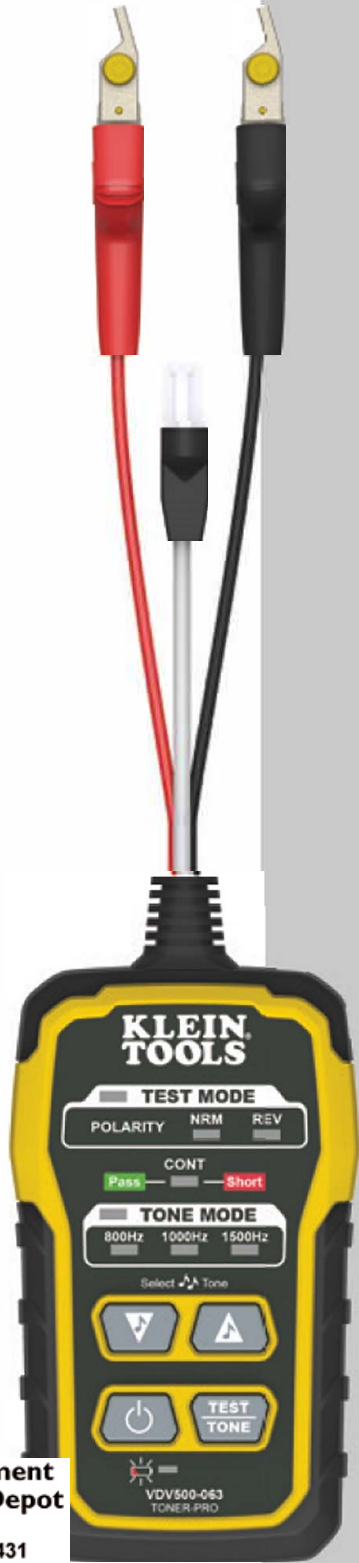# INSTRUCTION MANUAL

Toner-Pro / Probe-Pro Kit

- **TRACE INDIVIDUAL OR PAIRED WIRES**
- **TEST RJ11, RJ12, AND RJ45 JACKS**
- **DETECTS CONTINUITY AND POLARITY**
- **5 DISTINCT TONES (3 CONSTANT, 2 ALTERNATING)**
- **EASY-TO-UNDERSTAND STATUS LEDs**
- **REPLACEABLE PROBE TIP**

VDV500-123

VDV500-063

KLEIN TOOLS

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KLEIN TOOLS

C E

GENERAL SPECIFICATIONS - VDV500-063 TONER-PRO

The Klein Tools VDV500-063 Toner-Pro is a professional-series tone generator for wire identification, wire tracing and wire pair identification. It features several tone frequencies and strong power output for tracing wires.

- **Operating Altitude:** 6562 ft. (2000 m) maximum
- **Relative Humidity:** 10% – 90% non-condensing
- **Operating Temp:** 14° to 122°F (-10° to 50°C)
- **Storage Temp:** -4° to 140°F (-20° to 60°C)
- **Dimensions:** 2.5' x 5" x 1" (64 x 127 x 25 mm)
- **Weight:** 7.4 oz. (210 g) including batteries
- **Battery Type:** 4 x 1.5V AAA Alkaline
- **Battery Life: Active:** 120 hours
          Standby/Storage: 3 years
- **Auto-Power Off:** After 60 minutes of inactivity
- **Tones: Constant:** 800Hz, 1000Hz, 1500Hz
          Alternating: 800Hz/1000Hz, 1000Hz/1500Hz
- **Tone Power:** 8dBm
- **Continuity Indication:** Less than 10kΩ
- **Voltage Protection: Test Mode:** 60V
          Tone Mode: 20V through external 600Ω

Specifications subject to change.
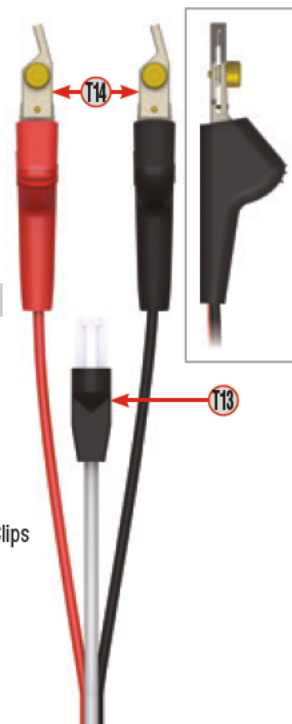
FEATURE DETAILS

