

# Feed Back

## VE3OSR

146.34 - 146.94



- |                            |                               |
|----------------------------|-------------------------------|
| <b>President:</b>          | <b>Laverne Wyville VE3LPD</b> |
| <b>Vice. Pres:</b>         | <b>Moe Hurlbut VE3LPT</b>     |
| <b>Sec.-Treas:</b>         | <b>Don Richards VE3IDS</b>    |
| <b>Editor:</b>             | <b>Dick Shave VE3BIS</b>      |
| <b>Technical Director:</b> | <b>Don Rowe VE3LXZ</b>        |

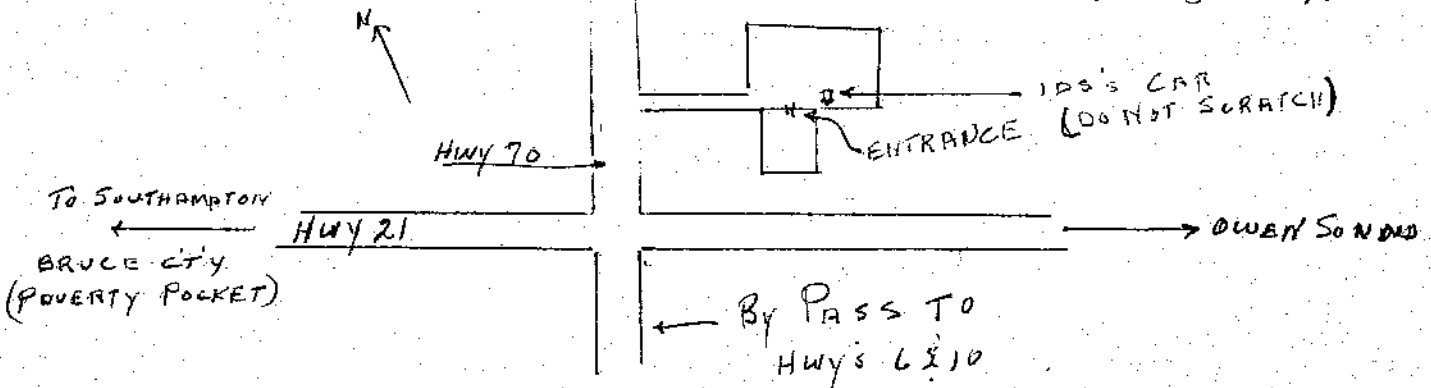
Send Feedback correspondence to - Dick Shave VE3BIS  
 Box 351,  
 SOUTHAMPTON, Ont. NOH 2L0

MINUTES OF MEETING, SEPTEMBER 17, 1981.

Meeting called to order at 8.17 P.M. There were two guests present: Ken Mac.Donald, Owen Sound, <sup>(VE3MEE)</sup> and Ian Harris, Hanover(VE3MAE). Minutes of June meeting adopted on motion of Dick, VE3BIS, seconded by Terry, VE3LPK. Dick, VE3BIS, informed the club of work done on the repeater, recently. Some discussion held regarding repeater site followed. The President, Laverne asked for some indication of the number of members interested in an auto-patch link in the Owen Sound area, Thru' VE3MTR. Discussion of a frequency change to the OSR repeater, to get away from the interference from VE3NFM, North Bay. VE3DX0 volunteered to contact the North Bay group regarding the problem. when next in the district. VE3DX0 reminded the group about the Split Rail Festival coming up, and asking for operators. VE3BIS spoke about the up-coming car Rally in the Burk's Falls area on October 17-18. Motion to adjourn the business meeting moved by VE3JU0, and carried at 8.57 P.M. VE3BIS then gave a talk on , and demonstration of, the tone alert system he has designed and built. Many of the Club members have decided to construct a similar unit as a project. A good Eyeball was had before adjourning to A & W<sup>1</sup> for coffee.

.....  
NOTICE OF NEXT MEETING..... OCTOBER 15th, 8.00 P.M.

Meeting will be held at our new location, in the Tourist Information Centre, Springmount, A couple of miles west of Owen Sound, at the intersection of Hwy's 21 & 70. (see Sketch attached) Entrance by the side door into the basement. There will be coffee & donuts (bring cash).



As the October Meeting comes closer it is time to say goodbye to the OSCVI in OwenSound and move on to our new place at Springmount. Don VE3 IDS has more for us on that later.

Ted VE3 AEO seems to be enjoying his trip in the Western Provinces, and has made several contacts with local stations. The new ICOM is getting a good workout HI.

The Repeater was down for a short time but thanks to Jim it was back on the air the next day.

See all of youm at the next meeting, and lets have a good turn out.

73s VE3 LPD

### Split Rail Festival

The annual event took place again at Flesherton with Stan Guzanis in command, Friday, Saturday, and Sunday, September 25th. to 27. What we have come to expect as Split Rail weather prevailed for the first two days, but the sun graciously consented to shine on the Sunday. The usual large crowds were in attendance, and the radio exhibit had quite a few interested visitors. An H.F. rig, courtesy of Walter Walls (VE3IYW) was in operation. Unfortunately, the 80 and 40 meter bands were in poor shape during the daylight hours and not too many contacts were logged. Stan's RTTY attracted a lot of attention, and he had the place set up like the control centre of NASA. Again, we could have used more operators. Among those present furthering the cause of Amateur Radio were Stan(SWL) who was always on the job, VE3FFN, VE3IYW, VE3DXO, VE3FOT, VE3LPD, VE3LPT, and VE3IYU.(if I have omitted anyone it's because I wasn't here when they were). A lot of hard work, but a job well done. Our thanks, too, for furniture supplied by Alex MacMillan, and transported by VE3IYW.

