200 – 3000
JIS	By JIS number
DIN	100 – 1000
SAE	100 – 3000
IEC	100 – 1000
EN	100 – 3000

Display:

- 128 x 64 pixel graphics, backlit display

Temperature Compensation:

- Built-in temperature measurement when prompted by analyzer

Operating Temperature:

- 32° F – 120° F (0° C – 49° C)

Test Leads

- 10 ft cable with HD dual conductor Kelvin clamps

Housing Material:

- ABS plastic with Santoprene overmolds

Dimensions:

- 9.5 in H x 4 in W x 2.5 in D

Weight:

- 1 lb / 427 g

Carrying Case:

- Heavy-duty molded plastic

Languages:

- English • Spanish • French-Canadian



Every EXP-1000HD model includes a protective molded hard-side carrying case.

Regardless of which configuration you choose, the carrying case will hold all accessories, with room for future options.

EXP1000HD

Test Report

10/03/2007
3:12 PM

PACK TEST

RESULTS
CHECK BATTERY PACK
VOLTAGE: 12.74V
RATED: 4500mAh
OF BATTERIES: 4
TEMPERATURE: 66°F

BATTERY 1
12.51V 499 CCA
GOOD BATTERY

BATTERY 2
12.51V 499 CCA
GOOD BATTERY

BATTERY 3
12.51V 499 CCA
GOOD BATTERY

BATTERY 4
12.51V 499 CCA
REPLACE BATTERY

RESULTS

STARTER TEST

RESULTS
CRANKING NORMAL
VOLTAGE: 10.94V
TIME: 0.75s
12.00V
10.00V
8.00V
VOLTAGE

CHARGING SYSTEM TEST

RESULTS
NO PROBLEMS
NO LOAD 13.62V
4.5A 14.52V
30.50A 30.06A
MAX
MIN
NO LOAD LOADED
0.24V
RIPPLE 40mV
-0.24V

Full System Reporting

The EXP-1000HD combines battery testing, starter and charging system diagnostics all-in-one complete report, including results from individual battery tests and pack tests.