Ham Radio Spreadsheet
by Stephen A. Douglas III N6TLD

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If you have comments or suggestions please send them to me at;

Also, if you would care to reward my efforts a donation
would be most kind of you.

By the way, I'm not liable for ANY problems you may encounter using this spreadsheet.

TNX

Please pass this around to your friends & fellow Hams.

Enter Voltage (in Volts)

Enter Current (in Amperes)

Resistance is

Enter Current (in Amperes)

Enter Resistance (in Ohms)

Voltage is

Enter Voltage (in Volts)

Enter Resistance (in Ohms)

Current is

If you don't know a value enter 0
then use computer estimate.

Enter Voltage (in Volts)

Enter Current (in Amperes)

Enter Resistance (in Ohms)

Power is

How many resistors are in parallel ?

Enter the values.

12 13

Total resistance is

How many resistors are in series ?

Enter the values.

123 23

Total resistance is

How many caps are in series? (limit 7)

Enter the values.

34 44

Total capacitance is

How many caps are in parallel?(limit 7)

Enter the values.(in Mfd)

Total capacitance is

Enter area of plate (sq.in.) A=

Enter dielectric constant (Air=1.0) K=

Enter thickness of dielectric (in.) d=

Total capacitance for 2 plates is

Enter number of plates.

Total capacitance is

Enter radius of outer cylinder (in.)

Enter radius of inner cylinder (in.)

Capacitance is

Enter radius of coil (in.)

Enter number of turns.

Enter length of coil (in.).

Total inductance is

Enter desired inductance.

Enter number of turns per
inch.

Enter radius of coil (in.).

Coil will have to be

How many inductances are in series ?
(limit 7)

Enter the values (in Microhenries).

46 98

Total inductance is

How many inductances are in parallel ?
(limit 7)

Enter the values (in Microhenries).

55 55

Total inductance is

Alt T returns to menu
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Stephen A. Douglas III
Effective 1/1/90
I'm good in the Callbook.

73 Steven N6TLD

32

45

0.711111111111111 Ohms

23

12.444

286.212 Volts

24

22

1.09090909090909 Amperes

Computer estimate

10	10 Volts
4	4 Amps
2.5	2.50 Ohms

40 Watts

5

24 345 565

4.84046928593515 Ohms

3

543

689 Ohms

4

556 66

14.474060324826 Mfd

6

0 Mfd

100

1

100

0.224 Pfd

4

0.672 Pfd

2

0.1

0.186006472415338 Pfd per cm.

23

333

4

237491.016194332 Microhenries

111 Microhenries

18

1

4.16603765522494 inches long.

3

9876

Microhenries

3

55

18.3333333333333 Microhenries

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========== ==========

Enter resistance (ohms)

Enter frequency (hertz)

Enter inductance (henries)

Enter capacitance (farads)

Impedance is

Enter Diameter of wire(in.)

Enter spacing (in. c to c)

Impedance is

Enter inside diameter of outer conductor (in.)

Enter outside diameter of inner conductor (in.)

Enter dielectric constant of insulator (air = 1.0)

Impedance is

Coaxial cutoff frequency

Are you sure you want to return to system ?

What fraquency is this Dipole for (Mhz)?

A good starting length would be.....

Please remember antenna calculations are just a starting point.
Always check SWR and resonance if possible.

What frequency will this Yagi be used on (Mhz) ?

Reflector		DE
	16.67	15.96

Please remember antenna calculations are just a starting point.
Always check SWR and resonance if possible.
Element spacing is up to you. Try different

spacing and see the result.

What frequency will this Quad be used on (Mhz) ?

Reflector

36.27

Please remember antenna calculations are just a starting point.
Always check SWR and resonance if possible.
Element spacing is up to you. Try different spacing and see the result.

What frequency will this Quagi be used on (Mhz) ?

Quad Elements

Reflector		DE	
	7.13		6.96

Please remember antenna calculations are just a starting point.
Always check SWR and resonance if possible.
Element spacing is up to you. Try different spacing and see the result.

========== ========== ====== ===== ===== ==

12

144000

0.0003

1

20.3575519433933 ohms

0.25

0.5

166.168557606518 ohms

1.5

0.75

1

41 ohms

3342.22222222222 Hz/Sec

Enter 1 for yes 0 for no. 0

28.4 Mhz

16.63 feet

28.5

D1	D2	D3	D4	D5
15.57	15.18	14.80	14.43	14.07

28.4

DE	D1	D2
35.39	34.33	33.47

144.5

Yagi Elements.....

