

## Test Sets



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Northern manufactures a complete range of test sets compatible with the requirements of the telecommunications industry.

Specialized test sets are available for use with Central Office switching and transmission equipment, and Outside Plant. Test sets are also manufactured for use when installing new equipment.

The test sets are easy to use and provide rapid and accurate measurement data during installation, operation, and maintenance of telephone systems.

## Test Sets



## Timing Circuits Test Set J24753A

This Timing Circuits Test Set is intended for testing timing circuits in the NE-5 Crossbar, Tandem Crossbar and No. 1 ESS offices, in the range of 0 to 5000 milliseconds. It can be used to measure relay times and circuit operation intervals accurately, where suitable signals are available to start and stop these intervals in the circuit being tested.

### Features

- Direct reading meter 0-100 ms.
- Meter ranges 0-20, 100, 500 and 5000 ms.
- Power required 48-volt office battery.
- Internal batteries 1½ and 45 volts.
- Battery patch cord provided.
- Maximum error 5 ms.
- Internal calibration and self checking operation.
- Ladder strap and test cords available.

### Test Circuits

The following test circuits may be set up, using test set switches and keys:

Sending circuit:

1. Make Start.
2. Break Start.

Receiving circuit:

1. Open Circuit Start, Ground Stop.
2. Battery Start, Ground Stop.
3. Battery Stop, Open Circuit Stop.
4. Open Circuit Start, Battery Stop.
5. Ground Start, Open Circuit Stop.

Four electron tubes, RCA type IN5GT are required, and are furnished as part of the test set.

### Options

- 1 cord 3P15A, used in Crossbar Offices. List 2
- 1 cord 2P32A, used in No. 1 ESS Offices List 3

The following dry cells are required and should be ordered separately:

- 1 ea. NS14711 1½-Volt size D battery.
  - 4 ea. NS14369 45-Volt size 3ON battery.
- Ladder Strap ED-91107-70 Gr. 4, may be ordered separately.



## Test Sets



## Sender Test Set J24756A

The portable Sender Test Set is used in NE-5 Crossbar offices together with the sender test circuit, master test control circuit, and a signal receiving circuit, for testing dial pulse, reverive pulse, and multi-frequency pulse senders. It controls the test and indicates the progress of the test and the number outpulsed by the sender.

### Features

- 2 connecting cords included.
- Ladder strap attachment (optional).

**Note:** The ladder strap, if required, must be ordered separately.

**For further information**  
**contact our nearest sales office**



### Ordering Information

Description	Product Code
Test Set	J24756A Lists 1/E/G
Ladder Strap (optional)	ED-91107-70 Gr. 4

Information subject to change without notice.



## Test Sets



## Register and CAMA Sender Test Set J24756B

The Register and CAMA Sender Test Set is used in NE-5 Crossbar offices together with the incoming register test circuit, a trouble recorder, a telephone set and a pulse generating test set; it is used for testing dial pulse, multifrequency pulse, and reverive pulse incoming registers. It may also be used for testing dial pulse originating registers and CAMA senders.

### Features

- Connecting cord included.
- Ladder strap attachment (optional).

**Note:** The ladder strap, if required, must be ordered separately.

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### Ordering Information

Description	Product Code
Test Set	J24756B-51 Lists 1/J/K
Ladder Strap (optional)	ED-91107-70 Gr. 4



## Test Sets



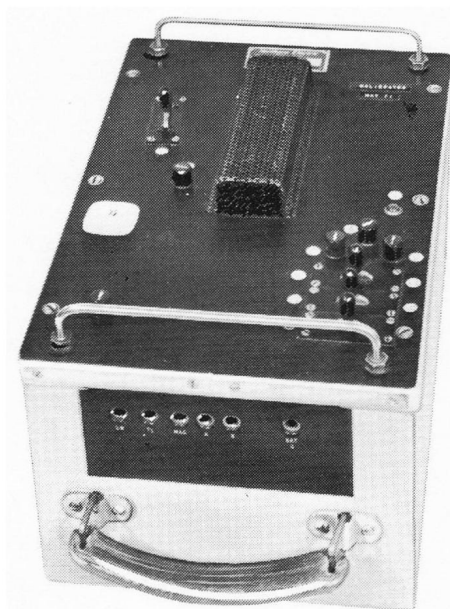
### Pulsing Test Set J34717A

The Pulsing Test Set J34717A is intended for use at Step-by-Step offices to test the ability of the switches to follow the dial pulses. Operation of keys in the set causes test pulses to be sent to the switch being tested, simulating extreme loop and leak conditions received from subscriber lines. Results of the test are indicated in the action of the switch being tested.

