# DOBLE PROTECTION SOFTWARE

Comprehensive solutions for verifying system protection

DOBLE ENGINEERING COMPANY

doble®

# PROTECTION SOFTWARE SOLUTIONS



DATABASE OF ALL ASSETS

Whether you are testing electromechanical relays or state-of-the-art, IEC 61850 designs, Doble has the software you need to verify system protection.

Our office and field software options help you verify any protection and control circuit and simulate system conditions. Options are flexible so you can customize your testing program and adhere to your company's practices and procedures, while meeting regulatory requirements. Choose which combinations make sense for your organization.

## PROTECTION ASSET & TEST DATABASE
## PowerBase

**PowerBase** is the premier application for administrators to manage and report on protection asset maintenance and engineering records. It helps simplify NERC PRC-005 compliance and trending.

PowerBase is the core piece of your protection testing program: manage your workflows, connect with existing work management systems, automate activities, eliminate manual processes, maintain compliance and optimize efficiency within your organization.

### CLIENT/SERVER DATABASE APPLICATION
Numerous workstation computers run PowerBase simultaneously from a single database that operates on a local or Doble-hosted server.

### VENDOR-NEUTRAL DATABASE THAT HANDLES ANY POWER SYSTEM ASSET
PowerBase tracks maintenance on relays, CTs/VTs, breakers, transformers, batteries and any other asset. PowerBase features import and export modules for data transfer with other systems and testing tools.

### SETTINGS MANAGEMENT WAREHOUSE
PowerBase houses and manages relay settings, allowing you to consolidate settings data from disparate applications, spreadsheets and files.

### REPORT ENGINE
PowerBase features a powerful, user-friendly report generator. Reports can be configured to suit your business needs.

### COMPLETE PROTECTION ASSET & COMPLIANCE DASHBOARD
Users can easily find information and see a dashboard presenting the whole maintenance picture. This is possible even with many workers and the variety of engineering and testing software products they use.
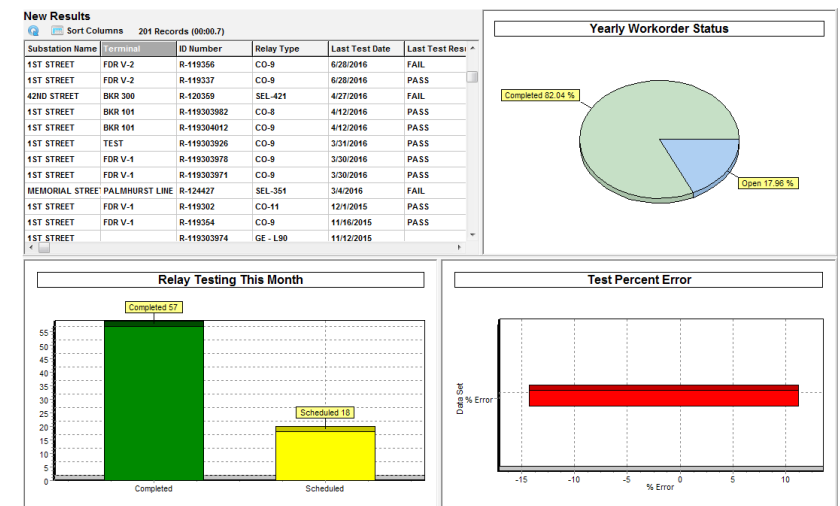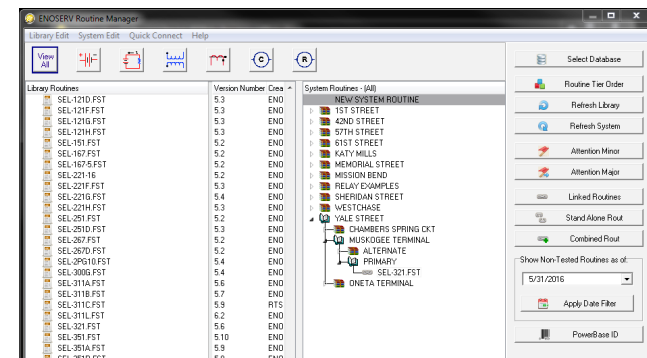


