Main Identity

From:	"pa1are" ~~<pa1are@ipar.nl>~~
To:	"~~Martin Rowat~~" ~~<martin_@hollingwood-forge9.co.uk>~~
Sent:	21 August 2008 08:33
Subject:	Re: improved versions

Hi Martin,

Yes I did get your pictures and I did send you a reply earlier.
Well never mind, It looks good and in a strange way very familiar :-)
Good to hear that the program is working OK now.
The log check box is not for creating a log file, but it selects a
logarithmic scale for the R axes.

[handwritten: ok.]

I have noticed that not all NE602's work well as a synchronous detector.
The problem is the LO to RF leakage in the IC itself. Typically you
could see a frequency dependent variation in the resistance reading
causing slightly higher values below 10 MHz, then slightly lower values
between 10 and 20MHz and higher again above 20 MHz. The variation
closely follows the phase difference between the reference and the
measurement signal. This problem is only evident on relatively high
impedance values (470 Ohm or 1k), variation about +/- 2%

[handwritten: R_s ... when R > 1k ....]

I have recently done some tests by swapping between a number of NE602's
and SA602's. There is no significant difference between the two types,
but there is a huge difference between individual samples. So it is
certainly a good idea to try a number of 602's for the detector to get
the best performance.

[handwritten: ok - to do. ✓]

The latest thing I heard from this local ham is that he is still having
problems getting the VCO to work properly... so not much progress there :-(

Well, keep me posted, I am curious how well it performs with some
resistor values and maybe some inductors or capacitors.

73, Arend

[handwritten table:
20 3.5 19+j1
    7.0 19+j2
    14.0 19+j4
    28.0 19+j10

        3.5 51+j0
50   14   50+j0
        28   51+j1

        3.5 101 99+j0 J2
100   14   101+j3
        28   103+j9

gumbo 85 *]*

Martin Rowat wrote:
> Hi Arend,
>
> Thankyou for sending new versions of the microcontroller software and of
> analyser.exe so quickly. I spent some time this morning with the new
> software.
>
> First, no problem in re-programming the '168 (Version 2.1).
>
> Second, the new analyser.exe ran straightaway with no problems. I was able
> to carry out remote scans via COM1 and to save and load data, examine the

> graph and Smith chart, clear the screen and change the scan parameters. I
> assume print graph prints to a printer on a local port such as COMx or LPT1
> (my printers are on my family-wide LAN via print servers), so I was not able
> to test this function.
>
> I tried setting the log box but did not see any file created.
>
> Looks as though all the important functions are OK. Thank you very much!!
>
> Did you get the photos I sent with my email of August 14? If not, please let
> me know and I will send again.
>
> The only issue I have now is to improve the self calibration slightly by
> attending to the phase angle/voltage adjustment.
>
> How is you local ham doing with his analyser construction??
>
> I look forward to your response.
>
> Best regards,
>
> Martin
> G6CGI
>
>
> ----- Original Message -----
> From: "pa1are" <pa1are@ipact.nl>
> To: "Martin Rowat" <martin@bollingwood.force9.co.uk>
> Sent: Monday, August 18, 2008 8:14 PM
> Subject: improved versions
>
>
>> Hi Martin,
>>
>> Today I had the chance to work on the bugs in the analyser program.
>> Now it will store the selected COM port in the registry and
>> automatically select it again when the program is started.
>> If the registry setting is not there it will default to COM1.
>>
>> I also solved the index out of limits problem.
>>
>> I have included a provisional new version of the controller software.
>> There was a "divide by zero bug" in the series to parallel conversion
>> routine, and I changed the software averaging a bit.
>>
>> Well, I hope it will work now, I do appreciate your feedback.
>>
>> 73, Arend
>>
>
>