D1	D2	D3	D4	D5
3.07	2.99	2.92	2.85	2.77

{goto}w37~

Antenna submenu

/xmham~ ½wave_Dipole

Compute length of a dipole antenna.

{goto}h69~

{goto}m73~{?}~

{goto}h69~

/xr

(begin \j)

Main Menu

{breakoff} ^

/xmmain~ Antennae

Perform calculations for varios antennae.

/xcx39~

/xmmain~

Ohms law submenu

/xmham1~ Resistance

Voltage & Current must be known.

{goto}a21~{goto}d25~{?}~

{goto}d27~{?}~

/xr

Capacitance Submenu

/xmham2~ Series

Compute capacitance of known values in series.

{goto}a117~

{goto}e121~{?}~

/rea125.g125~

/xie121=2~/xgrtnc1~

/xie121=3~/xgrtnc2~

/xie121=4~/xgrtnc3~

/xie121=5~/xgrtnc4~

/xie121=6~/xgrtnc5~

/xie121=7~/xgrtnc6~

/xr

Inductance Submenu

/xmham3~ Coil

Compute inductance of a single layer coil

{goto}a181~

{goto}d183~{?}~

{goto}d185~{?}~

{goto}d187~{?}~

{goto}a181~

/xr~

Impedance Submenu

/xmham4~ In_Circuit

Resistance, Capacitance, frequency, & Inductance must be known.

{goto}h5~

{goto}k8~{?}~

{goto}k10~{?}~

{goto}k12~{?}~

{goto}k14~{?}~

{goto}h5~

/xr

	(complete)
Yagi	Quad
Compute element length & spacing for Yagi antenna	Compute element length & spacing for Quad antenna
{goto}h85~	{goto}h101~
{goto}m87~{?}~	{goto}m103~{?}~
{goto}h85~	{goto}h101~
/xr	/xr

(complete)

---

^

Ohms_Law
Calculate; voltage, current, & resistance.
/xcx68~
/xmmain~

---

^

Capacitance
Calculate capacitance of a circuit.
/xcx83~
/xmmain~

(complete)

Voltage
Resistance & Current must be known.
{goto}a37~{goto}d41~{?}~
{goto}d43~{?}~
/xr

Current
Resistance & Voltage must be known.
{goto}a53~{goto}d57~{?}~
{goto}d59~{?}~
/xr

Parallel
Compute capacitance of known values in parallel.
{goto}a133~
{goto}e137~{?}~
/rea141.g141~
/xie137=2~/xgrtnsc1~
/xie137=3~/xgrtnsc2~
/xie137=4~/xgrtnsc3~
/xie137=5~/xgrtnsc4~
/xie137=6~/xgrtnsc5~
/xie137=7~/xgrtnsc6~
/xr

Capacitance
Compute value of parallel plate capacitor.
{goto}a149~
{goto}e150~{?}~
{goto}e152~{?}~
{goto}e154~{?}~
{goto}e159~{?}~
/xr

Inductance
Compute length of coil for known inductance
{goto}a197~
{goto}d199~{?}~
{goto}d202~{?}~
{goto}d204~{?}~
{goto}a197~
/xr

Series
Compute total of known inductances in series
{goto}a213~
{goto}e216~{?}~
/xie216=2~/xgrtn1i~
/xie216=3~/xgrtn2i~
/xie216=4~/xgrtn3i~
/xie216=5~/xgrtn4i~
/xie216=6~/xgrtn5i~
/xie216=7~/xgrtn6i~
/xr

Parallel
Compute Z of parallel feeder line.
{goto}h21~
{goto}k25~{?}~
{goto}k27~{?}~
{goto}h21~
/xr

Coaxial
Compute Z of coaxial cable.
{goto}h37~
{goto}n40~{?}~
{goto}n42~{?}~
{goto}n44~{?}~
{goto}h37~
/xr

Kwagi
Compute element length & spacing for Quagi antenna
{goto}h117~
{goto}m119~{?}~
{goto}h117~
/xr

---
^

Nductance
Calculate Inductance of a circuit.(I know it's misspelled)
/xcx102~
/xmmain~

Power
Two factors must be known of Voltage, Resistance, or Current.
{goto}a69~
{goto}d73~{?}~
{goto}d75~{?}~
{goto}d77~{?}~
/xif75<>d75~/xgsubrp1~
/xr

