


/  Topics (<https://groups.io/g/TekScopes/topics?p=,,,0,0,0,0>) /  SG503 question✖ Mute This Topic (<https://groups.io/g/TekScopes/ft/84417900?csrf=5513314409256117711&mute=1&p=Created%2C%2C%2C20%2C2%2C0%2C0>)

SG503 question

Date ▼ (<https://groups.io/g/TekScopes/topic/84417900?p=Created%2C%2C%2C20%2C1%2C0%2C0>)

jeff_a_bowman@outlook.com

2021-08-01  (<https://groups.io/g/TekScopes/message/185053>)

No dropout 4.5 MHz to 11.5 MHz or 8.78MHz to 26.1MHz but does have a small drop in flatness if knob is turned quickly.
Jeff



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Dave Casey

2021-07-27  (<https://groups.io/g/TekScopes/message/184891>)

Check that all socketed transistors are well seated. My 503 had a dropout that was corrected by pushing a transistor back into the socket. If I recall, the component in question was near the front of the instrument.

Dave Casey

[Show quoted text](#) Reply Like MoreBob Haas (</g/TekScopes/profile/1960198>)2021-07-26  (<https://groups.io/g/TekScopes/message/184867>)

I have worked on several SG503;s and a common problem causing dropouts is failed solder joints on the range switch to he board that is right-angle to the main board. But re-doing these requires unsoldering that board from the main board.

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Bob Haas

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romeo987

2021-07-25  (<https://groups.io/g/TekScopes/message/184859>)

Jeff, Zen,
Thanks for your replies.

Theres no real issue with the things being "within spec". Tek stuff does that! I recently repaired the display on a 1502A that had been sitting at work for 5 years U/S and then 10 more years in my shed before I "got round to it". Once it was working, I started to perform the performance tests. First test was - check the 12V supply. Measured 11.998 (with a DVM at least that good). After three or four more steps like that, I lost interest in doing the rest.

But I digress...


The question I am pursuing is not "are your units in spec?", but "do your units cut out at the extreme low (as in - physical knob rotation) ends of the 5 and 10MHz ranges?".

I have three units. I don't know what numbers correspond to "late", but two of my units (B051... and B067...) do cut out, whereas B066... keeps happily going all the way.

In each case, we'll below the "specified" LF limit, but I am simply curious (anal?) :-)

Roman

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jeff_a_bowman@outlook.com2021-07-25  (<https://groups.io/g/TekScopes/message/184849>)

Mine is an early serial number B0102xx an still well within specs.
Jeff

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Zentronics42@...2021-07-24  (<https://groups.io/g/TekScopes/message/184844>)

I can check the 2 of mine if that would help. I would suspect that they are close to spec if not in spec. I am curious if the 2 where the output is falling off are early serial numbers and the one you have the keeps going is a later serial number. Transistors in this era improved dramatically in quality and function. Now that I think about it I have no idea what my serial number is on the unit I have.

Zen

[Show quoted text](#)

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romeo9872021-07-24  (<https://groups.io/g/TekScopes/message/184843>)

Zen,

Thanks for your reply.

Table 3-3 of the manual suggests typical LF limits of 4.70 and 9.09 MHz on the two ranges in question. My units get very close to, or past, these values before the output dies, so it may well be typical. A third unit I have just keeps going to the physical low frequency limit of the tuning knob. So I am not greatly concerned...but I was simply curious to know whether other users of these see the same thing.


In my (albeit limited, compared with many on this board) experience of Tek stuff of this vintage, the designs were usually not so marginal.

And no, I don't propose to fiddle the tuning slugs: the limited SA capability I have suggests that the units are within, or very close to, spec.

We find many things to play with when we are sitting in COVID lock-down!

Roman

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Zentronics42@...2021-07-24  (<https://groups.io/g/TekScopes/message/184831>)

When the output falls is the frequency outside the selected range? I have one that will let me set the frequency quite a bit low and high on the selected range but the leveling is not specified outside the selected range frequency range So this might be "normal" behavior. I just did a full calibration on one of the units I have. The manual calls out NOT to adjust the coils or trimmers unless necessary. And if those need adjustment you will need a spectrum analyzer to get the adjustment correct as these have a great deal of effect on the harmonic content of the waveform.

Zen

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romeo987

2021-07-24 [🔗 \(https://groups.io/g/TekScopes/message/184830\)](https://groups.io/g/TekScopes/message/184830)

Guys,

Apologies in advance if I am doing the wrong thing; I posted this question on the TM500 group a while back, but there seems to be little activity over there, while there is a lot of action here (I have been following for quite a while), and a lot of it to do with the TM500 world. The question is as follows:

I have a couple of SG503s that I decided recently to “get working”. Largely successful to the extent that I can monitor the output level to the required accuracy without the special Knick knacks called out in the manual. But one interesting effect I notice on both units (to a greater extent on one than the other) is, that on the 5-10 and 10-20 MHz ranges, at the extreme low limit of the dial (below 5 and 10MHz respectively) the output falls away to zero. Only on these two ranges.

I have spent a bit of time rummaging around in the circuit, and at the moment it looks as if Q300 (the current source for the oscillator, driven by the leveling amp) can't quite push enough current to keep the oscillator Q130 going. But before I spend a lot more time, I would like to hear whether this is a common effect, and whether there is a known solution.

Any advice gratefully received .

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