

## LED/Connector pin identification table

Connector	PIN	LABEL	LED
3.5mm & 6.35mm Mono/Stereo Jacks	tip	hot	1
	ring	cold	2
	sleeve	ground	screen
3 pole XLR Male & Female	1	ground	1
	2	hot	2
	3	cold	3
	shell	screen	screen
4 pole Speakon	1+	1+	3
	1-	1-	4
	2+	2+	5
	2-	2-	screen
RCA Phono & BNC	inner	inner	1
	screen	screen	screen
5 pole 180° DIN	1		1
	2	ground	2
	3		3
	4		4
	5		5
	screen	screen	screen
4.4mm Single/Twin Bantams	tip 1	hot	1
	ring 1	cold	2
	sleeve 1	ground	3
	tip 2	hot	4
	ring 2	cold	5
	sleeve 2	ground	screen

# AudioJoG™ Rack Operations Manual

## Introduction

The AudioJoG™ Rack Cable Tester is a versatile unit that allows the user to either identify the connections within a variety of Professional Audio cables, Or carry out rapid comparison tests having stored known good cable details.

Cables fitted with any of the following connectors may be checked:

- 3 Pole XLR Male or Female
- 6.35mm Jack, stereo or mono
- Single or Twin 4.4mm Bantam, stereo or mono
- 3.5mm Jack, stereo or mono
- 4 Pole Speakon™
- DIN 180° 3 & 5 Pole
- RCA Phono
- BNC

The AudioJoG™ Rack Cable Tester allows you to visually test for the following conditions:

- Continuity
- Short Circuits (end to end & between unconnected pins)
- Open Circuits (end to end & between unconnected pins)
- Crossed Wires
- Leakage between wires (up to 47K)

The AudioJoG™ Rack Cable Tester has four modes of operation:

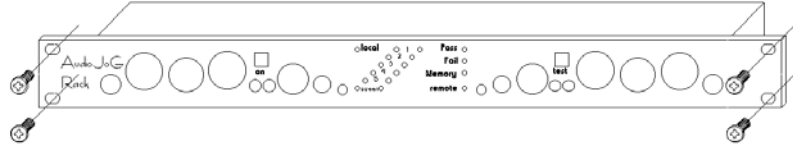
- Manual, double ended - both ends of the cable under test plugged into AudioJoG™ Rack
- Automatic, double ended - both ends of the cable under test plugged into AudioJoG™ Rack using the MEMORY feature.
- Manual, single ended - one end of the cable under test plugged into AudioJoG Rack the other into AudioJoG Pro, testing can be from either end.
- Automatic, single ended - one end of the cable under test plugged into AudioJoG™ Rack the other into AudioJoG™ Pro, testing can be from either end using the MEMORY feature.

Please read the following instructions carefully before using the AudioJoG™ Rack Cable Tester.

### Warning:

**The Cables to be tested must be fully disconnected from any other equipment or electrical source. Failure to do so could result in electrical shock and permanent damage to the AudioJoG™ Rack Cable Tester, for which the manufacturer and suppliers can accept no liability.**

## Getting started



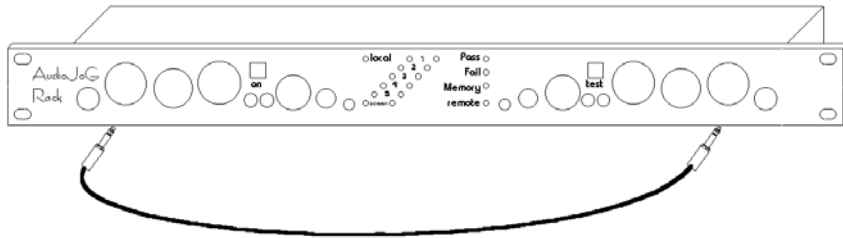
The AudioJoG™ Rack Cable Tester can be either rack mounted (1U 19 inch) using the screws and caged nuts. Next plug the small DC power plug into the back of the AudioJoG™ Rack and the power supply into a nearby mains outlet.

## Test Procedure

There are 2 rows of 6 Light Emitting Diodes (LED's) corresponding to each of the 5 possible connector pins and one for the screen (or ground) connection. Checking the status of connections is made using the TEST button. Until you become familiar with the connectors pin wiring you may wish to refer to the handy LED/Connector Identification table on the back page.

