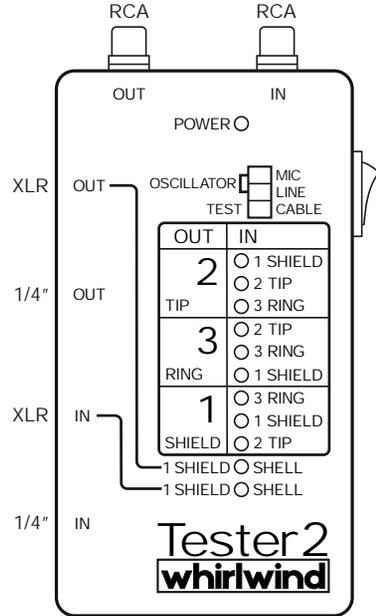


# Tester 2



## INTRODUCTION

The whirlwind Tester 2 represents the next generation of cable testers using digital circuitry to completely test any 2 or 3 conductor cable regardless of its wiring configuration. Simply plug the cable in and the Tester 2 will tell you exactly how the cable is wired, immediately ending guesswork with non-standard cables. As with whirlwind's original Tester, hands are free to move the cable at the connector ends to check for intermittent connections. The Tester 2 also outputs test tones for active testing. The versatile Tester 2 is a must for people working with many types of gear with a variety of wiring configurations.

## DESCRIPTION

The Tester 2 will check the continuity from every connector pin at one end to every connector pin at the other end, including the XLR barrel and display the results of each test path. The Tester 2 checks XLR, 1/4" TRS, 1/4" TS, and RCA cables with any combination of these plugs. The Tester 2 can also be used to check cables where simultaneous access to both ends is impossible, an example being wall mounted or other permanent installations. The tone oscillator outputs a 500 Hz test tone at either mic or line level. The tone is a filtered square wave.

## THEORY OF OPERATION

For each of the 3 conductors in a cable, the Tester 2 has 3 LEDs for each conductor. The digital circuitry in the Tester 2 sends a pulse through each pin and monitors the 9 possible connections that can exist on the other end of

the cable. The Tester 2 then sends the pulse down the second pin followed by the third. The 9 LEDs display the results and are updated continuously throughout the cycle. Intermittent problems are displayed on the LED display by flickering lights when shaking the cable, indicating exactly where the problem is in the cable. The Tester 2 outputs 62.5 test cycles per second. The nine test LEDs are various colors. Green LEDs are used to indicate a good mic cable. A standard good mic cable (wired 1-1, 2-2, 3-3), will light all 3 green LEDs. Red LEDs are used to indicate a short or phase reverse in a cable. Yellow lights caution that there are problems with a balanced mic cable or that the cable is unbalanced. For unbalanced mic cables, the Tester 2 will display the hot pin (connected to tip of 1/4"), and how the non-hot pin is wired (grounded or floating). With standard 2 conductor 1/4" instrument cables the Tester 2 will display ring connected to sleeve since the plug has a common ring and sleeve connection. In this case the Tester 2 will not only light the green LEDs for tip to tip and sleeve to sleeve, but also 2 yellow LEDs for ring to shield and shield to ring. The circuitry in the Tester 2 indicates if the shell of the XLR is connected to its corresponding pin 1. The test tone is on the out XLR (male) and out 1/4" connector.

## TESTING CABLES FROM ONE END

The Tester 2 can be used to test cables when only one end is available by using a shorting plug. This plug can be an XLR, either male or female, with pins 1, 2 and 3 all connected together or a 1/4" TS with the tip connected to the sleeve. To test a cable, connect one end of the cable to the Tester 2. The Tester 2 should light no LEDs indicating that nothing is shorted.

Next connect the shorting plug on the other end of the cable. The Tester 2 should light all 9 LEDs indicating that there is continuity throughout the cable and that the end is shorted out. If both conditions are met the cable is good.

## HIGH CAPACITANCE LIMIT

The Tester 2 will not function correctly with a cable which has over .22 uF of capacitance conductor to conductor. For a typical MIC cable (50 pF/ft.) the limit would be 4,400 feet.

