

User Manual RT - IB Impedance Box

This document describes the Impedance Box RT-IB.

1. External Wiring of Impedance Box:

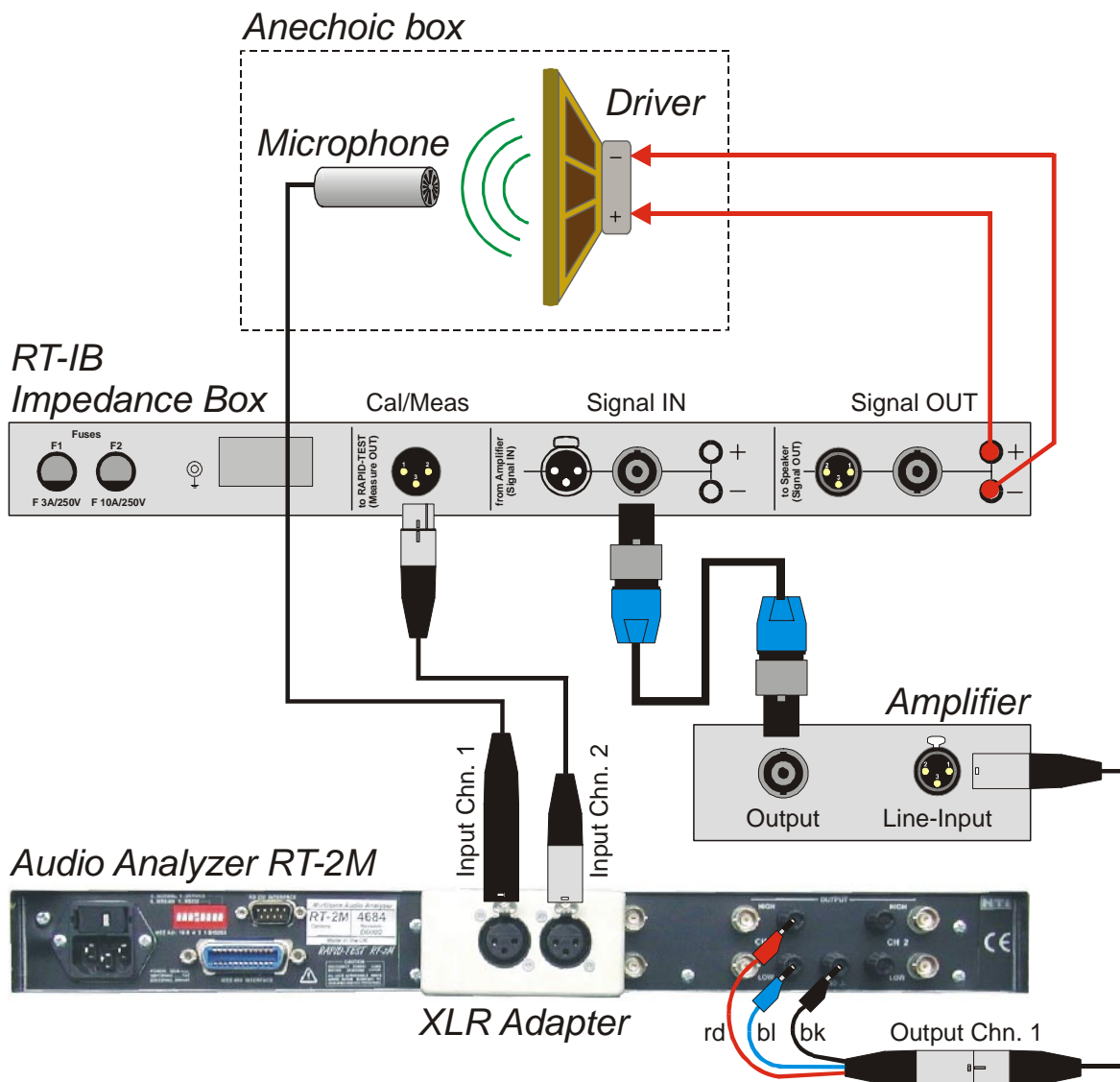
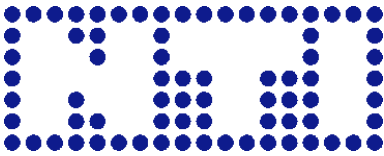


Figure 1, Test Setup

2. Notes:

- Use only original fuses supplied by NTI.
- Do not touch inputs and outputs.
- Observe the maximum current ratings of the different connector types and shunt resistors.