(complete)
---
aCoaxial
Compute value of coaxial cylinder.
{goto}a165~
{goto}e167~{?}~
{goto}e169~{?}~
/xr

(complete)

Parallel
Compute total of known inductances in parallel
{goto}a229~
{goto}e232~{?}~
/xie232=2~/xgrtns1i~
/xie232=3~/xgrtns2i~
/xie232=4~/xgrtns3i~
/xie232=5~/xgrtns4i~
/xie232=6~/xgrtns5i~
/xie232=7~/xgrtns6i~
/xr

(complete)

Frequency
Compute cut off frequency of coaxial cable.
{goto}h37~
{goto}n40~{?}~
{goto}n42~{?}~
{goto}n44~{?}~
{goto}h37~
/xr

Quit Return to Main Menu /xr	Exit Return to system {goto}h53~{goto}m57~{?}~ /xim57=1~/xgqry~ /xim57=0~/xgqrn~ /xim57=½~/xgqr~ /qy

^	^
Impedance Calculate Impedance of a circuit. /xcx119~ /xmmain~	Exit Return to system {goto}h53~{goto}m57~{?}~ /xim57=1~/xgqry~ /xim57=0~/xgqrn~ /xim57=½~/xgqr~ /qy
Series_Parallel Compute values of known resistances in series or parallel /xmspr~	Quit Return to Main Menu /xr
Quit Return to main menu /xr	Exit Return to system {goto}h53~{goto}m57~{?}~ /xim57=1~/xgqry~ /xim57=0~/xgqrn~ /xim57=½~/xgqr~ /qy

Quit Return to Main Menu /xr	Exit Return to system {goto}h53~{goto}m57~{?}~ /xim57=1~/xgqry~ /xim57=0~/xgqrn~ /xim57=½~/xgqr~ /qy

Quit Return to Main Menu /xr	Exit Return to system {goto}h53~{goto}m57~{?}~ /xim57=1~/xgqry~ /xim57=0~/xgqrn~ /xim57=½~/xgqr~ /qy

---

Series parallel submenu

Parallel

Compute value of known resistances in parallel (limit 7)

{goto}a85~

{goto}e89~{?}~

/rea93.g93~

/xie89=2~/xgrtn1~

/xie89=3~/xgrtn2~

/xie89=4~/xgrtn3~

/xie89=5~/xgrtn4~

/xie89=6~/xgrtn5~

/xie89=7~/xgrtn6~

/xr

Exit

Return to system

{goto}h53~{goto}m57~{?}~

/xim57=1~/xgqry~

/xim57=0~/xgqrn~

/xim57=½~/xgqr~

/qy

		(complete)
Series	Quit	Exit
Compute value of known resistances in series (limit 7)	Return to Main Menu	Return to System
{goto}a101~	/xr	/qy
{goto}e105~{?}~		
/rea109.g109~		
/xie105=2~/xgrtns1~		
/xie105=3~/xgrtns2~		
/xie105=4~/xgrtns3~		
/xie105=5~/xgrtns4~		
/xie105=6~/xgrtns5~		
/xie105=7~/xgrtns6~		
/xr		

Series resistance subroutines

{goto}a109~{?}~
{right}{?}~
{goto}d111~@sum(a109.b109)~
/xr

Parallel resistance subroutines

{goto}a93~{?}~
{right}{?}~
{goto}d95~1/(1/A93+1/B93)~
/xr

Parallel capacitance subroutines

{goto}a141~{?}~
{right}{?}~
{goto}d143~@sum(a141.g141)~
/xr

Series capacitance subroutines

{goto}a125~{?}~
{right}{?}~
{goto}d127~(A125*B125)/(a125+b125)~
/xr

Series inductance subroutines

{edit}{home}
{right}
{Right}
{Right}
{Right}
{Right}
{Right}
224{del}{del}{del}
{Right}
{Right}
{Right}
{Right}
{Right}
{Right}
{Right}
{Right}
{Right}
i~

/rea221.g221~
{goto}a221~{?}~
{right}{?}~
{goto}d224~@sum(a221.g221)~
/xr

Parallel inductance subroutines

/rea237.g237~
{goto}a237~{?}~
{right}{?}~
{goto}d240~1/(1/A237+1/B237)~
/xr

	(complete)
{goto}a109~{?}~ {right}{?}~ {right}{?}~ {goto}d111~@sum(a109.c109)~ /xr	{goto}a109~{?}~ {right}{?}~ {right}{?}~ {right}{?}~ {goto}d111~@sum(a109.d109)~ /xr

