

# Improvements to the D-104 Microphone ...or, The G Spot, er, Stand, has Got to Go

by Steve Johnston, WD8DAS

I've used and enjoyed the Astatic D-104 microphone for nearly 30 years now, and it always sounds great on my vintage gear. But lately I've been thinking that the stock "G" stands on my D-104s are not the ideal physical design for the casual postures I tend to assume when running AM. Resting the microphone stand on my midsection as I leaned back was not only undignified, but led to a painful condition of the abdomen I came to call "The G-Spot".



Thus stimulated, my mind began contemplating alternatives. I tried the Astatic mobile-style, hand-held crystal and ceramic mics, but they didn't quite fit the bill either. Studying the connector on the stalk of the D-104 head, I was struck by its similarity to the A3M/A3F series of audio connectors – also known as XLRs or Q-G connectors - so common in professional broadcast and music microphone applications. See Figures 1 and 2. I found the Astatic three-pin male connector on the D-104 has a different pin size and spacing, and would not mate a Switchcraft A3F directly, but I soon realized that the plastic connector insert diameters were nearly the same. If I replaced the D-104 connectors "guts" with the innards of a A3M , I could then plug in an A3F cord directly and discard the G-stand. See Figure 3.



Careful disassembly of the D-104 head (crystal elements can be fragile) via the four obvious ring screws showed me the wiring entering the connector. There was plenty of slack in the wires, so I closed the mic head back up and just removed the connector set screw and slid the plastic insert out. I unsoldered the wires, and prepped them for attachment to a new A3M insert. It seemed possible that the new, slightly longer insert might bottom out and short the pins to the metal shell, so I trimmed their back ends about 2mm and soldered the wires in place. The particular connector insert I used was one from an XLR sold by Radio Shack<sup>1</sup> and by luck the set-screw holes lined right up.

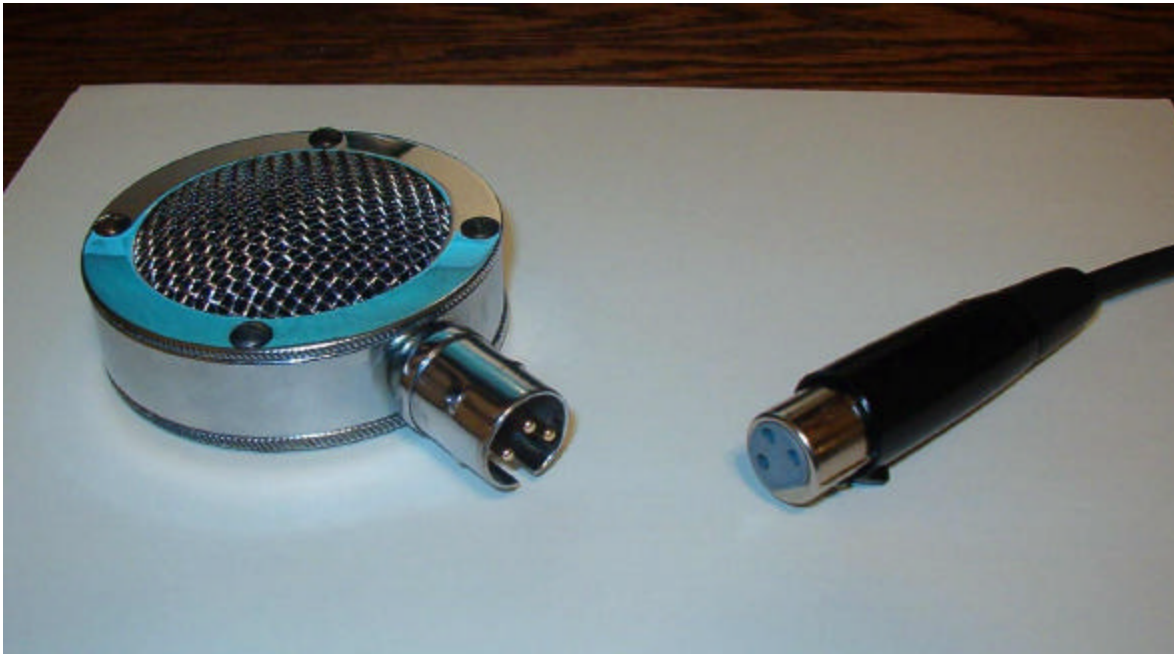


Figure 4

An insert from a Switchcraft A3M looked to require a new hole, but would probably work fine with that bit of extra work. I also cut and removed the screw-ring around the D-104 connector, as it would no longer be needed. Figure 4 shows the modified D-104 and its connector.



Figure 5

The moment I held the “Hand-held D-104” I knew I would enjoy this new, old mic – Figure 5. But a stand would be nice too... I pulled out an Atlas DS-7 adjustable desk stand<sup>2</sup>, screwed a standard plastic mic clamp on the top, and slid the D-104 into the clamp. Now I had a mic that could adapt at a moment’s notice from hand-held to desk mounted, 11 to 18 inches high. See Figures 6 and 7. In other installations a flexible gooseneck or professional mic boom could be used - they are available with built-in XLR connectors too. A floor stand and mic clamp can be used as well for on-air lectures and extreme old-buzzard transmissions.



Figure 6



Figure 7

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Notes

1. RadioShack XLR connectors catalog # 274-010 and 274-011 .
2. Atlas mic stands <http://www.atlas-soundolier.com/mpGroups/mpg11.cfm>