3. Frontview:

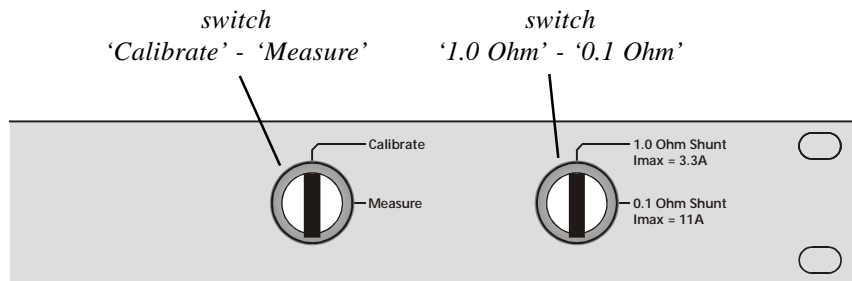


Figure 2, Frontview Impedance Box

a. Switch 'Calibrate' - 'Measure'

Position 'Calibrate': Select this position to calibrate the test system. The production software 'RT-Speaker' will guide you in detail.

Position 'Measure': This is measurement position (default position).

b. Switch '1.0 Ohm' - '0.1 Ohm'

This switch enables the selection of the shunt resistor R_s to 1.0 Ohm or 0.1 Ohm. **You have to select the switch position according to the maximum power $P[W]$ required for the speaker to be tested.** The maximum test current $I[A]$ in the selectable switch positions is

- 3.3 A at 1.0 Ohm
- 11 A at 0.1 Ohm

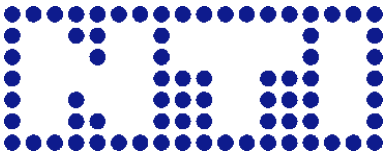
Note:

The default setting is 1.0 Ohm. Only switch to 0.1 Ohm if the speaker power consumption is not within the safe operating area of the 1.0 Ohm shunt resistor. Please refer to Table I and Chart 1/2.

Max. Power $P[W]$ at speaker:

Speaker Impedance [Ohm]	2	4	8	16	32
Switch setting $R_s=1,0$ Ohm	22	44	87	174	156
Switch setting $R_s=0,1$ Ohm	242	484	625	312	156

Table 1, Max. Power Rating for Shunt Resistor Selection



Max. Power P[W] at speaker:

Switch at 1,0 Ohm

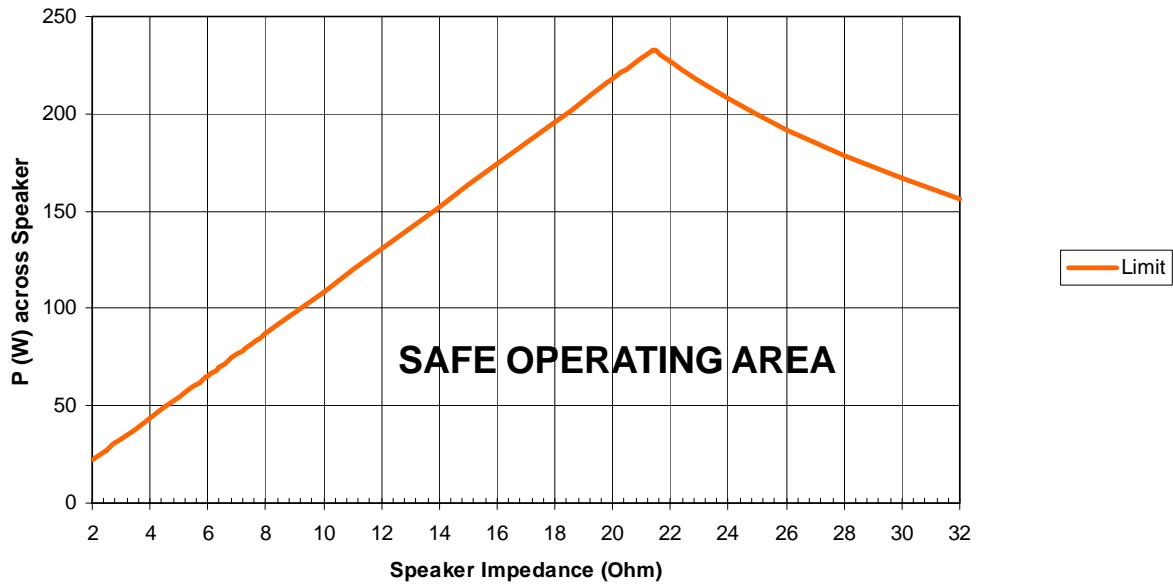


Chart 1, Max. Power Rating for Shunt Resistor $R_s = 1.0$ Ohm

Note: The safe operating area curves indicate the max. power at the speaker under test to be observed for reliable operation. Your operational points must fall below the limits indicated in the applicable chart.

