



Manufacturer of Ion Beam Equipment and Components

### Matching network test Tech Note

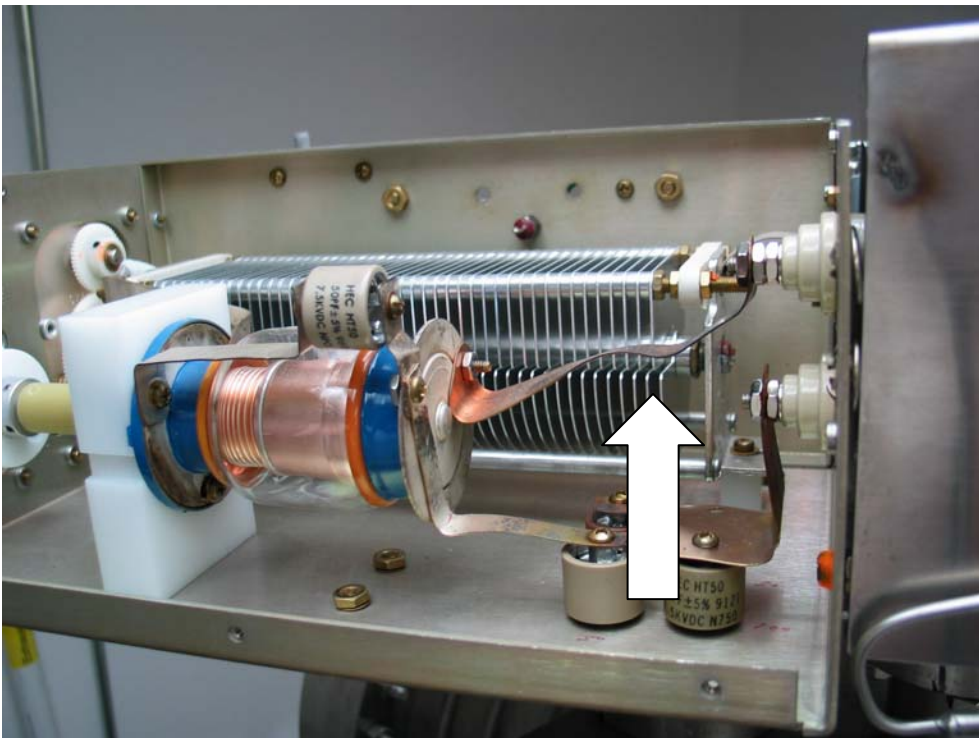
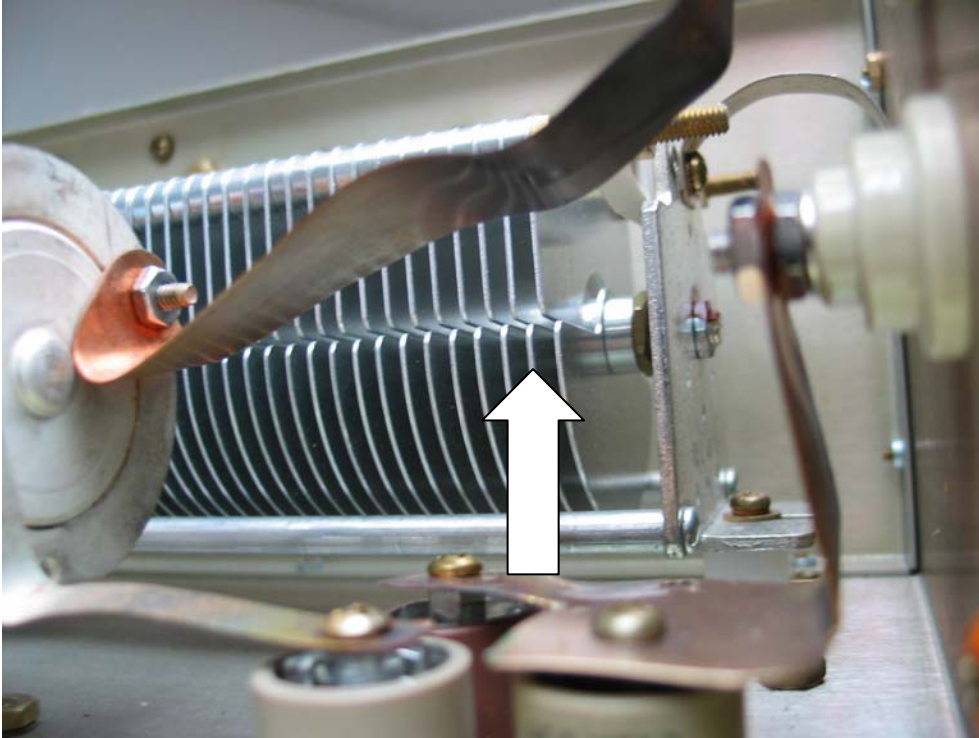
Re: Occasionally, the load capacitor on the AM5 matching network will slip which will induce tuning errors (i.e. the source will go out with an E71). This tech note describes the inspection required to ensure proper operation of the load capacitor in the AM5.

1. Turn off all power supplies to your ion sources except your AMNPS2A match network controller and note approximate location of your load analog meter needle.
2. If necessary, remove exterior side HV panels from the right side of your system frame to access the AM5 matching network.
3. Remove the external HV cover from your matching network.
4. On the AMNPS2A controller, set the load switch to manual.
5. Using the manual adjustment switch on the matching network controller, push and hold switch toward the negative position until red LED light illuminates and release switch. The analog needle should display 0, (positioned all the way to your left), as indicated below.
6. The rotation direction while manually adjusting to negative should be clockwise from the motor. If it is not, the matching network requires service.