T1 TEST MODE Indicator

T2 "NRM" (Normal) Polarity Indicator

T3 "REV" (Reverse) Polarity Indicator

T4 "CONT" (Continuity) Indicator

T5 TONE MODE Indicator

T6 Tone Frequency Indicators

T7 Tone Mode Down selector button

T8 Tone Mode Up selector button

T9 Power On/Off Button

T10 TEST/TONE Button

T11 Battery Status Indicator

T12 Lanyard Slot

T13 RJ11 Test Plug

T14 ABN (Angled Bed-of-Nails) Test Clips

T15 Battery Cover

T16 Battery Cover Screw (#2 Phillips)

The Klein Tools VDV500-123 Probe-Pro is a professional-series tone tracer, featuring an inductive probe with speaker for amplification, and LED light for use in dark spaces. It also features a headphone jack for use in extreme noise environments.

- **Operating Altitude:** 6562 ft. (2000 m) maximum
- **Relative Humidity:** 10% – 90% non-condensing
- **Operating Temp:** 14° to 122°F (-10° to 50°C)
- **Storage Temp:** -4° to 140°F (-20° to 60°C)
- **Dimensions:** 1.75" x 8.88" x 1.13' (44 x 226 x 29 mm)
- **Weight:** 5.7 oz. (161.6 g) including batteries
- **Battery Type:** 4 x 1.5V AAA Alkaline
- **Battery Life: Active:** 25 hours
          Standby/Storage: 3 years
- **Auto-Power Off:** After 10 minutes of inactivity

Specifications subject to change.

FEATURE DETAILS

P1 Replaceable Inductive Polymer Tip (VDV999-068)

P2 Worklight

P3 Worklight On/Off Button

P4 Signal Strength Indicator

P5 Power On/Off Button

P6 Volume Increase Button

P7 Volume Decrease Button

P8 Battery Status Indicator

P9 Speaker

P10 Lanyard Slot

P11 "-" (Negative) Terminal

P12 "+' (Positive) Terminal

P13 Terminal Release Buttons

P14 Verification Indicator

P15 Battery Cover

P16 Battery Cover Screw (#2 Phillips)

P17 3.5mm Headphone Jack*

*⚠**CAUTION:** *Excessive volume can cause permanent hearing damage. Use as low a volume as possible.*

⚠ WARNINGS

To ensure safe operations and service of the instruments, follow these instructions. Failure to observe these warnings can result in fire, electric shock, severe injury or death.

- The Toner-Pro and Probe-Pro are designed for use on extra-low voltage cabling systems (less than 60 volts) for testing when **NOT** energized.
- The maximum voltage across ABN Test Clips of the Toner-Pro is 60 volts in Test mode, and 20 volts in Continuity mode. Connecting the Probe-Pro to live mains AC power may damage it and pose a safety hazard for the user.
- **DO NOT** use instruments if they are wet, as it could pose a shock hazard.
- **DO NOT** use instruments if they are damaged in any way.
- Turn off instruments and disconnect all ABN Test Clips before attempting to replace batteries.
- The battery door must be in place and secure before you operate the instrument.
- **DO NOT** open the case, other than the battery compartment.

OPERATING INSTRUCTIONS

READ ALL INSTRUCTIONS BEFORE OPERATING AND RETAIN INSTRUCTIONS FOR FUTURE REFERENCE

CONTINUITY TEST

The Toner-Pro transmits frequencies on non-energized wires only. When the Toner-Pro is turned on, a continuity test will be performed to determine if the 2 wires to be traced are in close proximity to each other, without a conductive path between them. The "CONT" Indicator (T4) will illuminate green to indicate pass. Attach the red and black ABN Test Clips (T14) to the wires to be tested. If the resistance of the circuit is less than 10kΩ, the "CONT" Indicator (T4) will illuminate red and no toning can occur. If the "CONT" Indicator is illuminated green, a tone can be generated and you may proceed.

