LED/Connector pin identification table

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

AudioJoG(TM) Pro
Operations Manual

Introduction
The AudioJoG(TM) Pro 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 (TM)
- DIN 180º 3 & 5 Pole
- RCA Phono
- BNC

The AudioJoG(TM) Pro 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(TM) Pro Cable Tester has four modes of operation:
- Manual, double ended - both ends of the cable under test plugged into AudioJoG(TM) Pro
- Automatic, double ended - both ends of the cable under test plugged into AudioJoG(TM) Pro using the MEMORY feature.
- Manual, single ended - one end of the cable under test plugged into AudioJoG(TM) Pro the other into AudioJoG(TM) Pro, testing can be from either end.
- Automatic, single ended - one end of the cable under test plugged into AudioJoG(TM) Pro the other into AudioJoG(TM) Pro, testing can be from either end using the MEMORY feature.

Please read the following instructions carefully before using the AudioJoG(TM) Pro 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(TM) Pro Cable Tester, for which the manufacturer and suppliers can accept no liability.

Getting started

The AudioJoG(TM) Pro Cable Tester will require fitting of a 9 volt battery (not supplied). Using a screwdriver to undo the screw holding the small panel at the top of the tester to gain access to the battery compartment. Fit the 9 volt PP3 battery observing correct polarity.

Batteries / Power Down:

Under normal use the batteries should give at least a years use. However, to preserve battery life AudioJoG(TM) Pro has a Power Down feature. After 15 minutes of inactivity AudioJoG(TM) Pro will indicate that Power Down is about to occur by flashing the PASSED,FAILED & MEMORY LED's. Press the TEST button to continue, or switch OFF and then ON again to reset AudioJoG(TM) Pro.

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(TM) Pro.
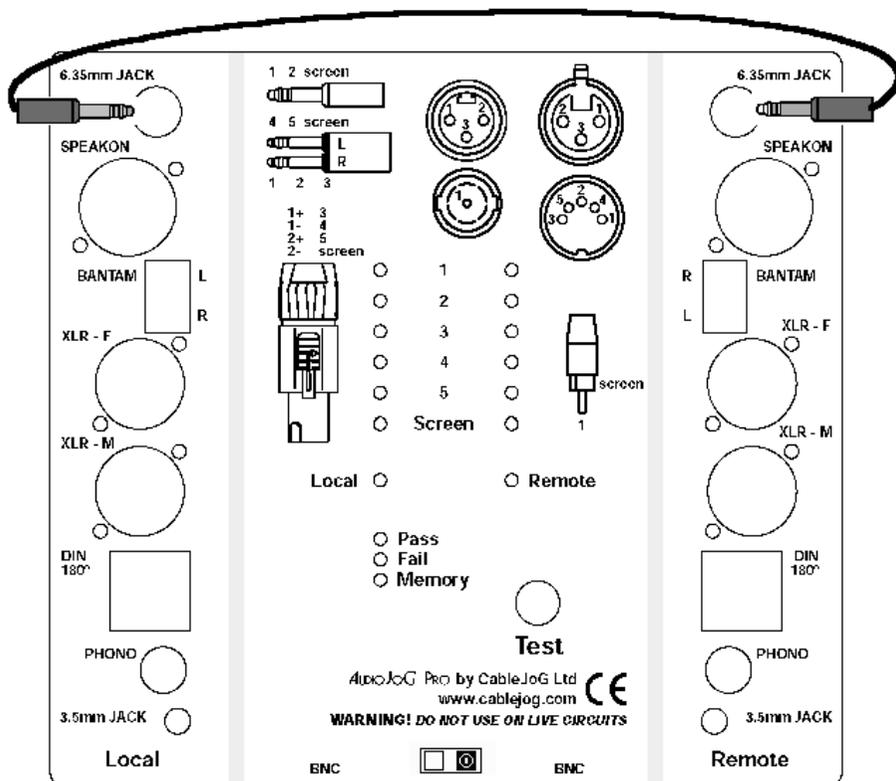
METHOD 4 - Automatic Single Ended

1. Once again at the 'local' screen LED on position press and hold until the MEMORY LED lights (Fig13).
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 intermittant 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(TM) Pro 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 13. Ready to store cable in memory.
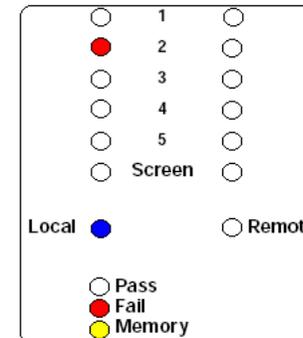

Fig 14. SHORT to an adjacent Pin.

Fig 15. OPEN circuit between Local Pin 2.

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

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).
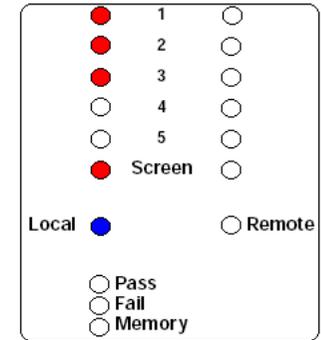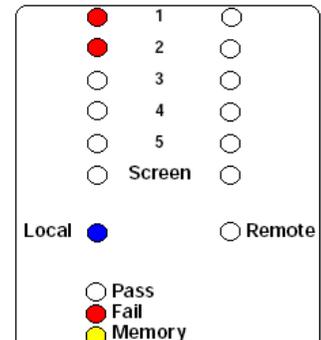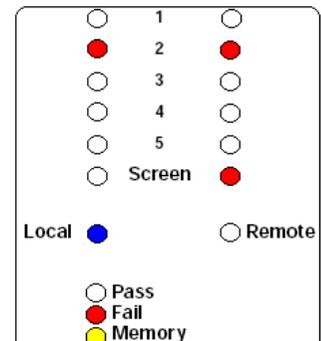

Fig 16. SHORT to Screen.

