

# Dressler RSM 2000 Bias-T with variable attenuator

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Hello,

I have an older Bias-T from Dressler and as information about such devices is meanwhile hard to find I decided to document it in case others may have one and lack information about it.

The RSM 2000 is basically a diplexer that allows the DC current for the preamplifier to be applied to the center conductor of the RF coax, eliminating the need for an additional DC power feed conductor (phantom feed).

The RSM 2000 is for receive only applications. It contains an internal fuse and a user variable attenuator to adjust the signal level of the preamp in the event of signal overload conditions.

The DC power connection is a 5.5 X 2.5 mm receptacle. It features a series diode for reverse bias protection.

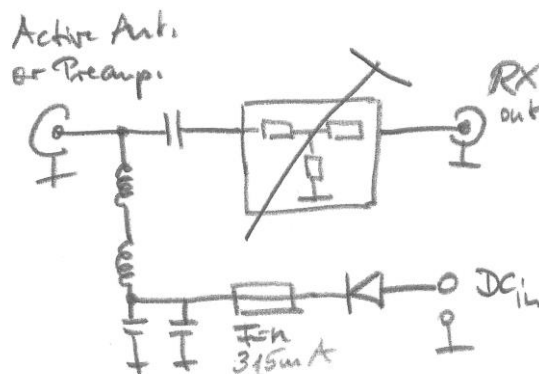
The user replaceable fuse is located under the top cover and can be accessed by removing the two Philips screws located on the top cover. In the event that the fuse is found to be open (evidenced by having no +12 VDC voltage at the center pin of the BNC output jack), it can be replaced with a 0.75 A, slow-blow, 5X20 mm, fuse.

The RSM 2000 also contains a high-quality RF attenuator allowing received signals to be attenuated over the entire frequency range of 50kHz to 2150MHz. The RF adjustment range is about 0-20 dB with minimum insertion loss (maximum gain) in full clockwise position. The attenuator allows matching the gain of the antenna to the receiver in use allowing reduction of gain for receivers that are sensitive to additional gain placed at the RF input. It can also be used to reduce the effects of overdrive from local broadcast stations. The attenuator is adjusted via the blue adjustable screw located on the side of the Interface unit. To reduce the gain, turn the attenuator counter clockwise, to increase the gain turn it clockwise.