#### Features

- Standard test for SxS switches.
- Busy switch lamp indicator.
- Convenient pulse speed, percent Make/Break checking.
- Operates from office battery.
- Battery and test patch cords provided.
- Contact sparking minimized.

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#### Ordering Information

Description	Product Code
Test Set	J34717A List 1

## Test Sets



## Pulse Repeating Test Set J34720A

The Pulse Repeating Test Set is used in Step-by-Step offices when adjusting "A" relays in repeaters by means of a percent break test, to assure satisfactory performance of all switches at the incoming office. It is used in conjunction with Pulsing Test Set J34717A (see page 4.1), and the NE-35F Current Flow Set J94714B (see page 15.1).

### Features

- Direct reading circuit break.
- Test cords and ladder strap included.
- Uses office battery.

**Note:** The following patching cords and tools are required, and furnished as part of the test set:

One 6P3A cord	One 2W17A cord
Two 3P15B cords	Two 3P7A cords
One 3P2A cord	Two 419A tools

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### Ordering Information

Description	Product Code
Test Set	J34720A-6 Lists 1/A/B



## Test Sets



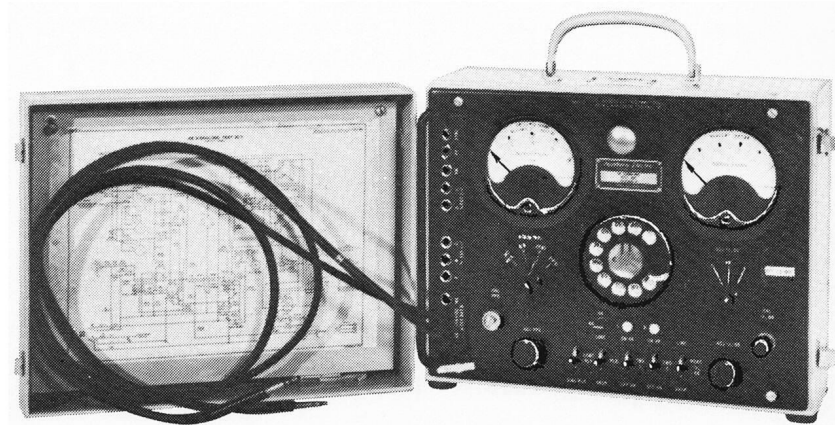
### NE-2B Signaling Test Set J64730B

The NE-2B Signaling Test Set is intended for use in testing signaling circuits having a sending M-lead and a receiving E-lead. Controls and indicators have been provided to establish and monitor the various functions of the test set, as follows: (1) continuous On-Hook, Off-Hook or controlled dc pulses to a line signaling circuit or to connected drop line equipment; (2) lamp indications of supervisory circuits; (3) measurement of percent break; (4) controlled dial pulse trains; and (5) voltage and current measurements.

#### Features

- Controlled pulse speeds.
- Adjustable percent break.
- Variable On-Hook/Off-Hook signals.
- Monitoring of supervisory signals.
- Voltmeter 0-20/200 V.
- Milliammeter 0-20 mA.
- Power and test cords.
- Use of office battery.
- Ladder strap available.

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#### Ordering Information

Description	Product Code
Test Set	J64730B-2 Lists 1/QA
Ladder Strap	ED-91107-70 Gr. 4

Information subject to change without notice.

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## Test Sets



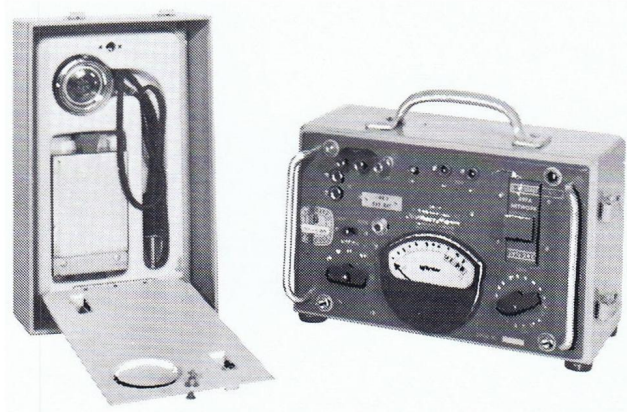
## NE-3A Noise Measuring Set J94003A

The NE-3A Noise Measuring Set, is a portable, direct reading test set designed to permit rapid and accurate measurements of noise on a wide variety of telephone circuits. It may be used, without auxiliary apparatus, to measure weighted or unweighted noise metallic (bridging and terminating) and noise to ground referred to 0 dBrn. This set is also fitted with an NE-723A receiver, normally stored in the lid, to provide audible monitoring of the noise being measured.