SELECTING TONE FREQUENCY

The Toner-Pro defaults to the 800Hz frequency setting when powered on. Use the Tone Mode Up (T8) and Tone Mode Down (T7) selector buttons to change the frequency. The Tone Frequency Indicators (T6) will display the frequency being transmitted. If an alternating tone is selected, the two respective Tone Frequency Indicators (T6) will blink. Tones will cycle through the available frequencies in a continuous loop when a selector button is pressed repeatedly.

TRACING PAIRED WIRES FIG. 1

1. Connect the Toner-Pro's red ABN Test Clip (T14) to one of the wires of the pair to be traced. Connect the black ABN Test Clip (T14) to the other wire to be traced.
2. Turn Toner-Pro on by pressing the Power On/Off button (T9).
3. Check the "CONT" Indicator (T4). If illuminated green, you may proceed.
4. Select the preferred tone setting using the Tone Mode Up (T8) and/or Tone Mode Down (T7) selector buttons.
5. Turn the Probe-Pro on by pressing the Power On/Off button (P5).
6. At the far end of the cable, spread the wires apart at least 2" (51 mm), if possible.
7. Use the Probe-Pro to scan the cable's wire pairs. Move the Probe-Pro's tip (P1) slowly across the wires (FIG. 1). The Probe-Pro's volume will increase as it approaches the toned pair. When the Probe-Pro's volume is high over the first wire, low in the middle (between) the two wires, and high over the second wire, you have located the pair of wires you are tracing. Use the Volume Increase (P6) and Volume Decrease (P7) buttons to adjust the volume.


FIG. 1

2"
(51 mm)
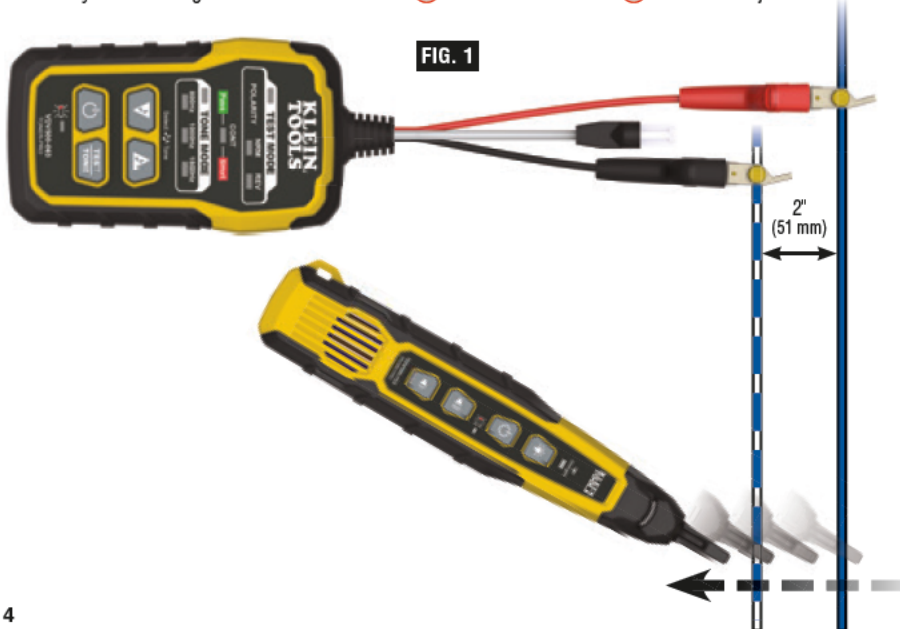
VERIFYING TONED PAIRS (FIG. 2)

1. To verify you have found the toned pair, connect the Toner-Pro's ABN Test Clips ⒕ or RJ11 Test Plug ⒔ to one end of the cable and initiate a tone.

2. On the other end of the cable, remove approximately 2 mm (3/32") of the outer jacket of each of the wires believed to be the toned pair.