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7. Now view the load air capacitor for its position in the matching network. If operation is correct, you should see the position indicated in the two photos below



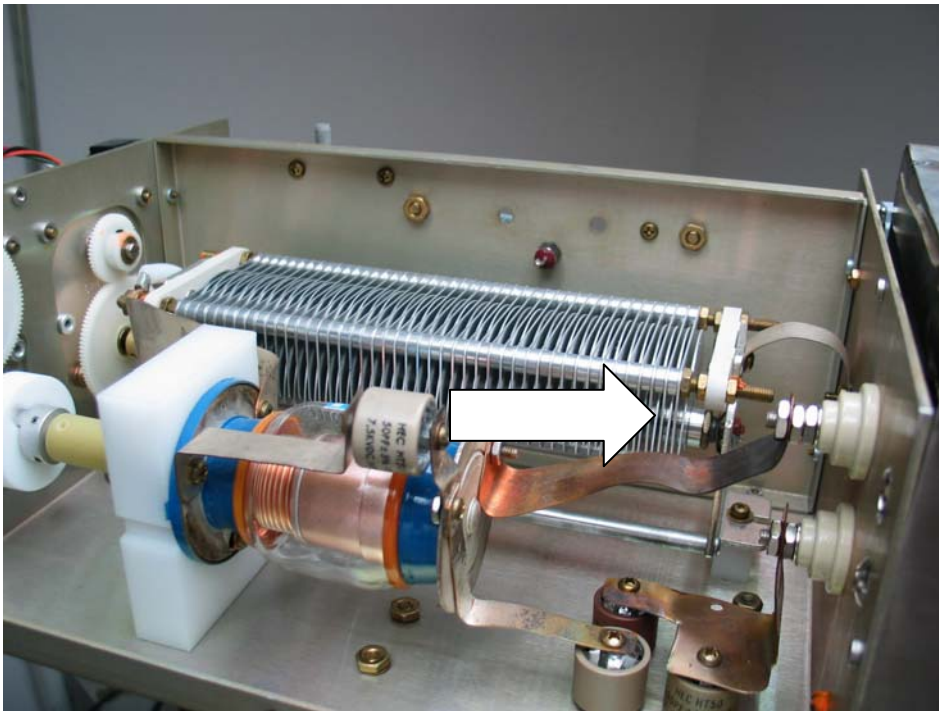
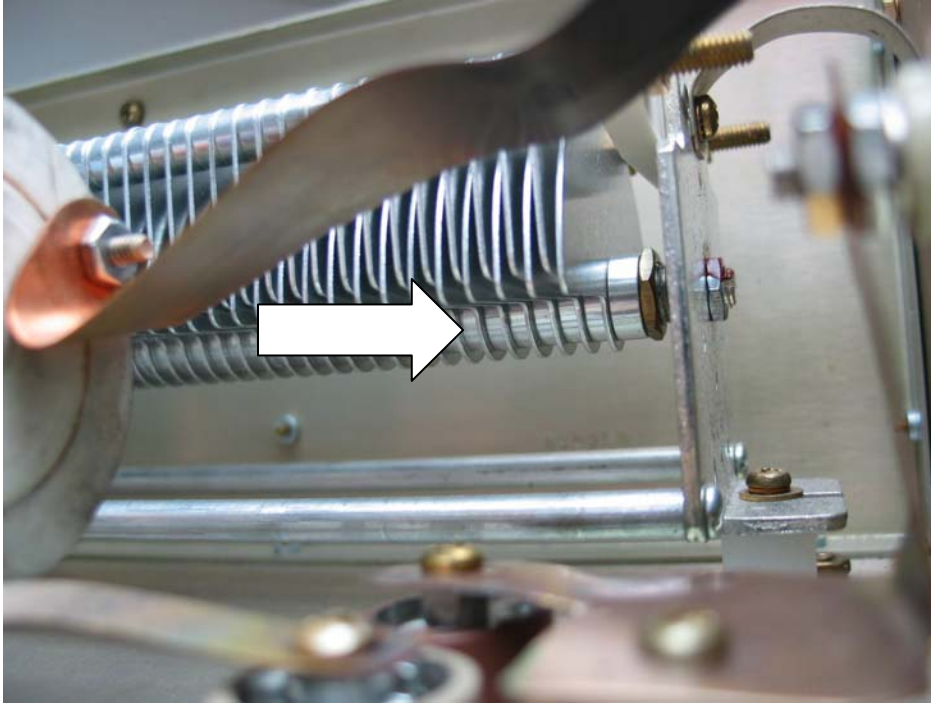
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8. Now return to the AMNPS2A matching network controller and press the manual adjustment switch toward the positive direction until the positive LED illuminates and release the switch. The analog needle should now be located at "1", (or all the way to the right of the meter), see photo below:



9. Now view the load capacitor in the matching network and verify the position matches the photos below.
10. While manually adjusting to the positive direction, the load capacitor should rotate counter-clockwise from the motor. If it is not, the matching network requires service.

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11. Return the load analog meter to the REM location.
12. If rotation directions and final positions were correct you may need to re-tune your RF source and your matching network properly.
13. Please see Appendix C of the I-Beam 701 manual for tuning procedure for instructions.

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