RELAY SETTINGS MANAGEMENT

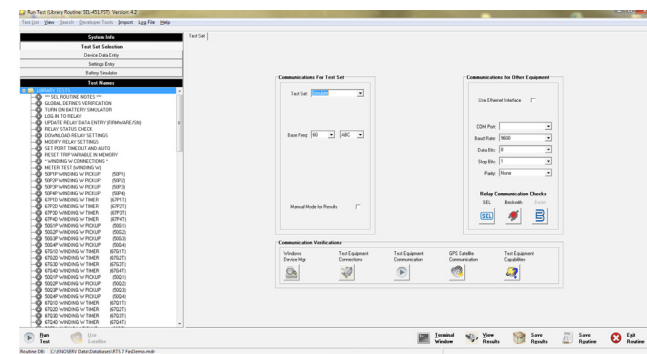

CUSTOMIZED DASHBOARDS TO TRACK DATA
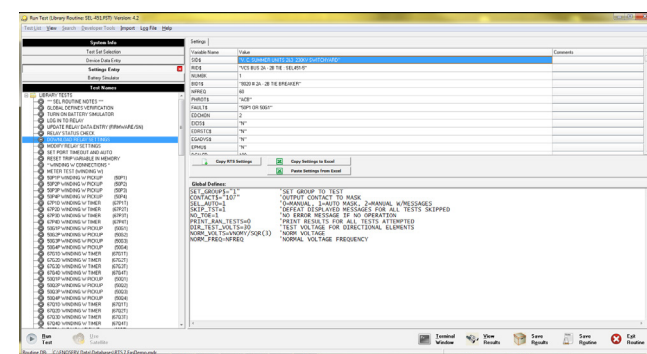
# PROTECTION TESTING SOFTWARE

Doble offers a variety of software options for basic through complex testing requirements. Choose the software or combination of software that best fits your protection testing program.



**SELECT YOUR TEST FROM THE LIBRARY**

## RTS

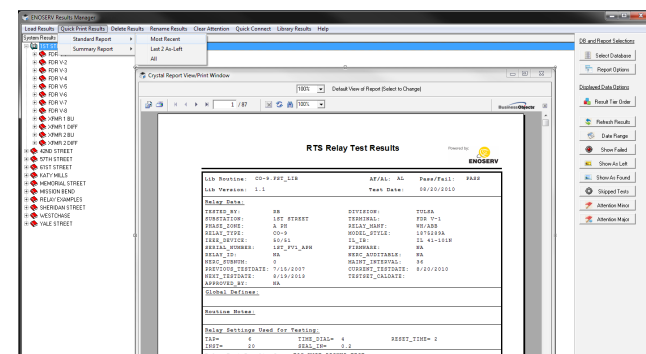**RTS** is ideal for testing and capturing data during commissioning and field performance/compliance testing.

RTS is a vendor-neutral software which allows you to connect to a variety of relay test sets in your test equipment inventory.

RTS features powerful automation tools that reduce complexity. It offers an extensive relay test plan library to quickly perform standardized tests. Your teams will save time thanks to the robust communication tools that help automate and simplify testing.
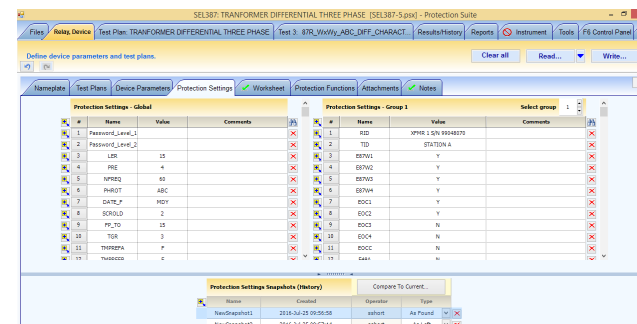
You can also make test plan modifications in one location by quickly editing in the library, which updates hundreds of relay test plans.

RTS can also capture and store important maintenance information for CTs/VTs, DC control circuitry, communication systems and more.
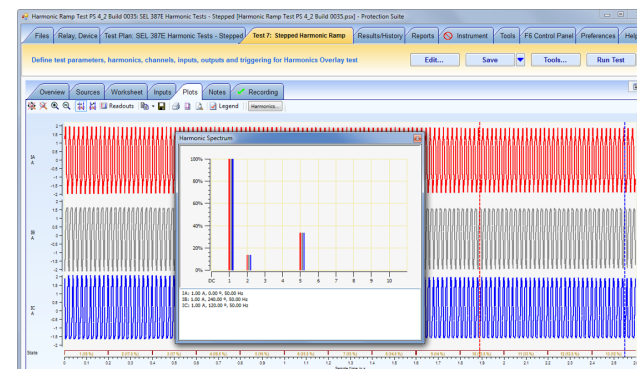
RTS works seamlessly with PowerBase as your complete protection testing program from the field to the office.
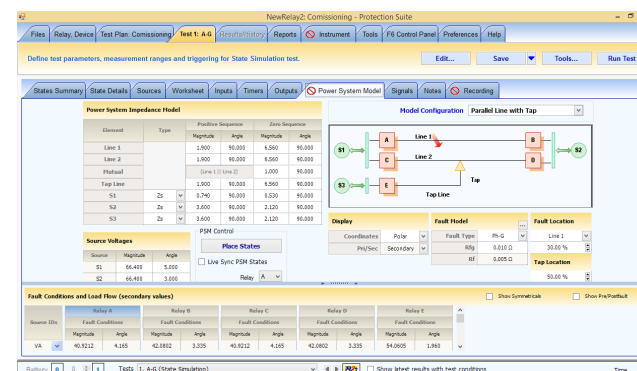


