TRITONE GENERATOR

User Guide Version 1.7

OVERVIEW

TriTone tone generator is used to identify cables and cable pairs by generating a sine wave tone at 577.5Hz or 987Hz at one of three amplitudes; Normal, High, and Maximum. TriTone also provides Simplex, Triplex, or Metallic tone modes allowing the user to select the best mode for the application.

Three distinct tone patterns (repetition rates) permit the use of up to three TriTone tone generators simultaneously in the same cable or pair count.

The TriTone generator is used with existing amplifier probes; filtered, tunable, or unfiltered; aerial coils; and hand coils that are compatible with 577.5 Hz or 987 Hz tones.

The TriTone tone generator includes a short detection feature to assist in confirming the correct pair is identified.

CONNECTIONS

The TriTone tone generator has a Pair Cord, with Red and Black needle clips, and a Ground Cord. Connect the Pair Cord and the Ground Cord to the jacks located on the top of the TriTone tone generator.

The clips and ground should be connected to the pair and sheath of the cable as needed. Typical connections are:

Pair Identification, Simplex	Black clip to Tip, Red clip to Ring, and Ground clip to sheath/ground
Pair Identification, Triplex	Black clip to Tip, Red clip to Ring, and Ground clip to sheath/ground
Pair Identification, Metallic	Black clip to Tip, Red Clip to Ring, and Ground clip not connected
Cable Identification, Metallic	Black clip to sheath/ground, Red clip to a cable pair Tip and Ring. And Ground clip not connected

OPERATION

The following information describes the operation of the controls on the TriTone tone generator.

LAST SETTINGS MEMORY

The TriTone tone generator is designed to remember the last settings when the unit is turned off. The memory feature eliminates the need to reselect the function (tone or pair check), Tone, Rate, Mode, and Level for repeated use with the same settings.

POWER/VOLUME CONTROL

The Power/Volume control is located on the top of the TriTone tone generator. Press the knob to turn the power on or off. Press and hold the knob until the LEDs come on then release to turn the unit on. Press and hold the knob until the LEDs go off to turn the unit off.

The volume control varies the audible short detection alert volume. Connect the Pair Cord to the TriTone and short the Black and Red Clips. Rotate the knob to adjust the volume level as desired.

TONE SELECTION

The TriTone tone generator generates 577.5 Hz or 987 Hz tone. Press the Tone button to toggle the frequency between blue, 577.5 Hz, and green, 987 Hz as indicated on the front of the TriTone.

RATE SELECTION

The TriTone tone generator has three distinct tone repetition rates (patterns); 1, 2, or 3. The tone rates allow up to three TriTone tone generators to operate in the same cable/count simultaneously. Press the Rate button to change the Rate. The LED color indicates the Rate as printed on the front.

Tone Rates:
1. Beep – Beep – Beep …
2. Beep Beep – Beep Beep – Beep Beep …
3. Beep Beep Beep – Beep Beep Beep – Beep Beep Beep …

MODE SELECTION

TriTone tone generator provides three tone mode options; Simplex, Triplex, and Metallic. Press the Mode button to change the mode. The LED color indicates the Mode as indicated on the front of the TriTone.

SIMPLEX TONE

Simplex tone applies tone on the Tip to Ground and the Ring to Ground at the same time. The tone is balanced on the Tip and Ring and provides little or no audible tone between the Tip and Ring. The amount of tone heard Tip to Ring (metallic) will vary depending on the balance of the pair and the tone voltage. The tone heard increases on unbalanced pairs as the tone voltage increases.

Simplex tone is commonly used to locate cable pairs. The tone depends on a good ground to conduct the tone efficiently. Missing or poor bonds and grounds can significantly reduce the amount of tone on the pair and make it more difficult to locate pairs.

Simplex tone is applied to both the Tip to Ground and Ring to Ground simultaneously so tone can be heard even if the pair is shorted, one side is open, or one side is grounded

TRIPLEX TONE

Triplex tone is a unique tone mode that minimizes cross-coupling tone to adjacent pairs. Triplex mode applies tone to the pair Tip to Ground, Ring to Ground, and Tip to Ring simultaneously. This tone mode can be heard even with one side open or when there are missing bonds or grounds. This tone mode is useful any time a lot of tone is coupled to adjacent pairs, including wet sections.