### Features

- Internal 45 V battery or -48 V office operation.
- Internal calibration.
- Frequency weighting.
- Direct reading 0 to 97 dBrn.
- Accuracy  $\pm 1$  dB.

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## Technical Data

<b>Input Impedance</b> Noise metallic 600 and 900 $\Omega$ Bridging 10,000 $\Omega$ Noise to ground 100,000 $\Omega$	<b>Meter Scale</b> -10 dBrn to 0 dBrn 10 dB/division 0 dBrn to 12 dBrn 1 dB/division	<b>Range of Measurement (dBrn)</b> Noise metallic +97 to -10 dBrn Noise to ground +137 to +30 dBrn	<b>Weighting Network</b> C-message and 3 kHz flat
<b>Ac Monitor Output Level (with meter indicating 10 dBrn)</b> Minimum output, open circuit 1 Vrms Minimum output, into 600 $\Omega$ 0.5 Vrms	<b>Dc Monitor Output Level (with meter indicating +10 dBrn at 1 kHz)</b> Open circuit 0.8 V $\pm 0.2$ V Across 600 $\Omega$ 0.2 V $\pm 0.05$ V	<b>Accuracy</b> Overall measurement error $\pm 1$ dB Attenuator $\pm 0.5$ dB	<b>Unweighted Sensitivity</b> 0 dBrn up to 50°C (122°F)
<b>Internal Noise</b> -20 dBrn up to 50°C (122°F)	<b>Power Requirements (Self-powered Operation)</b> 1-45-V Eveready Type 484 (or equivalent) dry battery (not provided)		

## Ordering Information

Description	Product Code
Test Set	J94003A-2 Lists 2/A/QA/QB

Information subject to change without notice.

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## Test Sets



## NE-6A Impulse Counter J94006A

The NE-6A Impulse Counter is used to provide an indication of the number of noise impulses (hits) occurring on a voice-frequency circuit or trunk during a selected time period and exceeding a predetermined amplitude. This test set uses a built-in, resettable digital counter (register) to record the noise impulses.

### Features

- Portable and battery powered.
- Built-in adjustable timer.
- Battery test jacks.
- Built-in weighting networks.
- Adjustable operating level.

For further information  
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## Technical Data

<b>Input Impedance</b> 600 $\Omega$	<b>Adjustable Timer Range</b> 0-60 minutes	<b>Maximum Counting Rate</b> Approx. 6-7 pulses/second	<b>Minimum Pulse Width</b> 50 microseconds
<b>Minimum Pulse Interval</b> 150 milliseconds	<b>Maximum Counting Capacity</b> 9,999 counts	<b>Operating Level</b> 30 to 90 dBrn (adjustable in 3-dB steps)	<b>Temperature Range</b> 0°C to 50°C (32°F to 122°F)

## Ordering Information

Description	Product Code
Test Set	J94006A-1 List 1



## Test Sets



## NE-22A Milliwatt Reference Meter J94022A

The portable test set NE-22A, is a milliwatt reference meter used primarily for measuring 1 kHz milliwatt outlets and test line appearances.

### Features

- Battery operated, two 1½-V and one 45-V dry batteries.
- Shielded against electric and magnetic fields.
- Circuit protection against large input signals.

**Note:** Batteries referred to above must be ordered separately.

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## Technical Data

Range	Scale Range	Accuracy	Temperature Range
-16 dBm to 0 dBm in 1 dB steps, +0.5 dBm, +4 dBm, and +7 dBm	$\pm 0.25$ dB	$\pm 0.03$ dB at 1 kHz and at the center of the light-beam scale. $\pm 0.05$ dB from 700 Hz to 3 kHz anywhere on the scale	0°C to 49°C (32°F to 120°F)

## Ordering Information

Description	Product Code
Test Set	J94022A-2 List 2
Batteries:	
1 ea. 45-V Eveready Type 484 or equivalent	
2 ea. 1½-V Size D flashlight type	