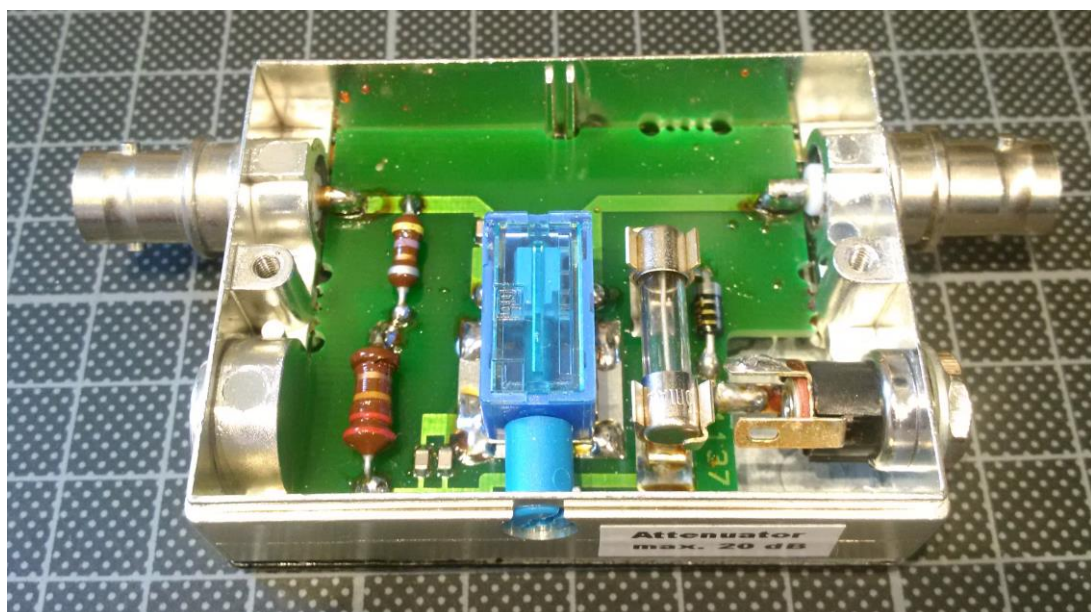
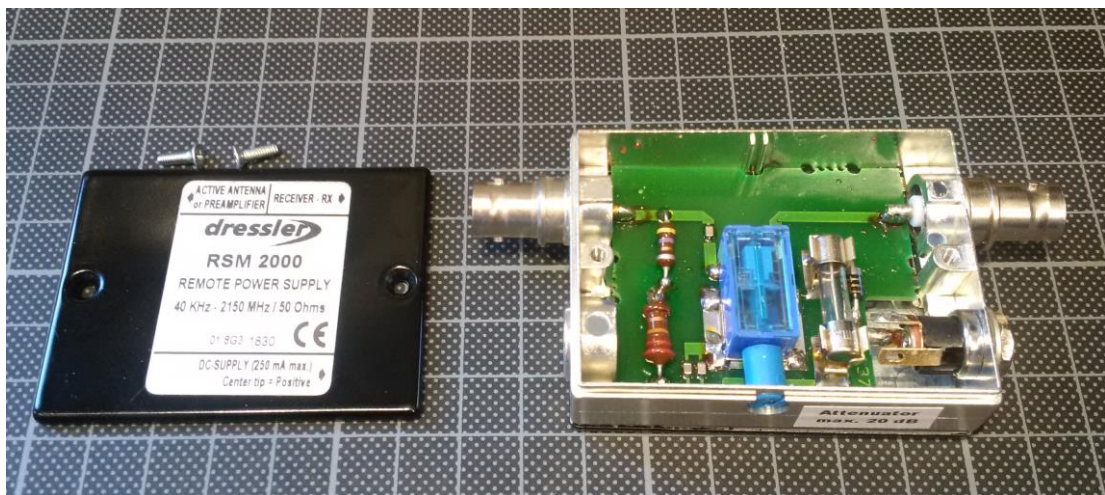
Specifications of the DRESSLER RSM 2000 Bias-T:

Frequency range:	40kHz to 2150MHz
Impedance:	50Ohm
RF-Connectors:	BNC
Supply voltage:	12V DC
Supply current:	250mA max.
Dimensions:	ca. 64 (97) x 47 x 20mm (W x H x D)
Weight:	ca. 150g