Since cross-coupling is minimized, the amplifier probe must be very close or touching the pair to hear the tone. No tone will be heard if a short is present on the pair.

METALIC TONE

Metallic tone is applied between the Black and Red clips of the TriTone tone generator. This allows the user to apply tone for a variety of applications. Metallic tone cannot be heard if a short is present when applied Tip to Ring or a ground exists when applying tone Tip to Ground or Ring to Ground.

PAIR IDENTIFICATION

The metallic mode can be applied to the pair by connecting the black and red clips to the Tip and Ring of the pair. This mode is not dependent on the condition of the grounds or bonds but tone will not be heard if one side of the pair is open.

Metallic tone can also be used to send tone on one side of a pair. Connect one clip to the sheath/ground and the other clip to the Tip or Ring. This allows the user to identify a pair with one side open. Using Simplex or Triplex is the best mode when one side of the pair is open.

CABLE IDENTIFICATION

Metallic tone can be used to locate cables. Connect one clip to the sheath/ground and the other clip both the Tip and the Ring of a vacant cable pair. A coil probe and amplifier can be used to pick up the tone in the cable.

LEVEL SELECTION

The TriTone tone generator offers output at Normal, High, and Maximum levels. The voltage can be as high as 60 Vpp in metallic mode. The lowest level that allows identification of the cable pairs or cable should normally be used. High tone levels can increase inductive coupling to adjacent pairs.

Higher levels aid in the location of cables. The higher levels provide more signal outside the cable for the pickup probe and amplifier.

Press the LEVEL button to change the output level. The LED color indicates the current level as indicated on the front of the TriTone

PAIR CHECK FUNCTION

The TriTone tone generator provides a pair check function to determine if a pair is suitable for use as a talk pair. This check helps the user locate a talk pair before connecting the CommBat talk battery by detecting voltage or a short on the pair.

The pair check is a simple GO/NOGO test. A test set, such as the ATV-25, should be used if detailed information about the pair is needed.

SELECTING THE PAIR CHECK FUNCTION

Connect the pair cord and ensure the pair clips are not connected to a cable pair and are not shorted.

Press and hold the Tone button for approximately four seconds. The Tone LED will turn yellow and all other LEDs will be off.

Connect the pair clips to the TIP and RING of the pair to test. The LED will stay yellow if the pair is OK and will turn red if voltage or a short is detected on the pair.

The red indicator means the pair may be a working pair or may be defective. The pair is not suitable for use as a talk pair in either case.

Press the Tone button to exit the Pair Check function.

- Dimensions: 8" x 4.75" x 5.25"
- Weight: 29oz including cords and bag
- Power: 4 AA alkaline cells
- Operating Temperature: -20⁰ to 50⁰ C, non-condensing
- Tone Frequencies: 577.5 Hz, 987 Hz
- Output Voltage Levels, nominal:

Level	Simplex	TriPlex*	Metallic
Normal	6 Vpp RG and TG	12 Vpp TR	12 Vpp TR
High	14 Vpp RG and TG	28 Vpp TR	28 Vpp TR
Maximum	30 Vpp RG and TG	60 Vpp TR	60 Vpp TR

*TriPlex applies tone TR, TG, and RG. The TG and RG voltages are the same for TriPlex and Simplex

WARRANTY

The TriTone tone generator is warranted against defects in materials and workmanship for a period of one year from the date of purchase. Contact your local sales representative or the manufacturer for a Return Authorization (RA) number and instructions on returning the product for service. Products cannot be processed unless accompanied by an RA number.

The user is responsible for determining the applicability of the product for any application. The manufacturer is not responsible for any damages, direct or consequential, resulting from the use of its products. Users are required to follow all work safety procedures when using this product.

Damages due to impact, battery failure, flooding, or normal wear are not excluded.

The manufacturer will determine, exclusively at its own discretion, where repairs or replacement of the product is required for any warranty claim. In no case will the liability of the manufacturer exceed the original purchase price of the product.

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