## Test Sets



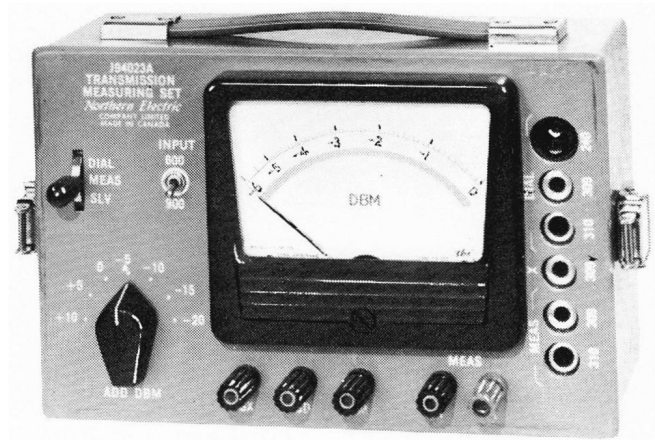
## NE-23A Transmission Measuring Set J94023A

The NE-23A Transmission Measuring Set is a small, portable, voice frequency level measuring instrument, with a nominal frequency range of 300 Hz to 5 kHz; it can be used in the range of  $-25$  dBm to  $+10$  dBm. The NE-23A test set may be used to terminate both  $600\ \Omega$  and  $900\ \Omega$  circuits.

### Features

- Rugged construction.
- Dial measure and sleeve circuits.
- Measure and Hold.
- Reliable high-sensitivity meter.
- Power frequency suppression.
- Simple external calibration.
- No batteries or external power required (passive circuit).

For further information  
contact our nearest sales office



## Technical Data

<b>Measurement Range</b> $-25$ dBm to $+10$ dBm	<b>Meter Range</b> 6 dB	<b>Frequency Range</b> 300 Hz to 5 kHz	<b>Input Impedance</b> $600\ \Omega$ and $900\ \Omega$
<b>Measurement Accuracy</b> $\pm 0.1$ dB at 1 kHz	<b>Interference Suppression</b> $> 4$ dB at 180 Hz	<b>Holding Circuit</b> 700 $\Omega$	$\pm 5\%$ at 1 kHz
$\pm 0.5$ dB from 400 Hz to 5 kHz	$> 25$ dB at 60 Hz		

## Ordering Information

Description	Product Code
Test Set	J94023A-1 List 1

## Test Sets



## NE-23B Transmission Measuring Set J94023B

The NE-23B Transmission Measuring Set is a small, rack-mounted, voice frequency level (300-5000 Hz), measuring instrument, used in the range of  $-25$  dBm to  $+10$  dBm. This test set may be used to terminate both  $600\ \Omega$  and  $900\ \Omega$  circuits.

### Features

- Reliable high sensitivity meter.
- Needs no external power (passive circuit).
- Power frequency suppression.
- Simple external calibration.

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## Technical Data

<b>Measurement Range</b> -25 dBm to +10 dBm	<b>Meter Range</b> 6 dB	<b>Frequency Range</b> 300 Hz to 5 kHz	<b>Input Impedance</b> 600 $\Omega$ and 900 $\Omega$
<b>Measurement Accuracy</b> At 1 kHz $\pm 0.1$ dB 400 Hz to 5 kHz $\pm 0.5$ dB	<b>Interference Suppression</b> >4 dB at 180 Hz >25 dB at 60 Hz		$\pm 5\%$ at 1 kHz

## Ordering Information

<b>Description</b>	<b>Product Code</b>
Test Set	J94023B-1 List 2

## Test Sets



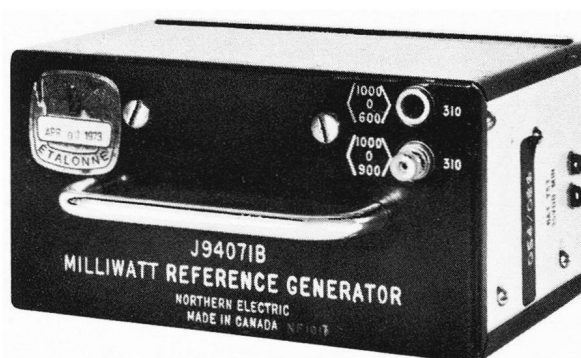
### NE-71B Milliwatt Reference Generator J94071B

The NE-71B Milliwatt Reference Generator is used for testing voice channels in transmission systems, trunks, lines, circuits and networks. It may also be used as a reference power source for checking portable test equipment such as transmission measuring sets, amplifier-rectifiers, detectors and meters with dB scales based on 1 milliwatt. Two 1-milliwatt outlets provide for tests at both 600  $\Omega$  and 900  $\Omega$  and are connected to the circuit under test with patching cords.

#### Features

- Fully portable.
- Battery operated.