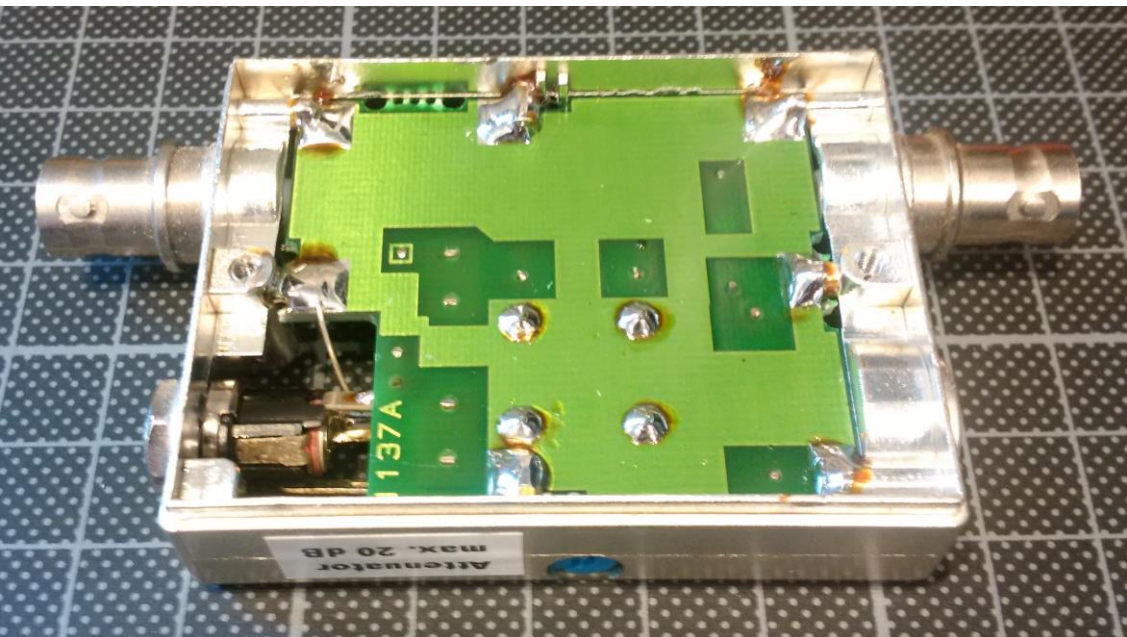
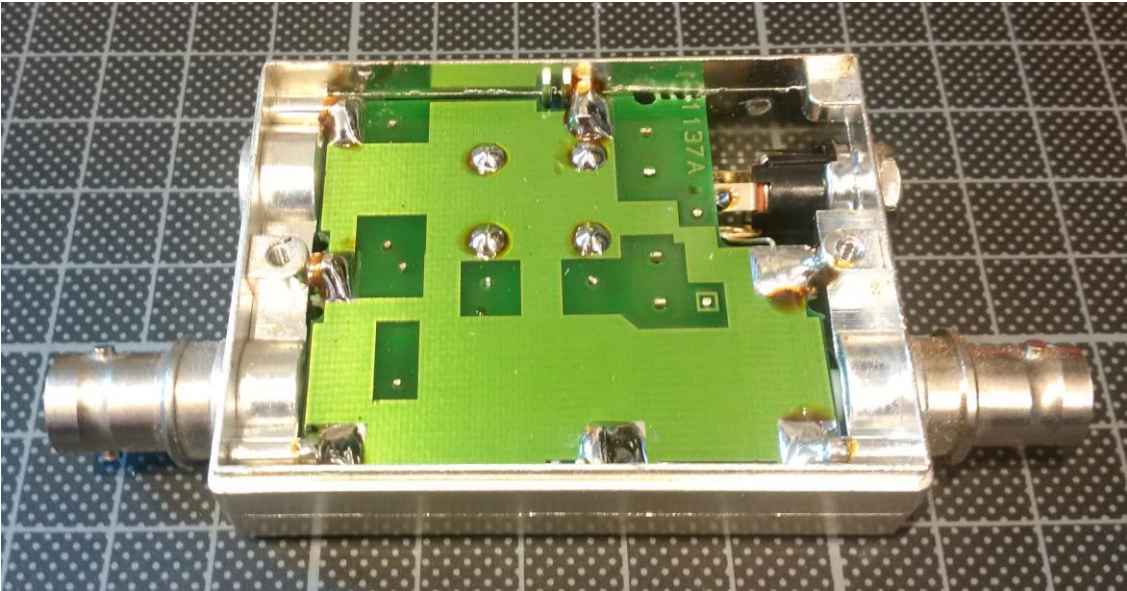