**SET UP EQUIPMENT & RELAY COMMUNICATIONS**
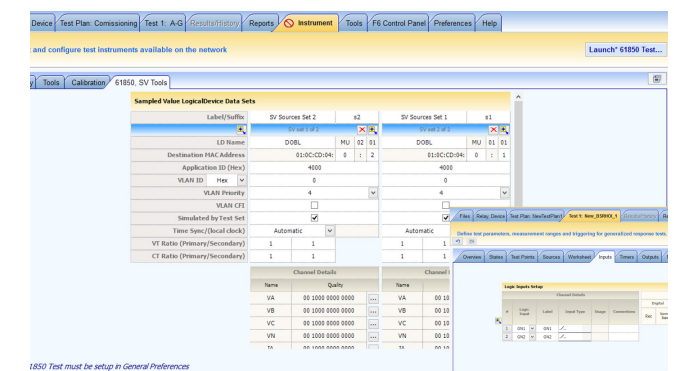


**IMPORT RELAY SETTINGS**

## Protection Suite

**Protection Suite** software is a complete, no-compromise, protection testing solution. Run manual and automated tests for protection-scheme verification, including IEC 61850 sampled values and GOOSE schemes.

With changes in technology, you need a software tool that allows you to test old and new types of devices. Protection Suite is your solution with its time-tested static, dynamic and digital test routines. Quickly create tests with the basic wizard tool and power system models.
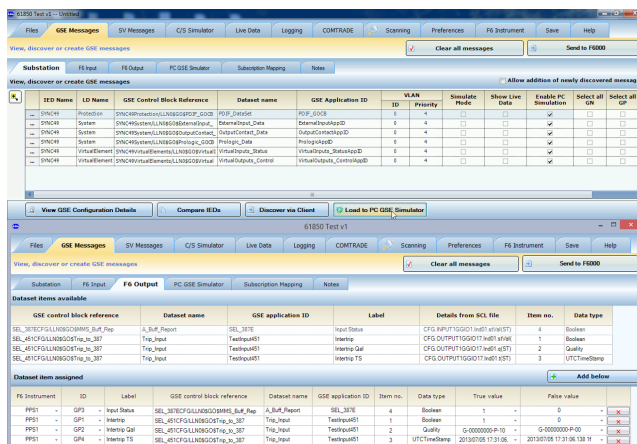
Protection Suite offers users the capability to control and manipulate test types, giving users multiple ways of testing and proving a device. Simulate realistic system conditions and power quality issues, such as flicker and harmonic in-rush, using the transient wave generator.

Protection Suite is used with Doble's F-series test equipment; it also connects with PowerBase to create a comprehensive data-management system for storing, trending, system planning analysis and for reporting to regulatory agencies.
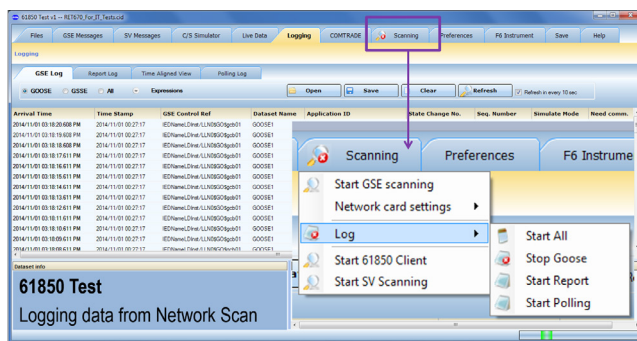
Protection Suite is available in a number of levels. Mix and match the levels that are appropriate for your organization's testing and reporting requirements.
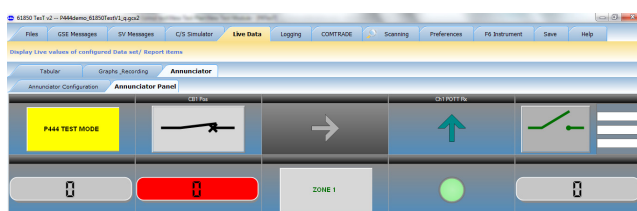