Switch at 0,1 Ohm

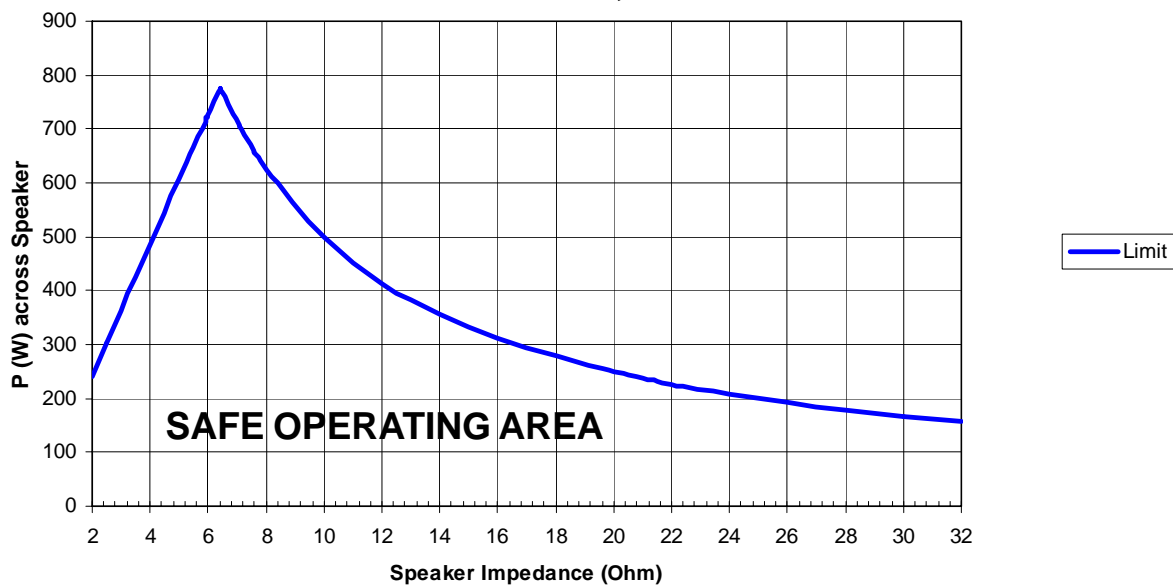


Chart 2, Max. Power Rating for Shunt Resistor $R_s = 0.1$ Ohm

4. Schematic diagram:

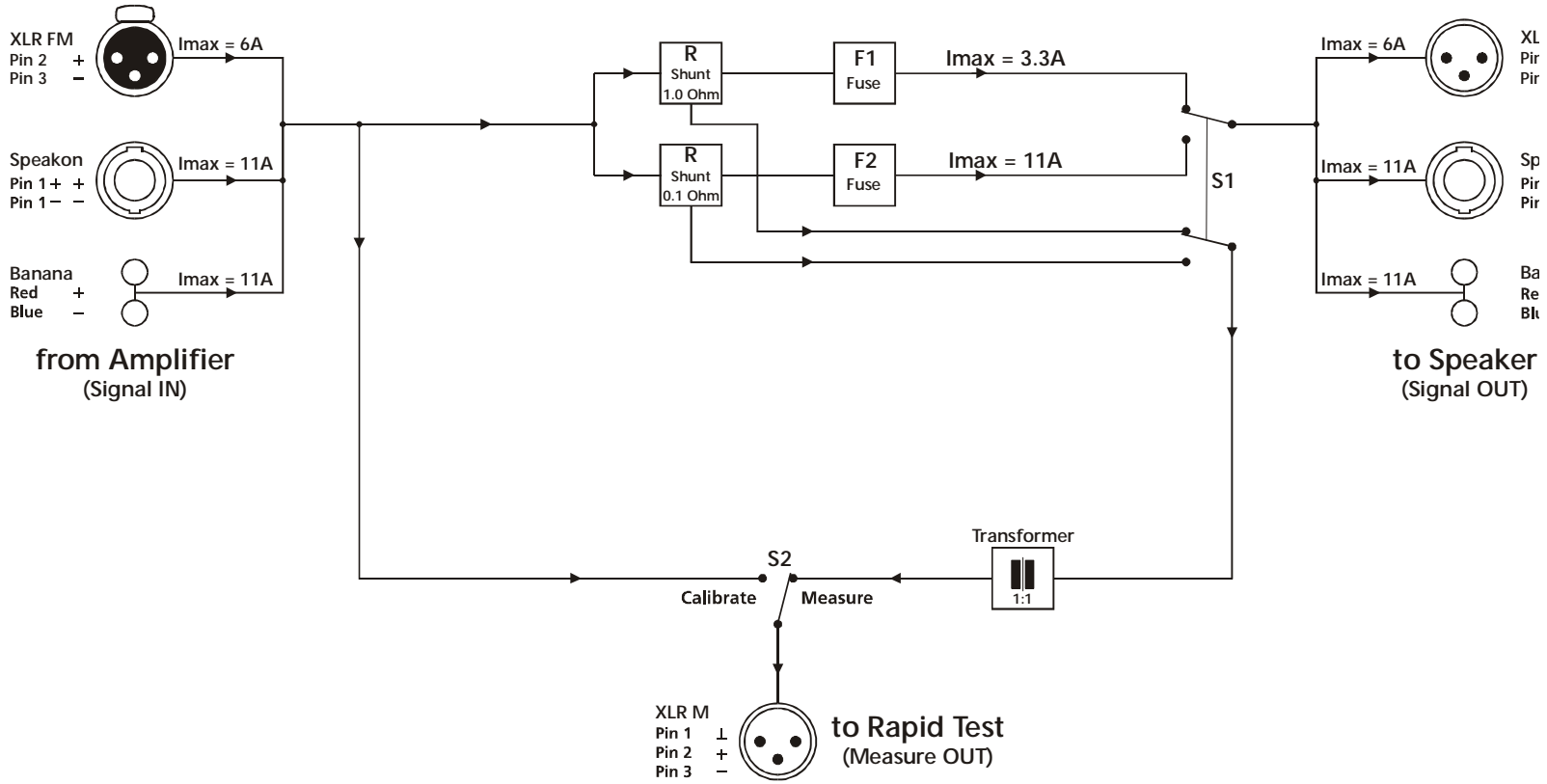
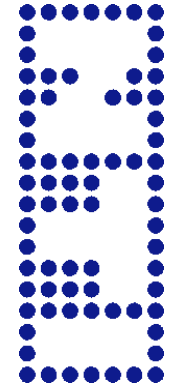
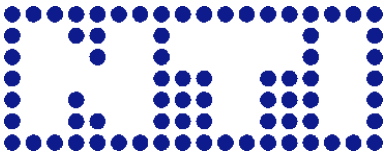


Figure 3, Schematic Diagram Impedance Box RT-IB





5. Rear-view:

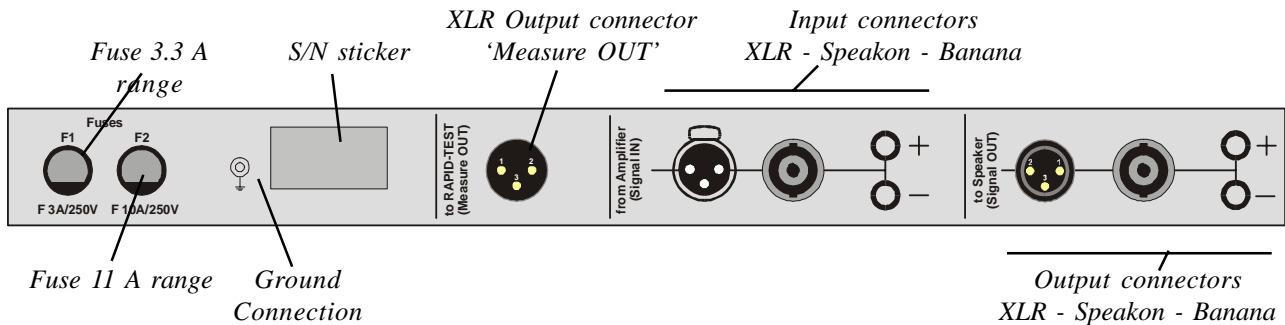


Figure 4, Rearview Impedance Box

The input connectors of the impedance box are internally linked together. The output connectors as well. Thus, the operator is free in using any type of connectors (Banana, XLR or SPEAKON).

6. Technical specifications:

Max. current of connectors:

- XLR connector 6.0A
- Banana connector 11 A
- Speakon connector 11 A

Shunt resistor accuracy: 0.1%

Fuses: special F3A/250V, F10A/250V
(available at NTI)

Temperature range:

5° - 45°C (40 – 110 F),
R.H. < 90 % non condensing

Size: 19" rack-mount, height: 1 rack unit
483 x 183 x 43 mm (L x W x H)

Weight: 1.7 kg / 3.8 lbs

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