## BATTERY INSTALLATION

The Tester 2 uses one standard 9 volt battery (alkaline type will provide longer operation). To install the battery, remove the four screws on the back and the cover. Attach the battery to the clip and place it in the compartment with the foam next to the PCB. Replace cover and screws.

## POWER SWITCH PROTECTOR

A small bumper is provided which can be attached near the power switch to prevent accidental turn on.



## CABLE TESTING EXAMPLES

● ON  
○ OFF

OUT	IN
2 TIP	○ 1 SHIELD ● 2 TIP ○ 3 RING
3 RING	○ 2 TIP ● 3 RING ○ 1 SHIELD
1 SHIELD	○ 3 RING ● 1 SHIELD ○ 2 TIP

GOOD BALANCED MIC CABLE  
OR 1/4" TRS CABLE  
whirlwind  
MK4, ST, STM AND STF SERIES

OUT	IN
2 TIP	○ 1 SHIELD ● 2 TIP ○ 3 RING
3 RING	○ 2 TIP ● 3 RING ● 1 SHIELD
1 SHIELD	● 3 RING ● 1 SHIELD ○ 2 TIP

GOOD INSTRUMENT CABLE  
OR PIN 2 HOT UNBALANCED MIC CABLE  
whirlwind  
LEADER, SNAKE AND SK1 SERIES

OUT	IN
2 TIP	○ 1 SHIELD ● 2 TIP ○ 3 RING
3 RING	○ 2 TIP ○ 3 RING ○ 1 SHIELD
1 SHIELD	○ 3 RING ● 1 SHIELD ○ 2 TIP

GOOD RCA CABLE  
whirlwind  
RC SERIES

OUT	IN
2 TIP	● 1 SHIELD ○ 2 TIP ● 3 RING
3 RING	● 2 TIP ○ 3 RING ○ 1 SHIELD
1 SHIELD	● 3 RING ● 1 SHIELD ○ 2 TIP

GOOD PIN 3 HOT  
UNBALANCED MIC CABLE  
whirlwind  
MK3P3 SERIES

OUT	IN
2 TIP	○ 1 SHIELD ● 2 TIP ○ 3 RING
3 RING	○ 2 TIP ● 3 RING ○ 1 SHIELD
1 SHIELD	○ 3 RING ○ 1 SHIELD ○ 2 TIP

XLR CABLE WITH  
FLOATING GROUND

## COLOR ARRANGEMENT OF LEADS

OUT	IN
2 TIP	○ 1 SHIELD ○ 2 TIP ○ 3 RING
3 RING	○ 2 TIP ○ 3 RING ○ 1 SHIELD
1 SHIELD	○ 3 RING ○ 1 SHIELD ○ 2 TIP

1 SHIELD ○ SHELL  
1 SHIELD ○ SHELL

RED  
GREEN  
RED  
RED  
GREEN  
YELLOW  
YELLOW  
GREEN  
RED  
RED  
RED

## SPECIFICATIONS

Battery Type	9 volt
Battery Current	Idle/Osc. Mode 8 mA 3 LEDs on 19 mA All LEDs on 52 mA
Test Current	1.8 mA per pin
Test Voltage	4.6 volts
Test Repetition Rate	62.5 Hz
Test Pulse Width	4.0 mS maximum
Maximum Cable Capacitance	0.22 $\mu$ F
Oscillator Frequency	500 Hz at + or - 3%
Oscillator Waveform	Filtered Square Wave
Oscillator Line Level	2.3 dBm into 100 K load -1.2 dBm into 10 K load -6.4 dBm into 2 K load
Oscillator Mic Level	-30 dBm into 100 K load -33 dBm into 10 K load -40 dBm into 2K load

## WARRANTY

This product is guaranteed to be free from defects in materials and workmanship to the original purchaser for a period of 1 year from the date of purchase. Should service be required, return the unit postage prepaid along with the original sales receipt to:

whirlwind  
Attention - Repair  
99 Ling Road  
Rochester, New York 14612

The warranty on this product shall not apply to defects or damage resulting from abuse, abnormal use or from repairs or modifications performed by anyone other than whirlwind. If it is determined a manufacturing defect has occurred, whirlwind will repair or replace the unit at our option and pay the postage back to you.