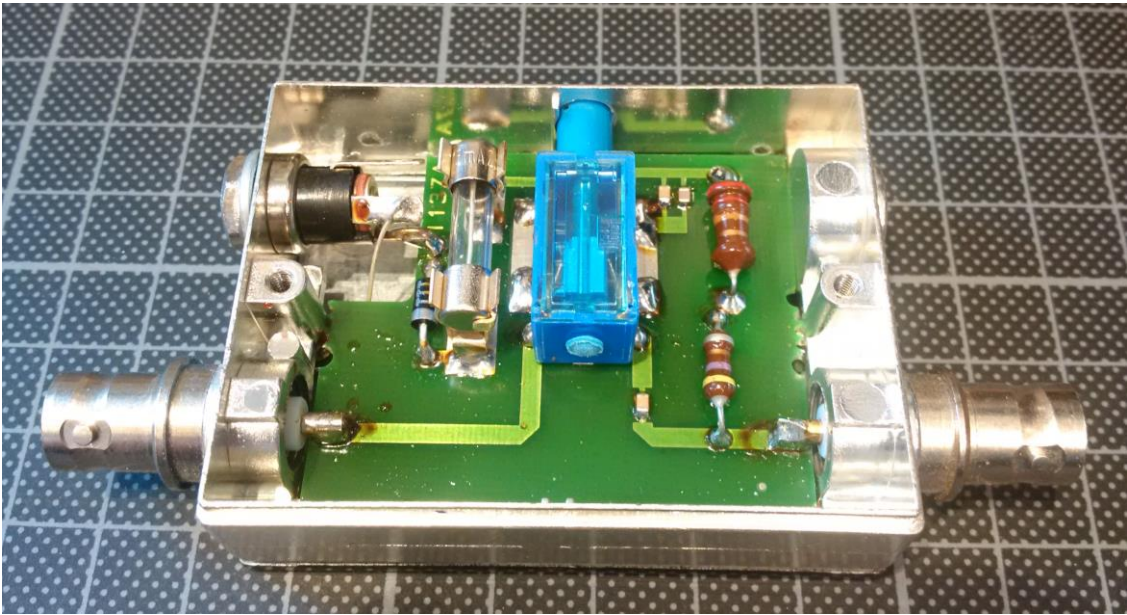
Here is a sketch of the simple schematic:



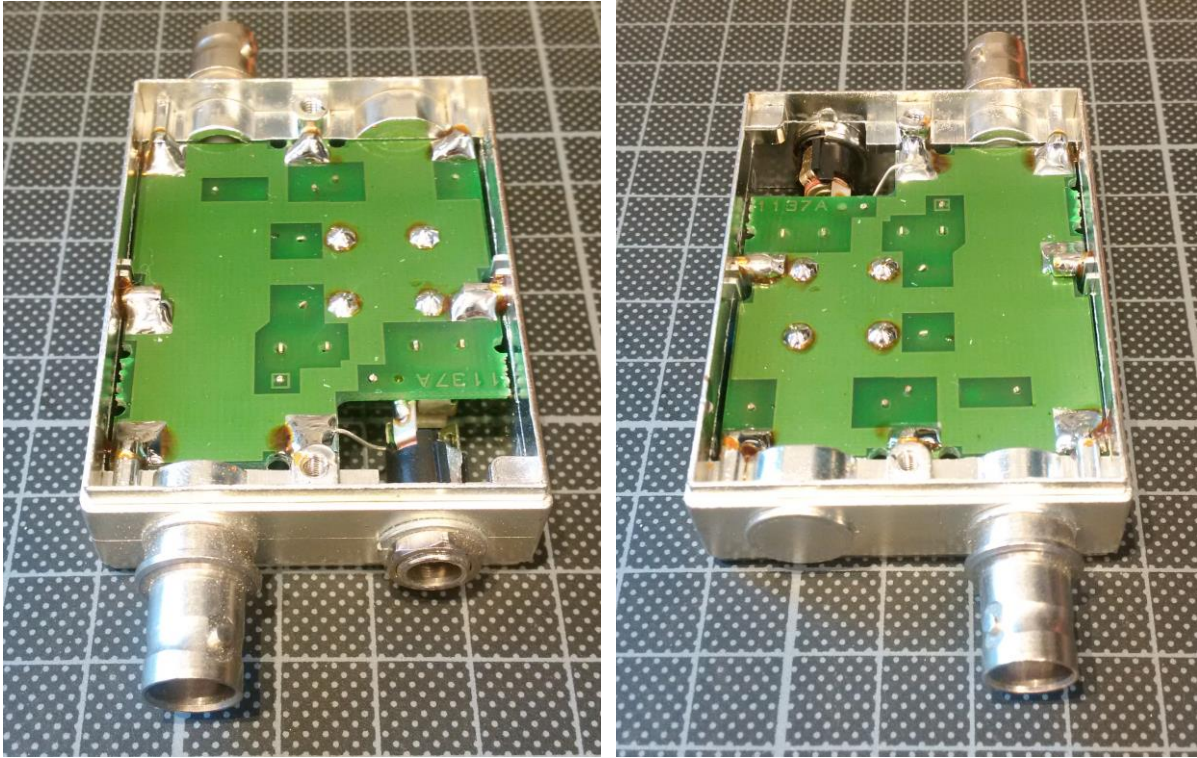
Here are some pictures of the device:



