CLAIMS

1. A matchbox comprising:

   a housing;

   a match circuitry located within the housing;

   a switch circuit located within the housing, the switch circuit including:

   a plurality of switches; and

   a plurality of parametric elements spaced apart from each other, wherein each of the plurality of parametric elements is connected to a corresponding one of the plurality of switches, wherein each of the plurality of switches is configured to be connected to a radio frequency (RF) tunnel of an RF transmission line to modify an impedance of an RF return signal transferred via the RF tunnel towards an RF generator.

2. The matchbox of claim 1, wherein the match circuitry includes a plurality of circuit elements to match an impedance of a load coupled to the match circuitry with that of a source coupled to the match circuitry.

3. The matchbox of claim 1, wherein one of the plurality of switches is connected to one of the plurality of parametric elements, and another one of the plurality of switches is connected to another one of the plurality of parametric elements, wherein each of the plurality of parametric elements is a metal strap.

4. The matchbox of claim 1, wherein the RF tunnel surrounds an RF rod of the RF transmission line.

5. The matchbox of claim 1, wherein each of the plurality of parametric elements is a capacitor or an inductor.

6. The matchbox of claim 1, wherein the match circuitry is coupled to an RF rod of the RF transmission line.

7. A system comprising:

a housing;

a match circuitry located within the housing;

a switch circuit located outside the housing, the switch circuit including:

a plurality of switches; and

a plurality of parametric elements spaced apart from each other, wherein each of the plurality of parametric elements is connected to a corresponding one of the plurality of switches, wherein each of the plurality of switches is connected to a radio frequency (RF) tunnel of an RF transmission line to modify an impedance of an RF return signal transferred via the RF tunnel towards an RF generator.

8. The system of claim 7, wherein the match circuitry includes a plurality of circuit elements to match an impedance of a load coupled to the match circuitry with that of a source coupled to the match circuitry.

9. The system of claim 7, wherein one of the plurality of switches is connected to one of the plurality of parametric elements, and another one of the plurality of switches is connected to another one of the plurality of parametric elements, wherein each of the plurality of parametric elements is a metal strap.

10. The system of claim 7, wherein each of the plurality of parametric elements is a capacitor or an inductor.

11. The system of claim 7, wherein the match circuitry is coupled to an RF rod of the RF transmission line.

12. A system comprising:

a controller;

a switch circuit coupled to the controller, the switch circuit including:

a plurality of switches; and

a plurality of parametric elements spaced apart from each other, wherein each of the plurality of parametric elements is connected to a corresponding one of the plurality of switches, wherein the plurality of switches are connected to a radio frequency (RF) tunnel of an RF transmission line, wherein the controller is configured to control the plurality of switches to modify an impedance of an RF return signal transferred via the RF tunnel towards an RF generator.

13. The system of claim 12, wherein the switch circuit is coupled to a housing of a match circuitry, wherein the match circuitry is configured to match an impedance of a load connected to the match circuitry with the source connected to the match circuitry.

14. The system of claim 12, wherein one of the plurality of switches is connected to one of the plurality of parametric elements, and another one of the plurality of switches is connected to another one of the plurality of parametric elements, wherein each of the plurality of parametric elements is a metal strap.

15. The system of claim 12, wherein the match circuitry is coupled to an RF rod of the RF transmission line.

16. The system of claim 12, wherein each of the plurality of parametric elements is a capacitor or an inductor.