

Matching a Transceiver with PA on several GU50

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Matching input of PA that contained several tubes GU50 with a transceiver is not a simple matter as it seems at first look. Sometimes for simplicity of the design PA the driver power from a transceiver going straight away to several connected to bridge cathodes of the GU50.

However, input resistance of a PA containing 2 tubes GU50 (that is close to 50- Ohm at major amateur HF-ranges) is differed from input resistance of a PA with 3 tubes GU50 (the resistance lower in 1.5 times compare to 2xGU50- sample), and of course differ from input resistance of 4xGU50- PA (the resistance lower in 2 times compare to 2xGU50- sample). So, the input resistance for those PAs with 3 and 4 tubes is differ the 50-Ohm that requires proper matching of the PA with driving transceiver.



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Radio club 'Arktika' Championship 2004

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http://www.arktika.komi.com/Champ_2004.htm

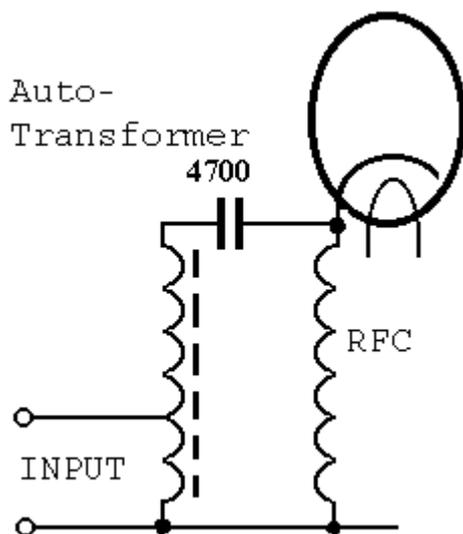


Figure 1 shows a simple autotransformer that helps match input impedance of the PA to 50-Ohm in wide frequencies range.

The autotransformer was made on a Russian ferrite toroid with permeability 60. It is possible to use Amidon T-50-2 (OR t-50-6). At some cases it is better to use 2 toroids putting together. Coil contains 12 turns of wire in diameter 2-mm (12-AWG). Tap is chosen for best matching of the transceiver with the PA in wide frequency range. Experience shows that best matching for 3xGU50 PA gives tap from 8th turn (from "cold" end). For 2xGU50 PA best matching gives tap from 5th turn (from "cold" end). Anyway, try to find best tap and best quantity of coils in the autotransformer for your design of the PA.

73!

Figure 1 Matching Autotransformer



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