3. Insert the wire connected to the red ABN Test Clip ⒕ to the "+" (Positive) Terminal ⒓, and the wire curently in the black ABN Test Clip ⒕ to the "-" (Negative) Terminal ⒒. To access the terminals, press their respective Terminal Release buttons ⒔, insert the wire(s) and release (FIG. 2). The Verification Indicator ⒕ will illuminate when the correct pair is inserted.

FIG. 2
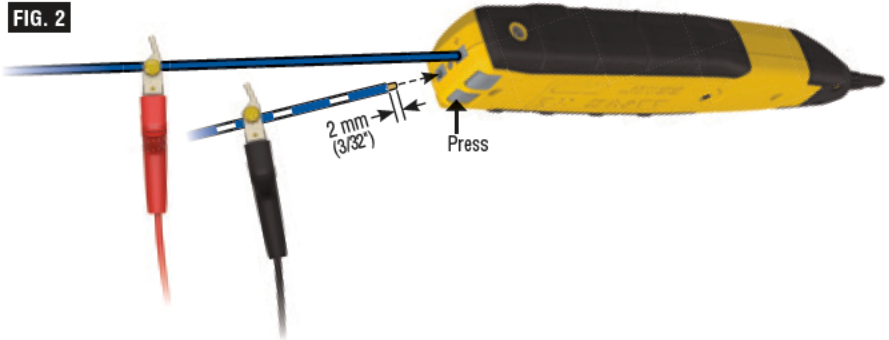
TRACING NON-PAIRED WIRES (FIG. 3)

1. Connect the Toner-Pro's red ABN Test Clip ⒕ to the wire to be traced.

2. Connect the black ABN Test Clip ⒕ to another wire in the cable, but preferably not in the same pair (connect to ground, if available). When tracing a shielded cable, connect the red ABN Test Clip to the outer shield, and the black ABN Test Clip to the center conductor or ground.

3. Turn Toner-Pro on by pressing the Power On/Off button ⒕.

4. Check the "CONT" Indicator ⒕. If illuminated green, you may proceed.

5. Turn the Probe-Pro on by pressing the Power On/Off button �.

6. Select the preferred tone setting using the Tone Mode Up ⒕ or Tone Mode Down ⒕ selector buttons.

7. At the far end of the cable, spread the wires at least 2" (51 mm) apart, if possible.

8. Use the Probe-Pro to scan the cable's wire pairs. Move the Probe-Pro's tip ⒫ slowly across the wires. The Probe-Pro's volume will increase as it approaches the toned wire.

FIG. 3

5

OPERATING INSTRUCTIONS
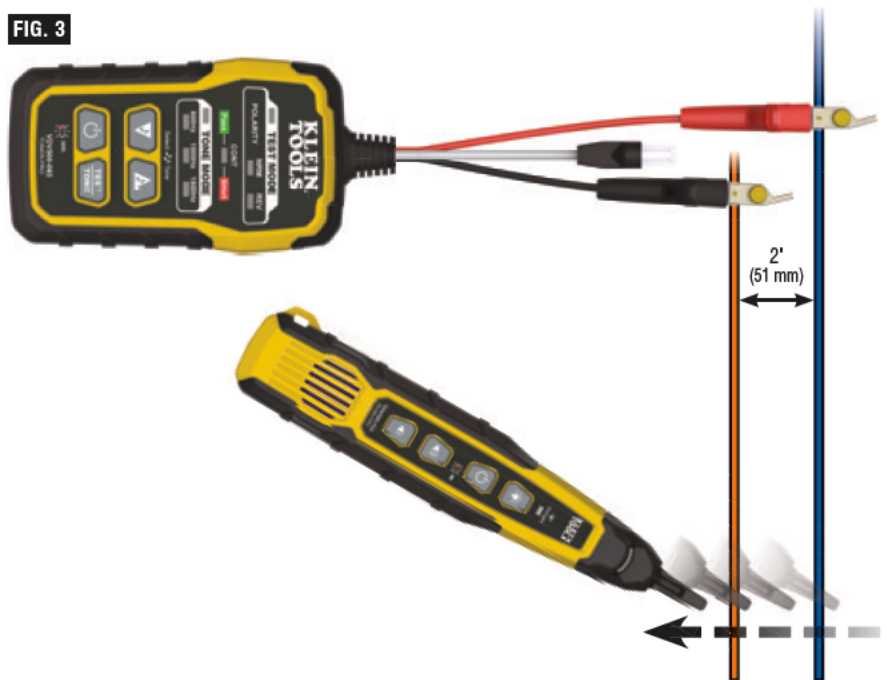
RJ11 / RJ12 / RJ45 TESTING