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#### Ordering Information

Description	Product Code
Test Set	J94071B-1 List 1
Primary Battery	NS-14370



Test Sets



NE-3 Local Test Cabinet J94709B

The NE-3 Local Test Cabinet is used in Manual, Crossbar and Step-by-Step offices for testing subscriber lines, trunks and similar circuits. It may be arranged for portable use, or it may be mounted on a single pedestal desk, a wall or on the end of a distributing frame. The test circuit is arranged to test several offices on a centralized basis, and is designed for 1500 subscriber loops and test trunks. It can also be used to make insulation breakdown tests, tests of coin collectors, transmission tests, dial tests, and touch-tone calling tests.

Portable Cabinet

The portable arrangement consists of List 1/E/J together with List 2/G. A casing, ED-91080-70 Group 1, is also required.

Wall Mounting

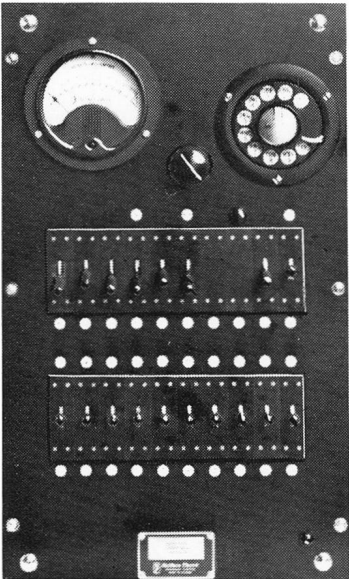
The wall-mounted arrangement consists of List 1/E/J together with Lists 2/G and AA. A casing, ED-91081-70 Gr. 1, and mounting details, ED-90378-30 Gr. 3, are also required.

Desk Mounting

The desk-mounted design comprises List 1/E/J together with supplementary equipment and wiring shown on drawing ED-91465-30.

Distributing Frame Mounting

Other arrangements are available for use on the ends of distributing frames (MDF's, LIDF's, etc). When a test cabinet is to be mounted on the end of an MDF, a case ED-91081-70 Gr. 1, and brackets ED-90378-30, are required in addition to List 1/E/J.



Ordering Information

Description	Product Code
Test Cabinet	J94709B-4 List 1/E/J

(Optional features may be provided by calling up additional lists as shown overleaf.)



## Test Sets



## NE-3 Local Test Cabinet J94709B

### Optional Features

In addition to List 1/E/J, optional features are available as shown in the following table.

### Ordering Information

Description	Product Code
Dialing	J94709B List 3
Improved balance test for subscriber lines where no Step-by-Step subscriber lines are to be tested	J94709B List 6/L
Subscriber lines in Step-by-Step offices	J94709B List 7/M
When testing to manual or toll switchboards in the same building using a jack panel	J94709B List A
When testing to manual or toll switchboards in the same building not using a jack panel	J94709B List 8
When testing to manual or toll switchboards is not required in the same office	J94709B List C
When List 3 (Dialing) is not required	J94709B List D
When used in No. 1 ESS offices	J94709B List N
Jack panel	J94709B List AA

### Test Cords

Test cords are shown in drawing J94709B-4, table B. These are to be ordered separately as required for specific applications.

### Ancillary Equipment

Casings, mounting details and supplementary jack panels may be required and these are to be ordered separately.

### Ordering Information

Description	Product Code
Casing	ED-91081-70 Gr. 1
Wall-mounting Details	ED-90378-30 Gr. 3
Desk-mounting; Supplementary Equipment	ED-91465-30

**For further information  
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## Test Sets



## Relay Timing Test Set J94713A

The Relay Timing Test Set is intended to verify the hold and release timing requirements of relays and similar apparatus. Hold and release times are adjustable in discrete steps. Variable make with fixed break or fixed make with variable break pulses are generated. The pulses provided are well within the requirements needed for relay adjustment purposes. The set is used with the NE-35 type Current Flow set (see page 15.1) and may be remotely controlled by an NE-32 type set.