## METHOD 1 - Manual Double Ended

This is the preferred method for testing a cable that is different to the previously tested one and has both ends available for plugging into the AudioJoG™ Rack.



1. Plug one end of the cable to be tested into an appropriate socket using the 'Local' half of the tester.
2. Plug the other end of the cable into an appropriate connector using the 'Remote' half of the tester.
3. Switch ON.  
After a brief random display, ALL the LED's should turn ON for a couple of seconds and then turn OFF leaving just the ON and TEST switches illuminated. If this is not the case then please check the power and mains connections, otherwise return the AudioJoG™ Rack for repair.

4. To start the test press and release the TEST button.  
On the lower row of LED's the No1 LED will turn ON,

A single LED ON indicates that there are no connections to that pin (Fig1).

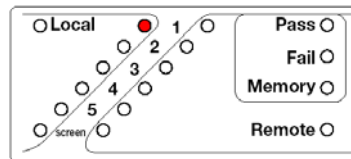


Fig 1. NO CONNECTION to Pin 1.

## DECLARATION OF CONFORMITY

**Manufacturers Name:** CableJoG Ltd.  
**Address:** 18 Browmere Drive, Croft, Warrington. WA3 7HT.



**Declare that;**

**Product:** AudioJoG Rack

## conforms to the following Product Specification:

- BS EN 61000-6-3 for Generated Emissions
- BS EN 61000-6-1 for Immunity to Radiated Electromagnetic Fields
- Immunity to Fast Transient Bursts - AC Power Lines
- Immunity to Fast Transient Bursts - Signal Lines
- Immunity to Conducted Field - AC Power Lines
- Immunity to Conducted Field - Signal Lines
- Immunity to Voltage Dips - AC Power Lines
- Immunity to Electrostatic Discharge

The product herewith complies with the requirement of the EMC Directive 89/336/EC.

## METHOD 4 - Automatic Single Ended Continued

Like the previous method this uses two AudioJoG™ cable testers. As with the process of going from Manual to Automatic Double ended testing the start of the Automatic testing is the completion of the Manual test ending on the 'Local' screen LED.

1. Once again at the 'Local' screen LED on position press and hold until the MEMORY LED lights (Fig13).

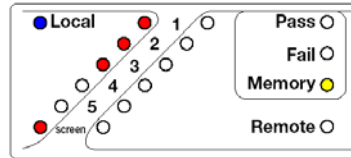


Fig 13. Ready to store cable in memory.

2. After a few seconds (if there are unconnected pins then this will increase the test time) the display should show the Pass (green) and MEMORY (Yellow) LED's. If the Fail LED is on then there is probably an intermittent connection in the cable.

3. Plug in the cable to be tested using the same connector(s) and locations as before.

4. Press and release the Test button. If all is well the Pass LED will turn ON, remove the cable. To test another cable repeat steps 3 & 4.

5. To clear the MEMORY either, switch OFF and then ON again or, press and hold the test button until the MEMORY LED goes OFF.

6. If the FAILED LED turns ON, then the AudioJoG™ Rack has found a difference between the cable details in memory and the current cable. The numbered and screen LED's will stop at the error stage. Examples of failures follow:-

a) A short was found, on the lower connector, where no connection existed before (Fig14.)

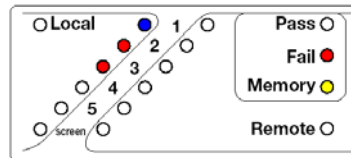


Fig 14. SHORT to an adjacent Pin.

b) An open connection was found, usually indicated by a single LED (Fig15).

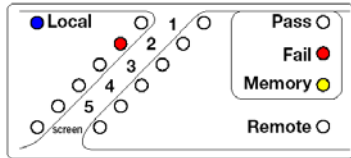


Fig 15. OPEN circuit between Local Pin2.

c) A short to SCREEN, this may be indicated by one, or both the screen LED's being ON in conjunction with another pair of LED's (Fig16).

