
PRO SCANNER™

User Guide

ENGLISH

PRO SCANNER

*PROGRESSIVE
ELECTRONICS, INC.*

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The Keypad



When turned on, PROSCANNER will flash the LCD power-up test and then resume the test mode that was last executed. PROSCANNER will turn off automatically when no cable is detected and no key has been used for 10 minutes.



Press ▲ ▼ to quickly change pairs or adjust values. The ▲ ▼ keys are only active if the indicators are shown on the display

Operating Mode



Press **MODE** to select the desired test. The available modes are: **WIREMAP - OFFICE IDENTIFIER - LENGTH - TONER**

Calibration Mode

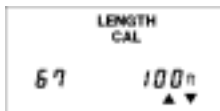


Turn the PROSCANNER **OFF**, then hold the **MODE** key down while pressing the **ON** key to start 'Calibrate' mode. Use PROSCANNER to calibrate cable lengths of more than 50 feet (15 meters) and up to 1500 feet (457 meters.)

Setting the NVP percentage

Once in Calibrate Mode, the default NVP (Nominal Velocity of Propagation) will be displayed followed by the overall cable length. The cable length is measured with the currently stored NVP.

NVP is the measure of how fast a signal travels down a cable compared to the speed of light. The result will be represented as a percentage of the speed of light. For an accurate length test, the NVP must be set correctly.



If you know a cable's NVP, change the displayed numbers using the ▲▼ keys until the appropriate NVP is displayed. The cable length will automatically adjust to the new NVP.

If you know a cable's length, change the shown NVP using the ▲▼ keys until the appropriate length is displayed. The NVP can be adjusted in 1% increments, and the length changes accordingly.

Cables used for calibration must be at least 50 feet (15 meters) long. Cable lengths of less than 50 feet will display **FAULT**.

Changing Display from Meters to Feet

During Calibration you will be able to switch the displayed length from meters to feet by simply pressing the **MODE** key.

Press the **ON/OFF** key once the desired cable length or NVP is displayed to terminate 'Calibrate' mode and store the new calibration factor. PROSCANNER will use it for future length measurements until another calibration is performed.

Battery

PROSCANNER requires a 9 Volt Alkaline battery. The Battery icon is displayed on the screen when PROSCANNER detects a low battery condition.



Using PROSCANNER with a low battery may effect the test accuracy.

If PROSCANNER is stored for more than one month, the battery should be removed.

NOTE: PROSCANNER will not function properly with a 9 Volt Carbon Battery.

High Voltage Protection

PROSCANNER is designed to withstand input voltage conditions that arise from normal telephony applications such as 48 VDC at less than 80 ma or 24 VAC used to power many keysets. Tests cannot be performed when hazard conditions exist on the inputs.

Technical Support

If you have technical questions, you may contact Progressive Electronics' Technical Support by phone, fax or e-mail.

1-800-528-8224 (Toll Free) (U.S. and Canada only)

1-602-966-2931 (Voice)

1-602-967-8602 (FAX)

info@progressive-inc.com (e-mail)

Before calling Technical Support, please have your Hardware and Software Version numbers available.

For new product information:

WorldWideWebpage at <http://www.progressive-inc.com>

Product Versions



Turn the PROSCANNER **OFF**, then hold **▲** and **MODE** keys down while pressing the **ON** key to display your hardware version and software version.

Hardware

1010 1020

Software

PROSCANNER™ Tests

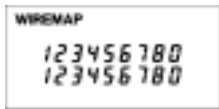
Wiremap

The **Wiremap** function tests twisted-pair cabling for proper wiring. Your cabling configuration is checked for shield continuity, opens, shorts, crossed pairs, split pairs, and reversed pairs. Test Results are displayed as a numeric representation, where the upper line of fixed digits shows the detected wires at the PROSCANNER jack, and the lower line of digits indicates the actual wiring. This function requires the use of the Wiremap Adapter at the far end.

1. Connect the cable to be tested to the **MAIN** jack (identified on the unit right above the modular 8 jack).
2. To display the Wiremap screen, press the **MODE** key until the word **WIREMAP** appears on the screen.

Below are examples where PROSCANNER did not detect any faults.

Full Wiremap with intact shield shown as a ZERO '0' on the right (4 pair, 8 wires)



**10BaseT Cable
(2 pair, 4 wires)**

WIREFMAP	
123	6
123	6

**Token Ring
(2 pair, 4 wires)**

WIREFMAP	
3456	0
3456	0

Below are examples of wiring faults. The **FAULT** indicator will be displayed and the numerical wire indicators will blink.

**Reversed:
Pair 3 - 6**

WIREFMAP	FAULT
12345678	
12645378	

**Crossed:
Pairs 4 - 5, 3 - 6**

WIREFMAP	FAULT
12345678	
12436578	

Split Pair

WIREFMAP	FAULT
SPLIT PAIR	
123456780	
123456780	

If the wire does not go to the far end, the numerical indicator for the open will be left blank. The word **Open** will be displayed. Shorted pairs are indicated with a connecting bracket, and the word **Short** will be displayed.

Open: Pair 4 - 5

WIREFMAP	FAULT
12345678	Open
123 678	

Short: Pair 1 - 2

WIREFMAP	FAULT
123456780	Short
1-23456780	

When the wiring fault includes shorted or swapped non-pair pins (e.g. non-pair pins 1 - 3), the wiremap will display dashes for those numerical wire indicators.