**RUN SPECIALIZED TESTS**



**RUN TEST**



**GENERATE YOUR REPORT**
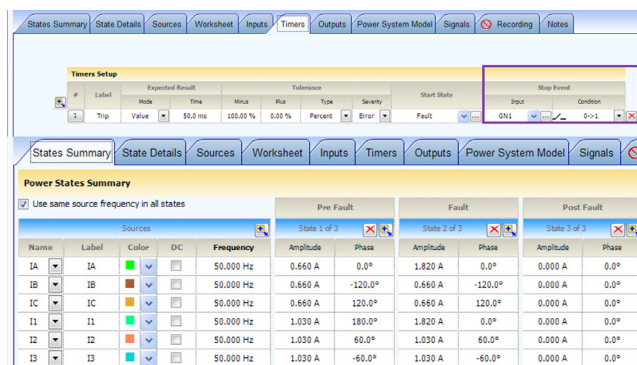


**POWER SYSTEM MODELS**



**IEC 61850 COMPLIANT TESTING**

DISCOVER GOOSE MESSAGES & CONFIGURE F6150SV
FOR GOOSE PUBLISHING & SUBSCRIPTION


SCANNING & LOGGING


ANNUNCIATOR PANEL HELPS VISUALIZE TEST
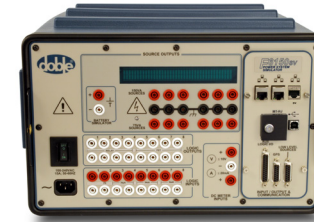

TESTING WITH GOOSE MESSAGES

# 61850 TesT

Simulate, monitor and test IEDs on your digital substation network with 61850 TesT software.

Use with Doble's F6150sv and Protection Suite software to apply sampled values (SV) and generic substation event (GSE) simulations to functionally test and receive status messages from substation devices. Create fault conditions to verify control scheme coordination to ensure proper design of IED logic.

Use this IEC 61850 test software to identify and map logical nodes or objects to virtual inputs on the F6150sv. Then use Doble's Protection Suite testing software to verify the performance of your protection system.

Read SCL files or discover IEDs in the network, and configure the F6150sv for GOOSE message subscription and publishing in preparation for testing. Use the live data, annunciator and logging features to visualize the test.

Use the built-in client simulator to read reports, request information from IEDs, and test the control functions such as closing a circuit breaker with interlock checking and synchro-check.


CLIENT SIMULATOR BREAKER CONTROL


**F6150sv***
Power System Simulator


**F6350e**
External Amplifier


**F6052**
Universal Time Synchronizer


**DUC**
Doble Universal Controller


**F6080**
Field Calibration Unit

# PROTECTION HARDWARE

Doble's F-Series power system simulators are the industry's trusted diagnostic device for protection testing.

Testing requirements can vary from team to team and company to company.

That's why Doble's F-series power system simulators are customizable. Choose what functions you need in order to perform testing of protection devices and schemes.

You can maximize your testing capabilities with accessories for communication, amplification, calibration and more.

From manual testing through to high burden testing, choose the options and accessories that make sense for your budget and business requirements.
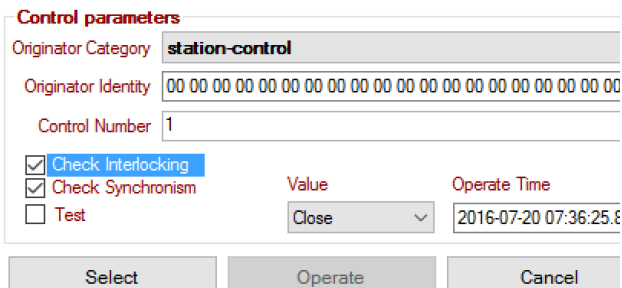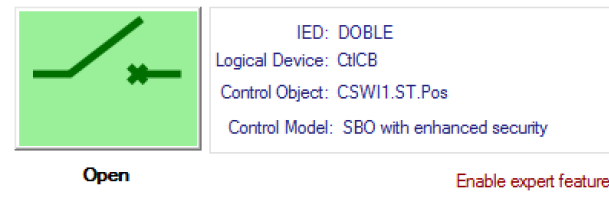
*The F6150sv is UCAIUG IEC 61850 certified Level A by DNV-GL for:*
*- IEC 61850 Server (GOOSE Publisher/Subscriber), Editions 1 and 2*
*- IEC 61850 Sampled Values 9-2LE Publisher, Edition 1*


PROTECTION TRAINING
PRINCIPLES, APPLICATIONS & TESTING

# PROTECTION TRAINING

We offer a wide range of protection training courses that will help prepare you for a modern grid, power plant and industrial facility.

Training courses are presented in an easy to understand format with real life case studies and examples for a truly unique training experience.

Choose which courses are right for you and your team.

Classes are geared towards engineers, technicians, supervisors and managers who are involved with protection assets.

**Learn more at**
**events.doble.com/protection**

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# WITH DOBLE'S RANGE OF
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