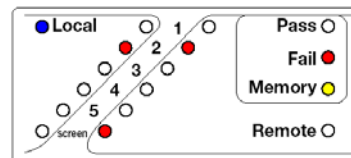


Fig 16. Short to screen.

7. Press the TEST button to proceed, if there are more failures the test will stop at each and everyone of them, finally only the FAILED and MEMORY LED's will be ON. To test another cable repeat steps 3 & 4. To clear the MEMORY option either, switch OFF and then ON again or, press and hold the test button until the MEMORY LED goes OFF.

## METHOD 1 - Manual Double Ended Continued

Two or more LED's ON (either row) indicate the connection from PIN 1 of the connector plugged into the local half to the remote half of the tester (Fig2).

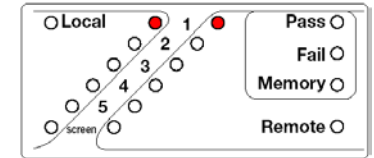


Fig 2. CONNECTION between Pin 1's

5. Press and release the TEST button again, the current LED's will go out.

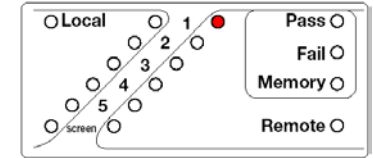


Fig 3. NO CONNECTION at Pin 1 (remote).

If there were no connections in previous step then the upper LED No1 will turn ON (Fig3).

Or if there were connections in the previous step then the local No2 LED will turn ON (Fig4).

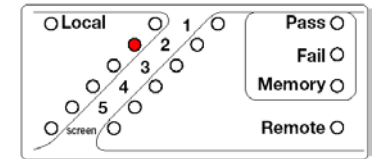


Fig 4. NO CONNECTION to Pin 2 (local).

As before if there are any other LED's ON (either row) then they indicate the connection from the PIN 2 of the connector plugged into the local half of the tester.

Repeat step 5 until the local or both SCREEN LED turn ON (Fig5).

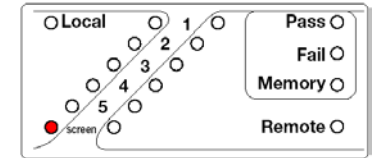


Fig 5. TEST COMPLETE ready for MEMORY

This is the end point for the visual test procedure, AudioJoG™ Rack can not decide for you whether the results are correct or not.

Then either:-

Press and release the TEST button to clear the display and take you back to step 4. Or see next chapter for how to automatically test cables against details held in memory.

## METHOD 2 - Automatic Double Ended

This method uses the AudioJoG™ Rack's internal MEMORY to test against a cables details held in memory.

1. Follow the Method 1 instructions until the test completed stage with either both or just the local screen LED's on.
2. Press and hold the Test button until the MEMORY (yellow) LED comes on.

Release the Test button will cause the tester to run through all the connections and store them in MEMORY.

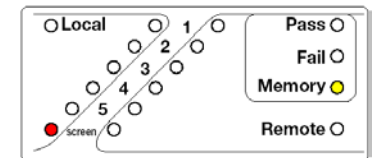


Fig 6. Ready to store cable in memory.

## METHOD 2 - Automatic Double Ended Continued

After a few seconds the display should show the Pass (green) and MEMORY (Yellow) LED's. If the Fail LED is on then there is probably an intermittent connection in the cable.

3. Plug in the cable to be tested using the same connector(s) and locations as before.

4. Press and release the TEST button. If all is well the Pass LED will turn ON, remove the cable. To test another cable repeat steps 3 & 4.

5. To clear the MEMORY either, switch OFF and then ON again or, press and hold the test button until the MEMORY LED goes OFF.

6. If the FAILED LED turns ON, then the AudioJoG™ Rack has found a difference between the cable details in memory and the current cable. The numbered and screen LED's will stop at the error stage. Examples of failures follow:-

a) A short was found, on the lower connector, where no connection existed before (Fig8.)

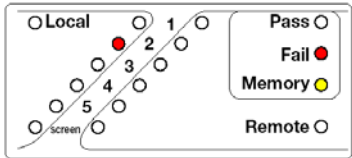


Fig 9. OPEN circuit between Local Pin2.

b) An open connection was found, usually indicated by a single LED (Fig9).