Patch Cable Wiremap

The **Wiremap** function can also be used to verify patch cables.

1. Simply plug the two ends of a cable into the two modular 8 jacks (**MAIN** and **LOOPBACK**) on PROSCANNER.
2. To display the Wiremap screen, press the **MODE** key until the word **WIREMAP** appears on the screen.

If there are any miswires, the number of the faulty wire will blink.

Length

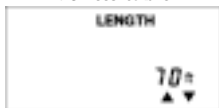
The **Length** function measures the full length of a cable. If you are measuring standard pair length, PROSCANNER will determine whether the cable is open, shorted, or connected to a hub.

1. Connect the cable to be tested to the **MAIN** jack (identified on the unit right above the modular 8 jack).
2. To display the length screen, press the **MODE** key until the word **LENGTH** appears on the screen. The overall cable length will be shown.

No Cable attached

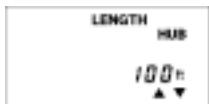


70 feet cable



If the far end of a cable is connected to a hub, PROSCANNER will display **HUB** and the cable length. The cable is considered connected to a hub when the 3 - 6 pair is terminated and either pair 1 - 2 or 4 - 5 is terminated.

Length to Hub



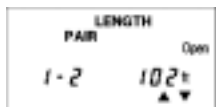
Pair Length

If ▲▼ are displayed, you will be able to show detailed pair information for each standard conductor pair.

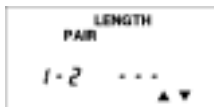
1. Press the ▲ key to display Pair 1-2 length.
2. Press the ▲ key again to display the other pair combinations.

The pair length is not measured if the cable is too long, connected to a hub, or a wiremap adapter is used.

Pair 1 - 2 Length



Pair 1-2 not measurable



Office Identifier

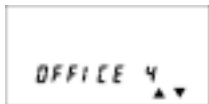
The **Office Identifier** function allows you to find the termination of an office cable drop from a wiring closet. By inserting the Office Identifier adapters into office wall outlets, PROSCANNER can identify office locations at the patch panel.

The Office Identifier plugs are included in the optional Twisted Pair Office Identifier accessory kit. They are uniquely numbered from 1 to 12. The Wiremap Adapter may also serve as an Office Identifier Plug and will be displayed as **OFFICE 4**.

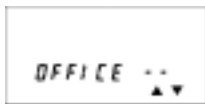
1. Connect the cable to be tested to the **MAIN** jack (identified on the unit right above the modular 8 jack).
2. To display the Office Identifier screen, press the **MODE** key until the word **OFFICE** is displayed on the screen.
3. Insert the Office Identifier plugs into wall outlets in the offices you wish to locate.
4. At the patch panel, run the Office Identifier function to identify which office is connected to a given port.

PROSCANNER will display the number of the Office Identifier found.

Office 4 found



No office found

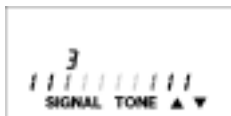


Toner

Toner is a cable tracing function that assists in tracking cables hidden in walls, ceilings, floors, or patch panels by generating four distinct multi-tone signals that can be received by a cable tracer. To trace a cable, use an inductive amplifier (Progressive Electronics models 200B, 200EP or 200FP), or any equivalent tracing device, to convert a signal on the cable into an audible tone. To determine the cable path, simply trace along the wire using the audible tone as a guide. The tracer needs to be within one foot of the hidden cable. You may select one of four different tone sequences, displayed as the numbers 1-4 on the LCD.

1. To display the Toner screen, press the **MODE** key until the words **Signal Tone** are displayed on the screen.
2. To select a different tone sequence press the **▲** or **▼** key.

Display for time frames with #3 signal tone



To enhance the signal insert a grounding plug into the ground jack located next to the **MAIN** and **LOOPBACK** jacks. You may use any grounding cable that has a standard insulated phone tip plug.

Technical Specifications

Dimensions:

PROSCANNER:

13.97 cm x 8.25 cm x 2.54 cm (5.5" x 3.25" x 1")

Wiremap Adapter/Office Identifier:

5.72 cm x 1.27 cm x 1.59 cm (2.25" x .5" x .625")

Ground pin receptacle size: 2.03 mm (.08")

Weight:

PROSCANNER : 171.54 g (.38 lbs)

Wiremap Adapter/Office Identifier: 9.03 g (.02 lbs)

Power Source: 9 V Alkaline battery

User Interface:

Display: Custom LCD

Size: 4.42 cm x 2.15 cm (1.75" x .85")

Keypad: Four momentary contact keys

Environmental:

Operating Temperature: 0° to 50°C (32° to 122°F)

Storage Temperature: -10° to 55°C (14° to 131°F)

Humidity: 10% to 90% non-condensing

Applications:

Shielded and unshielded twisted pair cable.

Test Interface:

Main: Modular 8 connector for length, wiremap, office identifier, trace

Loopback: Modular 8 connector for patch cable wiremap

Calibration: User selectable NVP

NVP calculation based on known cable length

Minimum length: 15 meters (50 feet)

Maximum length: 457 meters (1500 feet)

Accessories: Twisted pair office identifier kit,
Model PE-K02
Additional wiremap adapter,
Model PE-P02

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