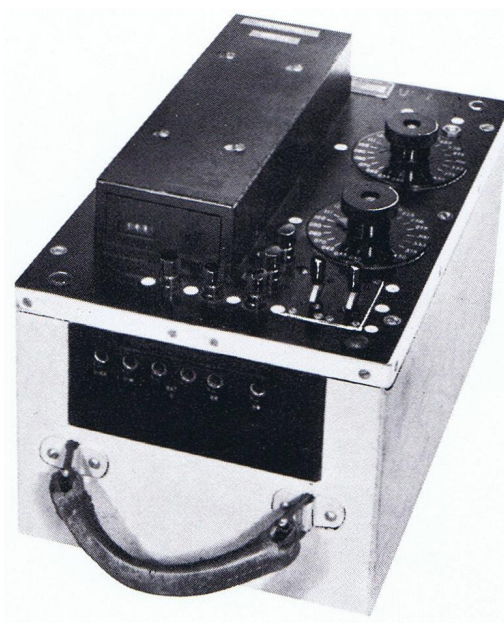
### Features

- Variable make or break 0.050 to 0.750 second
- Fixed make or break 0.222 second
- Variable pulse adjustment 20 steps.
- Office battery.

### Options

J94713A-5 List 1/F/QA/QB provides the relay timing test set with standard test cords.  
J94713A-5 List A provides an NE-32A test set for remote control.  
J94713A-5 List B provides an NE-32C test set for remote control.  
J94713A-5 List C provides a 3P2A cord needed in Step-by-Step offices only.  
J94713A-5 List D provides a 3P35A cord for testing Step-by-Step connectors.

**For further information  
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### Ordering Information

Description	Product Code
Relay Timing Test Set with Standard Test Cords	J94713A-5 List 1/F/QA/QB
Relay Timing Test Set with NE-32A Test Set for Remote Control	J94713A-5 List A
Relay Timing Test Set with NE-32C Test Set for Remote Control	J94713A-5 List B
Relay Timing Test Set with 3P2A Cord for use in Step-by-Step Offices only	J94713A-5 List C
Relay Timing Test Set with 3P35A Cord for Testing Step-by-Step Connectors	J94713A-5 List D



## Test Sets

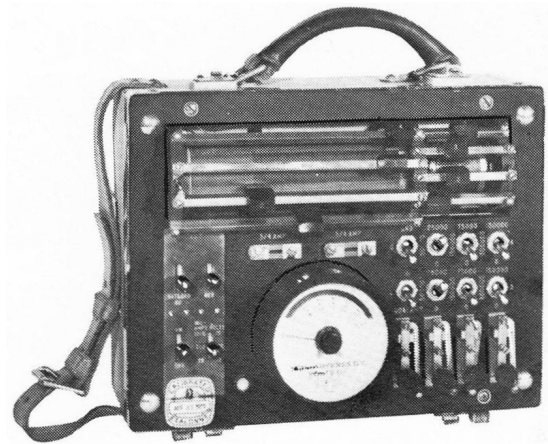


### NE-35F Current Flow Test Set J94714B

The NE-35F Current Flow Test Set is a volt-milliammeter equipped with rheostats, facilitating the setting of independent current values to obtain current flow data; it is used for adjusting relays and other electromagnetic apparatus in the telephone plant on a current flow basis. The test set is arranged to adjust current values and make voltage measurements on relays, clutches and other electrical apparatus for which current and voltage requirements are specified. Standard test cords can be provided for the various applications.

#### Features

- Test set connections with 309 and 310 type plugs or binding posts.
- Convenient test cords for most applications
- Manual remote control (NE-32C Test Set)
- Rugged and convenient operation.
- Mirror-scale precision meter.
- Operates on central office battery supply.
- Up to 4 independent pre-set current values.
- Ladder strap.



#### Technical Data

Current Ranges	Voltage Ranges	Resistance Ranges	Physical Dimensions
0 to 3 mA 0 to 15 mA 0 to 75 mA 0 to 750 mA	0 to 15 V 0 to 75 V 0 to 300 V	0 to 528 k $\Omega$ 0 to 28 k $\Omega$	11 x 8½ x 6⅞ in (279.4 x 216 x 155.6 mm)

#### Ordering Information

Description	Product Code
Test Set	J94714B-1 List 1/B

## Test Sets



### Pulse Checking Test Set J94723A

The Pulse Checking Test Set is intended for use in Step-by-Step and Crossbar offices for measuring pulse rates and percent break of interrupter circuits. A shielded, direct-reading milliammeter is included for use as a percent break meter and pulse speed indicator. Keys and top panel controls provide calibration and test circuit configurations normally required.

#### Features

- Pulse rate 3 to 40 pulses per second.
- Percent break 20 to 80 percent.
- Office battery power supply -48 V.
- Jacks and binding posts.
- Ladder strap included.
- Optional patch cords and optional cover.

#### Optional Patch Cords and Cover

The patch cords and test set cover may be ordered separately when required.

