

S&C

DISTRIBUTION COMPANY

MODEL 322 NARROW AND WIDE BAND SHUNT AND IJ BY-PASS COUPLER TESTER

- IDENTIFY CENTER FREQUENCIES OF SHUNTS, COUPLERS AND RELATED TRANSMITTERS
- DETERMINE ATTENUATION AND SIGNAL THRU-PUT CAPACITIES OF SHUNTS & COUPLERS
- WITH DATA FROM TESTER, RULE OUT SHUNTS AS SOURCES OF TAIL RING
- ADJUST TUNABLE COUPLERS AND SHUNTS PRIOR TO INSTALLATION
- TEST FOR DC LEAKAGE
- FREQUENCY RANGE: 10HZ TO 5120HZ
- WILL RECORD SHUNT TUNING TESTS. OTHER DATA CAN BE INPUT WITH MINI-KEYBOARD
- FURNISHED WITH TUNED SHUNT & LEAKAGE SIMULATOR
- OPERATES ON RECHARGEABLE, 12VDC, 1.2AH LEAD ACID BATTERY



GENERAL

The widespread use of motion sensing and constant warning time track circuits has resulted in the proliferation of wide and narrow band shunts and IJ couplers. Many times, the circuits are overlapped, resulting in ever-increasing problems of tuning and frequency conflict. The troubleshooter needs to know the complete range of characteristics of the shunts and couplers with which he is dealing, when attempting to identify the source of circuit malfunctions. Further, the Frequency Counter supplied with the 322 enables the user to confirm that the transmitter associated with the Shunts and Couplers under test is on-frequency.

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Problems can be caused by shunts and couplers not directly associated with the circuits experiencing problems, including overlapped DC track circuits which do not use shunts or IJ couplers at all. Increasingly, approach circuits need to be understood as “networks” requiring additional data to analyze problems fully.

A tool such as the S&C Model 322 Narrow and Wide Band Shunt and IJ By-Pass Coupler Tester is necessary to obtain the data that will permit the user to determine the source of track circuit problems. This device permits the signalman to know the frequencies, tuning characteristics, attenuation and thru-put capacities, and leakage characteristics of each device in the approach “network”, empowering him to relatively quickly determine the source of the problem.

APPLICATION

This highly portable device permits the maintainer to bridge or terminate signals into the shunts or couplers under test. It can be moved to the area of the track where the shunts or couplers are in service, maximizing effectiveness and minimizing time required to perform the tests.

“Scan Shunt” Function automatically sweeps full range (10Hz to 5120Hz) for tuning points. Graphic display pictorially shows frequency curve and tuning points and the effective attenuation level of the Shunt or pass-through capacity of the Coupler under test.

"Leakage" and "Xmit Frequency" test modes enable checks that can solve problems such as creeping current rise on overlapped DC track circuits (caused by leaky tuned shunts, not bad ballast) or tail ring with seemingly good tuned shunts (caused by a transmitter being off frequency).

The 323-100 Tuned Shunt Simulator, now furnished with each 322 Shunt Coupler Tester, allows the user to confirm that his test results are accurate. The Simulator serves as a calibration check device and should be used at the beginning and at the end of a Shunt or Coupler test period to insure that the Tester has operated properly throughout.

Included in the 322 operating program is the capability to automatically record the center frequency and attenuation level results of each tuned shunt or coupler tested, and later add the Leakage Test and Transmitter Frequency Test results to each location record. This capability allows building a database of Shunt and Coupler performance that, if nothing else, provides benchmark values for comparison when problems like tail ring start occurring. Contact S&C Distribution Company for details. An adder kit, allowing the maintainer to take advantage of the test recording capability, can be had by ordering PN: 322-101.

Separate inputs for Tuning and Leakage and Xmit Frequency tests reduce potential for resistance in switch contacts to adversely affect test results.

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Unit comes complete with a pocket in the lid for storing the plastic-paged, Quick Start Manual, ACHC Sun Shields (to improve readability of the display in bright sunlight), and 323-100 Tuned Shunt Simulator, Universal Charger, In-Vehicle Charging Adapter, HD Carry Bag and Meter Leads.

SPECIFICATIONS

Frequency Range: 10 to 5120 Hz
Output Impedance: 0.75 ohms
Frequency meter:
 Meter Impedance: 1 Meg
 Meter Accuracy: (+/-) 3%
Operating Battery: One each 12VDC, 1.2AH Lead Acid Rechargeable
Low Battery Indicator: Power LED turns off at approximately 10VDC on battery
 Screen displays: "LOW BATTERY"
Physical: Dimensions: 9.75" X 10.75" X 5" with case closed.
 Weight: Approx 5#
 Environmental: -4 deg. F to +140 deg. F
Leads: 4 ft. lg., rubber insulation, with HD Claw Clips

WARRANTY

One year by S&C Distribution Company on parts and labor.

ORDERING INFORMATION

Description	Part No.
322 Shunt Coupler Tester Kit	322-2S
Above, also including keyboard, etc., to enable recording of tests	322-1000S
Kit to add Recording capability to existing 322, incl. keyboard, etc.	322-101
ACCESSORIES	
Mini, ASCII Keyboard for data entry	331-5-19
SD Card, 8GB	1010-15
Adapter, SD Card to USB-2, for computers w/o SD Card reader	1010-18
In-Vehicle Charging Adapter	324-12

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REPLACEMENT PARTS	PART NO
Tuned Shunt Simulator	323-100
Lead Set, 4 ft., HD Clips	322-15
Fuse, 3A Fast Acting (2 ea.)	04-1010
110/220 VAC to 12VDC, 1.2A Universal Charger	324-46XX
ACHC Sun Shield, Pair	322-18
HC Pocket Plate w/mtg. Screws	322-20
Large Carry Bag For Tester, Etc.	506ONBZB

ORDER FROM:

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