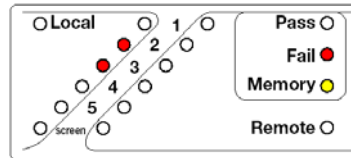


Fig 8. SHORT to an adjacent Pin.

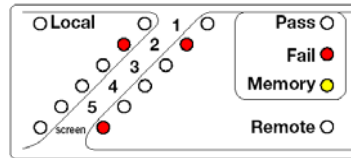


Fig 10. Short to screen.

7. Press the TEST button to proceed, if there are more failures the test will stop at each and everyone of them, finally only the FAILED and MEMORY LED's will be ON. To test another cable repeat steps 3 & 4. To clear the MEMORY option either, switch OFF and then ON again or, press and hold the test button until the MEMORY LED goes OFF.

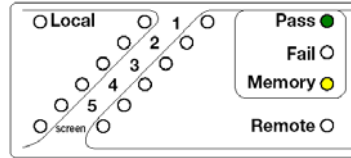
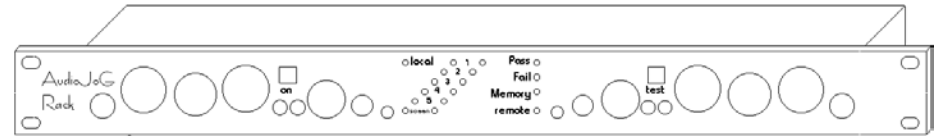


Fig 7. Cable in MEMORY, ready for testing.

## METHOD 3 - Manual Single Ended

This method uses two AudioJoG cable testers, one at each end of the cable. The one at the far end (remote) would normally be the AudioJoG™ Pro which is a portable version of the AudioJoG™ Rack. This method of test ONLY WORKS IF THERE IS A GOOD **SCREEN CONNECTION BETWEEN THE TWO CABLE ENDS.**



1. Set up the remote end first by pressing and holding the Test button whilst switching the tester on. Plug the cable under test in the appropriate socket on the 'remote' side of the unit.

2. When you see only the Remote and Local LED's still on release the Test button.

3. The Remote LED will go out. Pressing the Test button now switches between Local and Remote.

4. Select Remote, then press and hold the Test button until the Remote LED goes out.

5. Release the Test button. The tester is now ready to receive and send information to the Local unit.

6. Set up the Local end, by pressing and holding the Test button whilst switching the tester on. Plug the other end of the cable in the appropriate socket on the 'Local' side of the unit.

7. Release the Test button, the remote LED will go out.

8. The Local LED should be on. Press the Test button again and release it as soon as Pin 1 on the local side starts sending information to the other end, this is indicated by the LED flashing. If there is a connection to pin 1 at the other end then the result will be seen at the Remote side of the Local unit and Pin 1 will light on the Local and Remotes sides at the Remote end (Fig 11 & 12).

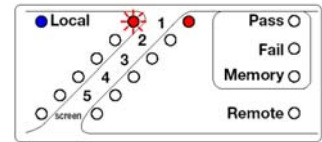
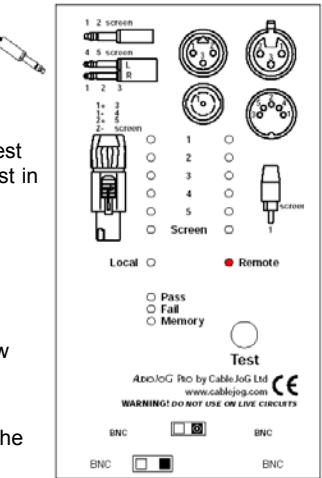


Fig 11. Pin 1's CONNECTED (local)

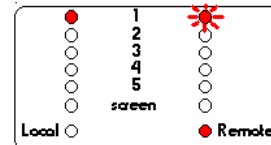


Fig 12. Pin 1's CONNECTED

9. Press and release the Test button, the test pin will move onto the next one.

10. Repeat step 8 until the local screen LED is lit. At this point any or all of the local LED's may light.

This is the end point for the visual test procedure, AudioJoG™ Pro can not decide for you whether the results

are correct or not. Then either:-

Press and release the TEST button to clear the display and take you back to step 6. Or see next chapter for how to automatically test cables against details held in memory.