#### For further information

contact our nearest sales office



#### Ordering Information

Description	Product Code
Test Set	J94723A-2 List 1/C/QA/QB
Patch Cord NE-1W7A	J94723A-2 List 2
Patch Cord NE-3P15A	J94723A-2 List 3
Patch Cord NE-2P32A	J94723A-2 List 3
Cover	J94723A-2 List 4

Information subject to change without notice.

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## Test Sets



### Contact Closure Test Set J94724A

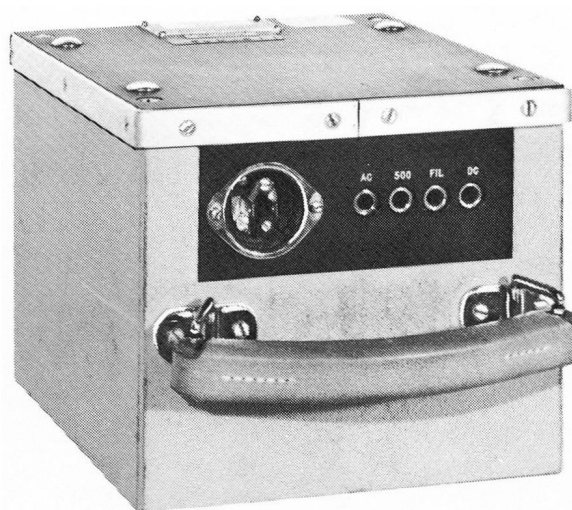
The Contact Closure Test Set is used, together with the NE-35 type Current Flow set J94714B (see page 15.1), in testing NE-206 and NE-239 type relays in the central office. Specifically, it provides a lamp indication of contact closing or opening, thus assuring precision adjustment of these relays. Networks are also provided for establishing proper test circuit conditions for these relays.

#### Features

- Test circuits for ac and dc.
- 115 V 60 Hz internal ac supply.
- 7½-V dry battery dc supply.
- Power and test cords are included.
- Tools 587A and 588A are included.

The dry battery NS13493 (Size 5G) is required and must be ordered separately.

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#### Ordering Information

Description	Product Code
Test Set	J94724A-1 List 1/QA
Primary battery	NS13493 (Size 5G)

Information subject to change without notice.

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## Test Sets



### Mercury Contact Relay Test Set J94725A

The Mercury Contact Relay Test Set provides test circuits for checking and adjusting NE-275, 276, 291, 292, 301, 303, 316, 320 and 321 type mercury relays and is designed to be used with the NE-35 type Current Flow set J94714B (see page 15.1). Standard 8-pin and 11-pin sockets are provided for connecting relays under test. A switch designated BSP Fig. connects the relay to the appropriate circuit and the Current Flow set. The indicating lamps provided give visual indication of the relay under test.

#### Features

- Uses central office battery power.
- Provides standard test circuits.
- Convenient set-up.
- Test cords included.
- Ladder strap available.

The following cords are supplied with the test set and are used to connect between the Current Flow set, the Mercury Contact relay test set, and the office battery power and ground supply.

One 2P9A — 9 ft long, equipped with two NE-310 plugs.

One 2P10A — 10 ft long, fitted with one NE-309 plug and one NE-310 plug.

One 3P29A — 8 ft long, supplied with one NE-309 plug and one NE-310 plug.

One W3BB — 3-conductor cord, equipped with one NE-309 plug and 3 banana plugs.



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#### Ordering Information

Description	Product Code
Test Set	J94725A-2 List 4
Ladder Strap (optional)	ED-91107-70 Gr. 4

Information subject to change without notice.

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## Test Sets



### Interrupter Test Set (30 Pulses/Sec.) J94726A

This Interrupter Test Set is intended for use in NE-5 Crossbar and Step-by-Step offices for calibrating the speed indicating meter in the perforator and reader test table; it may also be used for calibrating the Pulse Checking Test Set J94723A (see page 16.1).

#### Features

- Portable.
- Ladder strap attachment (optional).
- 115 V, 60 Hz ac power supply.

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#### Ordering Information

Description	Product Code
Test Set	J94726A-1 List 1

#### Options

One 2P4C Patching cord	J94726A List 2
One 2W42A Patching cord	J94726A List 3

**Note:** The ladder strap, if required, must be ordered separately.

#### Ordering Information

Description	Product Code
Ladder Strap (optional)	ED-91107-70 Gr. 4
Cord (optional)	J94726A-1 List 2
Cord (optional)	J94726A-1 List 3

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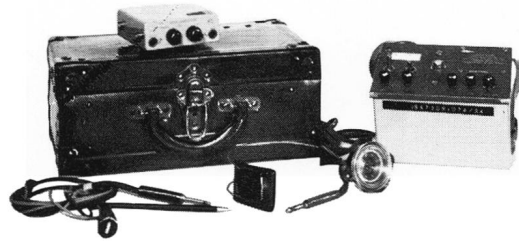
### NE-1A Fault Locator Test Set J94730A

The NE-1A Fault Locator Test Set is intended primarily to be used in checking, by comparison, the integrity of leads which have nominally the same capacitance to ground. The set is also a portable oscillator providing an approximately 500 Hz tone to assist in the location of crossed conductors in telephone cable or local wiring.

