

sion removal) are 3M part number 61-5001-8792-9, NSN 4920-01-493-2510, and yellow discs (for heavier corrosion) are 3M part number 61-5001-8790-3, NSN 4920-01-493-2514. The bristle discs are packaged in a case of 40, four boxes to the case. Each box contains 10 discs at a cost of \$3.05 each or \$122 per case. 

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*This technology was introduced to the fleet in interim rapid action change (IRAC) No. 26 to NA-*

*01-1A-509. The radial bristle discs can be ordered through Military Standard Requisitioning and Issue Procedures (MILSTRIP), federal stock system under the Electronic Mall (EMALL) contract SP0410-01-D-E006, or directly from the vendor (call a 3M federal-systems requisition representative at 1-800-944-4181). The pneumatic grinder is approximately \$79, and the associated mandrel assembly is \$7.81.*

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# New Navy Battery Test System Is Better and Safer

*By Jim Fountain*

**T**he Navy has authorized the MSD-970-1, which is a portable bench-top, battery-test system. This item not only supports our transition to modern technology, it is better and safer.

This new test system can charge or discharge batteries (CV or CC), and it can create as many as 80 test profiles—each with 10 steps that serially stream the test data to a PC. This archived data then can be analyzed, according to Louis Lupo, the manufacturer's vice president and general manager. He added, "The Navy found this modern computerized test system easy to use and ideal for naval batteries. It replaces up to five existing antiquated systems and can reduce errors and manpower through automation."

The MSD-970-1 (NSN 6130-01-508-3397) performs all the functions for battery testing and maintenance (charge-discharge, open circuit stand, and multiple-battery-parameter sensing). It also monitors or provides profile statistics, elapsed operation time, charge and discharge current, charge and discharge voltage, temperature, and ampere-hour accumulation. This safety feature allows automated start-and-forget coverage. Manual tests can lead to overcharging, excessive temperatures, thermal runaway, and an explosive environment with some batteries. The automatic shutdown features of this unit prevent

inadvertent mistakes and catastrophic results. This tester also will prevent hot-to-the-touch batteries that often reach 170 to 180 degrees F.

These tests and profiles can be modified, using a PC. It also allows the user to create an infinite number of battery test-profile variations. This increased flexibility and programmability reduces man-hour requirements and improves battery testing.

With this unit, Sailors and Marines can service any secondary battery chemistry from 1 to 36 volts and with anywhere between 0 and 70 amps charge and discharge current. This can be done while providing the user feedback and control through LCD, keypad and PC interfaces. The user also is allowed to specify what battery-service-termination criteria is used, such as end of charge voltages, currents, delta temperatures, and negative-voltage slopes.

Challenged to introduce a system that can keep up with new battery chemistry, the Navy bought this state-of-the-art system because its software easily can be updated. We no longer have to deal with planned obsolescence, and this system is capable of dealing with lithium ion and nickel metal hydride technologies. As Bill Johnson—a NAVAIR acquisition and battery expert—said, "It's the charger for today and tomorrow." 

Mr. Fountain works at NATEC, Jacksonville, Fla. This story is a compilation of his work, documentation and manufacturer details.