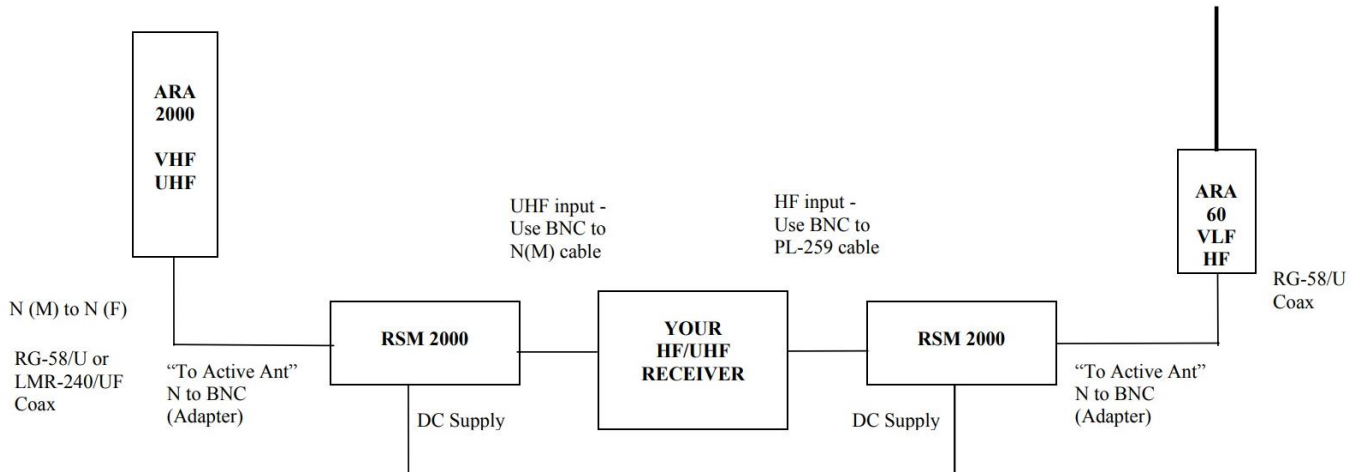




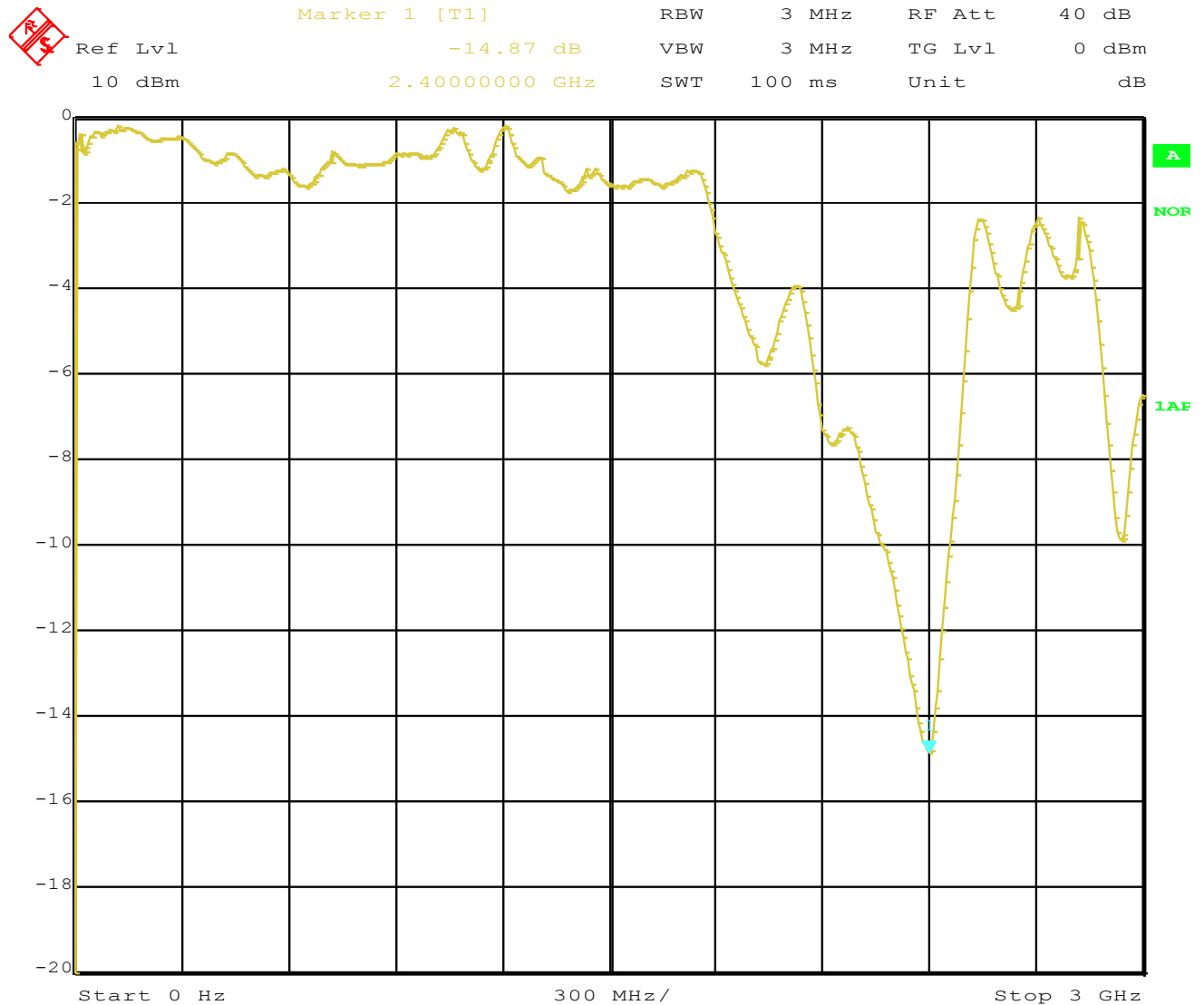




Below please find an application example showing how to use the RSM 2000 Bias-T with two different active antennas from Dressler (ARA 2000 and ARA 60). This setup provides continuous coverage from 40kHz to 2000MHz.



As I did not have any detailed data of the device, I measured its insertion loss. During the measurement the integrated attenuator was set to minimum attenuation.



Frequency /MHz	Insertion Loss /dB
145	0.26
435	0.89
1296	0.96
1700	1.30
2150	7.37
2250	9.55
2400	14.87

Insertion loss in the Amateur Radio bands 2m, 70cm and 23cm is below 1dB. It stays below 2dB in the frequency range up to 1750MHz. Above that frequency insertion loss increases rapidly. At the specified maximum frequency of 2150MHz insertion loss is already 7.37dB and thus in my opinion too high. This Bias-T should only be used in the frequency range up to 1750MHz.

I always appreciate feedback. Please send it to the Email address below.

Best regards

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