#### Features

- Lightweight and portable.
- 115 V, 60 Hz ac power supply.
- Amplifier, cords, receiver and ladder strap included.
- Contained in fibre carrying case (supplied).

**For further information  
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#### Ordering Information

Description	Product Code
Test Set	J94730A List 1



## Test Sets



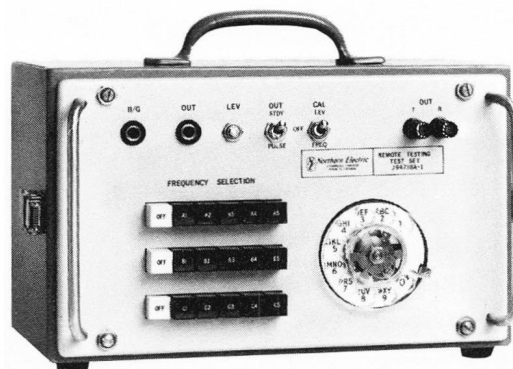
## Remote Testing Test Set J94738A

The Remote Testing Test Set is intended for use in NE-5 Crossbar and Step-by-Step offices, to provide a portable source of signals for testing the Remote Testing Circuit — Far End. The circuitry contains a multi-tone oscillator (a combination of 3 tuned oscillators) that can be switch-controlled to provide any of the 3 signal frequencies used by the remote testing system for key and operational control orders. The level is adjustable so that input to the circuit under test can simulate the lowest level signals used under normal operating conditions.

### Features

- Jack provided for external handset.
- Frequency selection switches provided.
- -48 V dc power supply.
- Optional ladder strap attachment.

**For further information  
contact our nearest sales office**



### Ordering Information

Description	Product Code
Test Set	J94738A List 1
Ladder Strap (optional)	ED-91107-70 Gr. 4

Information subject to change without notice.

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## Test Sets



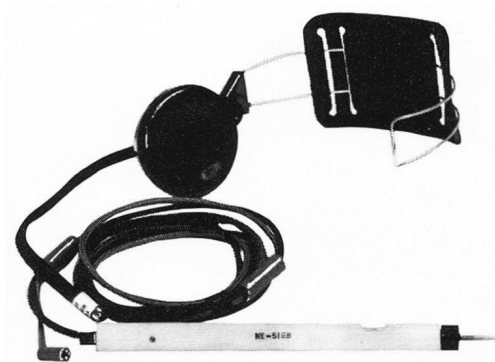
### NE-67C Test Set

The NE-67C Test Set is intended for use in telephone central offices for the identification of subscriber lines. Basically, this set consists of a probe and a receiver, and is used to detect low frequency tone sources generated by the NE-81A test set, the NS-14103L5N Breakdown test set, and the NE-76 type test set.

#### Features

- Portable.
- A built-in switch, when pressed, shorts out an internal resistor to improve the tone reception.

**For further information  
contact our nearest sales office**



#### Ordering Information

Description	Product Code
Test Set	NE-67C

Information subject to change without notice.

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Test Sets



NE-QSM1A Test Set

The NE-QSM1A Test Set is designed to detect the ringing voltage on subscriber lines. In this capacity it may also be used for carrying out polarity checks. Other uses include the identification of conductors carrying 130 V dc.

Features

- Neon glow-tube indication.
- Current limiting resistor for safety.
- Rugged construction.
- Lightweight.

For further information  
contact our nearest sales office



Ordering Information

Description	Product Code
Test Set	NE-QSM1A



## Test Sets



### NE-QSM2A Test Set

The NE-QSM2A Test Set is intended for use in Crossbar and Step-by-Step offices for burning off carbon and other foreign material found on relay contacts, switches and protector units.

#### Features

- Portable with carrying strap.
- Output cord included.
- 6 A capacity.
- Power requirement 48 Vdc central office supply.

**For further information  
contact our nearest sales office**



#### Ordering Information

Description	Product Code
Test Set	NE-QSM2A

Information subject to change without notice.

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