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 3 - Manual Single Ended (Continued)

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 cable under test 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).

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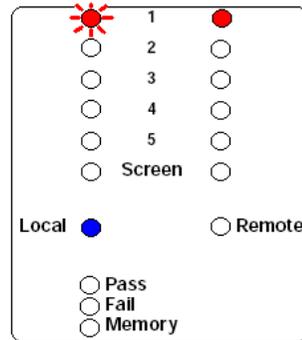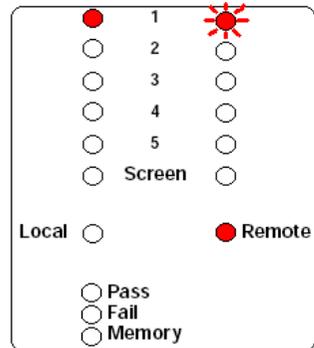

Fig 11. Pin 1's CONNECTED (Local).

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(TM) 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.

Fig 12. Pin 1's CONNECTED.

METHOD 4 - Automatic Single Ended

Like the previous method this uses two AudioJoG(TM) 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.

METHOD 1 - Manual Double Ended (Continued)

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. If this is not the case then please check the power and mains connections, otherwise return the AudioJoG(TM) Pro 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,

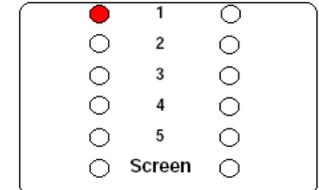A single LED ON indicates that there are no connections to that pin (Fig1).

Fig 1. NO CONNECTIONS to Pin 1

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).
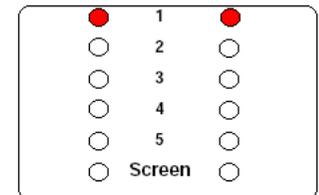

Fig 2. CONNECTION between Pin1's

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

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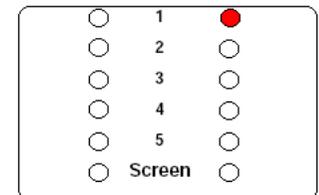

Fig 3. NO CONNECTION at Pin1 (remote)

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

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.
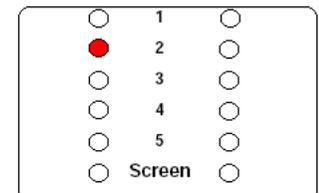

Fig 4. NO CONNECTION at Pin 2 (Local)

METHOD 1 - Manual Double Ended (Continued)

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

This is the end point for the visual test procedure, AudioJoG(TM) 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 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(TM) Pro'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.

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 intermittant 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(TM) Pro 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.)
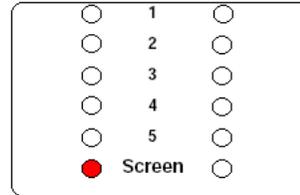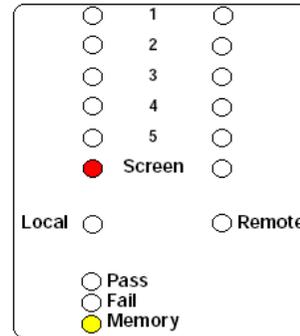
Fig 5. TEST COMPLETE ready for MEMORY
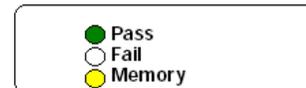
Fig 6. Ready to store cable in memory

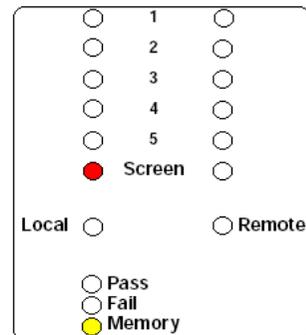Fig 7. Cable in MEMORY, ready for testing.

Fig 8. Ready to store cable in memory

METHOD 2 - Automatic Double Ended (Continued)

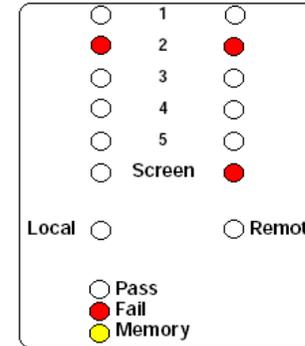b) An open connection was found, usually indicated by a single LED (Fig9).

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 (Fig10).
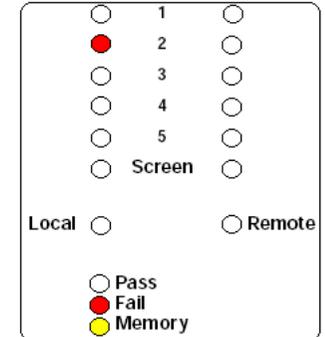
Fig 9. OPEN circuit between Local Pin 2.

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.

METHOD 3 - Manual Single Ended
This method uses two AudioJoG cable testers, one at each end of the cable. One unit is set to 'Remote' the other to 'Local', testing is carried at the 'Local' end This method of test ONLY WORKS IF THERE IS A GOOD **SCREEN** CONNECTION BETWEEN THE TWO CABLE ENDS.