	(complete)
{goto}a93~{?}~ {right}{?}~ {right}{?}~ {goto}d95~1/(1/A93+1/B93+1/c93)~ /xr	{goto}a93~{?}~ {right}{?}~ {right}{?}~ {right}{?}~ {goto}d95~1/(1/A93+1/B93+1/c93+1/d93)~ /xr

	(complete)
{goto}a141~{?}~ {right}{?}~ {right}{?}~ {goto}d143~@sum(a141.g141)~ /xr	{goto}a141~{?}~ {right}{?}~ {right}{?}~ {right}{?}~ {goto}d143~@sum(a141.g141)~ /xr

	(complete)
{goto}a125~{?}~ {right}{?}~ {right}{?}~ {goto}d127~1/(1/A125 +1/B125+1/c125)~ /xr	{goto}a125~{?}~ {right}{?}~ {right}{?}~ {right}{?}~ {goto}d127~1/(1/A125+1/B125+1/c125+1/d125)~ /xr

	(complete)
/rea221.g221~ {goto}a221~{?}~ {right}{?}~ {right}{?}~ {goto}d224~@sum(a221.g221)~ /xr	/rea221.g221~ {goto}a221~{?}~ {right}{?}~ {right}{?}~ {right}{?}~ {goto}d224~@sum(a221.g221)~ /xr

	(complete)
/rea237.g237~ {goto}a237~{?}~ {right}{?}~ {right}{?}~ {goto}d240~1/(1/A237+1/B237+1/c237)~ /xr	/rea237.g237~ {goto}a237~{?}~ {right}{?}~ {right}{?}~ {right}{?}~ {goto}d240~1/(1/A237+1/B237+1/c237+1/d237)~ /xr

---------- --

{goto}a109~{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{goto}d111~@sum(a109.e109)~
/xr

---------- --

{goto}a93~{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{goto}d95~1/(1/A93+1/B93+1/c93+1/d93+1/e93)~
/xr

---------- --

{goto}a141~{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{goto}d143~@sum(a141.g141)~

/xr

---------- --

{goto}a125~{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{goto}d127~1/(1/A125+1/B125+1/c125+1/d125+1/e125)~
/xr

---------- --

/rea221.g221~
{goto}a221~{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{goto}d224~@sum(a221.g221)~
/xr

---------- --

/rea237.g237~
{goto}a237~{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{goto}d240~1/(1/A237+1/B237+1/c237+1/d237+1/e237)~

/xr

{goto}a109~{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{goto}d111~@sum(a109.f109)~
/xr

{goto}a93~{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{goto}d95~1/(1/A93+1/B93+1/c93+1/d93+1/e93+1/f93)~
/xr

{goto}a141~{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{right}{?}~

{goto}d143~@sum(a141.g141)~
/xr

{goto}a125~{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{goto}d127~1/(1/A125+1/B125+1/c125+1/d125+1/e125+1/f125)~
/xr

/rea221.g221~
{goto}a221~{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{goto}d224~@sum(a221.g221)~
/xr

/rea237.g237~
{goto}a237~{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{right}{?}~

{goto}d240~1/(1/A237+1/B237+1/c237+1/d237+1/e237+1/f237)~
/xr

qry >
qrn >
qr >

{goto}a109~{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{goto}d111~@sum(a109.g109)~
/xr

{goto}a93~{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{goto}d95~1/(1/A93+1/B93+1/c93+1/d93+1/e93+1/f93+1/g93)~
/xr

{goto}a141~{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{right}{?}~

{right}{?}~
{goto}d143~@sum(a141.g141)~
/xr

{goto}a125~{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{goto}d127~1/(1/A125+1/B125+1/c125+1/d125+1/e125+1/f125+1/g125)~
/xr

/rea221.g221~
{goto}a221~{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{goto}d224~@sum(a221.g221)~
/xr

/rea237.g237~
{goto}a237~{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{right}{?}~
{right}{?}~

{right}{?}~
{goto}d240~1/(1/A237+1/B237+1/c237+1/d237+1/e237+1/f237+1/g237)~
/xr

Quit subroutines	(complete)
{home}{wait @now+@time(0,0,10)}/qy	
{home}{wait @now+@time(0,0,10)}/xmmain~	
{breakoff}{goto}w54~	