The Toner-Pro has an RJ11 Test Plug (T13) that can be used in place of the ABN clips to transmit the tone. The RJ11 plug works with RJ11, RJ12, or RJ45 jacks. The red and black ABN contacts are replaced by the 2 center conductors of the inserted plug, i.e. pins 2 and 3 for RJ11, pins 3 and 4 for RJ12, and pins 4 and 5 for RJ45.

Use the Probe-Pro to locate the toned wires at the far end of the cable, as described in the TRACING PAIRED WIRES section.

POLARITY AND VOLTAGE PRESENCE TESTING

The Toner-Pro may be used to test the polarity and type of voltage present.

1. Press the Power On/Off button (T9) on the Toner-Pro.

2. Press the TEST/TONE Select button button (T1). The "TEST MODE" indicator (T1) will illuminate.

3. Connect the ABN Test Clips (T14), or insert the RJ11 Test Plug (T13).

4. Check the "CONT" Indicator (T4). If illuminated green, you may proceed.

5. The "NRM" (Normal) Polarity Indicator (T2) will illuminate if the red ABN Test Clip (T14) is connected to the POTS (Plain Ol' Telephone Service) in the proper orientation. The "REV" (Reverse) Polarity Indicator (T3) will illuminate if the wires are reversed.

   - The "NRM" (Normal) Polarity Indicator (T2) will illuminate when the black ABN Test Clip detects higher voltage than the red ABN Test Clip.

   - The "REV" (Reverse) Polarity Indicator (T3) will illuminate when the red ABN Test Clip detects higher voltage than the black ABN Test Clip.

   - The "NRM" (Normal) Polarity Indicator and "REV" (Reverse) Polarity Indicator will both illuminate when AC voltage is present.

   - When the RJ11 Test Plug is used, the "NRM" (Normal) Polarity Indicator will illuminate on a correctly wired and powered POTS (Plain Ol' Telephone Service) phone jack.

NOTE: The POTS (Plain Ol' Telephone Service) color code convention (black/positive, red/negative) is the opposite of the multimeter color code convention (red/positive, black/negative).

USING THE PROBE'S WORKLIGHT

The Probe-Pro has a worklight (P2) to aid in illuminating dark or low-light work areas. Press the Worklight On/Off button (P3) to turn the light on and off.

MAINTENANCE

BATTERY REPLACEMENT

When the Low Battery Indicator (11) or (P8) blinks, the batteries must be replaced.

1. Turn off instrument(s) before attempting to replace batteries.

2. Loosen screw (16), (P6) on battery cover (15), (P6).

3. Remove and properly dispose of four 1.5V AAA batteries.

4. Install new batteries (note proper polarity).

5. Replace battery cover and fasten securely with screw.

⚠ *To avoid risk of electric shock, do not operate while battery door is removed.*

PROBE-PRO TIP REPLACEMENT (KLEIN CAT. NO. VDV999-068)

The tip (P1) of the Probe-Pro is replaceable if damaged. To remove and replace tip:

1. Turn tip 1/4 turn and pull gently to remove.

2. Insert new tip with key in proper orientation and push gently.

3. Rotate 1/4 turn to lock into place.

CLEANING

Be sure instrument is turned off and wipe with a clean, dry lint-free cloth. *Do not use abrasive cleaners or solvents.*

STORAGE

Remove the batteries when instrument is not in use for a prolonged period of time. Do not expose to high temperatures or humidity. After a period of storage in extreme conditions exceeding the limits mentioned in the GENERAL SPECIFICATIONS section, allow the equipment to return to normal operating conditions before using.

DISPOSAL / RECYCLE

Do not place equipment and its accessories in the trash. Items must be properly disposed of in accordance with local regulations. Please see **www.epa.gov** or **www.erecycle.org** for additional information.

NOTES