## A TOUCH TONE CALLING SYSTEM FOR TWO METERS.

### THE FIRST OF THREE ARTICLES.

The system suggested is for any station desiring the facility to instal the tone alert unit on his 2 meter transceiver. The unit will consist of a tone decoder set up to respond to an individual tone sequence, it will be in the ready state and connected at all times with the transceiver left on, when the usual communications are not required a switch will open the external speaker and leave the unit in the ready state. This will elimiate chatter and still leave your station available if someone "wants you".

The unit will plug into the 2 m transceiver external speaker Jack, it includes a speaker, tone sequence decoder, on off switch, and power connections.

The transceiver will remain on at all times and the speaker will be shut off when not required. The tone alert unit will be at the ready state at all times and will not be interrupted by speaker switch.

The particular tone sequences will be allocated on an individual basis, a list made available.

Whenever it is required to call "station A" simply get on the frequency "dial up" the correct tones and the particular tone alert unit will sound a beeping signal for 30 seconds.

The system has worked at my QTH for a year or so with only two false calls.

The system is designed for use with a rural repeater where club members are as much as 70 miles apart and on different telephone exchanges.

### ADVANTAGES, POSSIBLE DISAVANTAGES, COST, CONSTRUCTION AND SET UP

#### ADVANTAGES

A way to elimiate repeater chatter when you are busy with other matters, and yet keep you in touch when someone wishes you specifically.

INDIVIDUAL EMERGENCIES - A call for help using a special tone sequence.

AREA EMERGENCY - A special non uniform tone for general all stations responce. This tone is not on touch tone pads and would be the accepted North American area emergency tone frequency, it would be available to emergency coordinators only.

POSSIBLE DISADVANTAGES - Misuses of any kind this could be a problem where there are "funny" operators.

COST - Depends on degree of individual involmment - Fully completed and tested units \$80.00 - Completed and tested boards \$60.00 materials \$40.00 - Board only \$7.00.

## CONSTRUCTION AND SET-UP

The construction is not difficult, but it should be done by those familiar with P.C.B. and M.O.S. technology or supervised environment i.e. at club "build it" sessions.

The set up requires a means of setting up the decoders to required frequency and setting the signal amplitude to decoder.

Two units were demonstrated at the last GBARC club meeting with good response.

A number of members "ordered" the complete units, others ordered complete boards - while still others wanted boards and parts.

For further information contact

DICK SHAVE VE3 BIS

BOX 351

SOUTHAMPTON, ONTARIO.

NOH 260.

Kerrrrr Chunk - Agrivating isn't it!!!

Being a new ham and not having read any material on proper 2 metre etiquette. I have made myself some rules. The old prog line has been to "Dr. Dick" and I do not have to hit it in several spots or key the mike several times to get on the air. (I have been one of the worst offenders).

1. I will not hit the repeater without proper identification. If I do not wish to rag chew I will indicate by "Checking O.S.R." "Testing Rig" etc. If I wish to rag chew I will indicate by the term "monitoring".
2. I will reply to all portable, marine mobile or mobile call signs from outside the area and give all assistance.
3. If I am rag chewing with a local ham I will move to "52" to clear the repeater.
4. If I hear any station cycling the repeater I will so indicate and suggest simplex or another repeater (when I get a new rig).
5. I will identify as per regulations and allow time for breakers.
6. I will use egg timer to stop timing out repeater and ending up with egg on my face.
7. I will listen to all suggestions of more experienced hams as to proper procedure.

How about it old-timers lets hear more about proper 2 metre etiquette. There is room for 3 more to make the ten commandments of proper 2 metre use.

*Rahn* VE3 MAI

THE SCENIC CITY SCENE

The first issue of Feedback under the new editor was excellent. Dick had a hard act to follow, but he did it. Congratulations, and keep it up. To the membership at large, remember, it is your contributions that will help Ye Ed. maintain the power of the press.

.....

Our first meeting of the season was an excellent start. Everyone seemed to want to stay around and talk after the formal session, and this alone indicates the interest. Dick's (VE3BIS) demonstration was an eye-opener for a lot of those present, except for the disturbing influence at the back of the room, the character who kept punching the tone code to set the gadget off at the wrong time. Oh Well, it takes all kinds, etc.

.....

We had a short talk with Ted (VE3AEO) from Edmonton the other night. Laverne (VE3LPD) patched us through. Ted sounds well, and appears to be havig a good trip(no, I don't have a cold). We hope he will be back in time for the next meeting to give us a detailed account of Mr. Lougheed's trusteeship.

.....

The repeater appears to be functioning at top efficiency just now, judging from the signals we have been getting from distant points. VE3NFM still continues to clobber us at times, sometimes to the point where we have to go over to 34 receive to get away from the constant "chucking" and still monitor the frequency. Sometimes it gets so bad that one tends to let his base nature surface, and hopes we are doing the same thing to them. ( That is, if we have such a thing as a "base nature" which, of course we haven't).

.....

And, congrats to Pres. Laverne for a meeting well chaired.

CLUB ACTIVITIES

Looks like we started the year off in great style, very enjoyable meeting, nice to see all the familiar faces and I would like to add "Welcome" to the few new ones.

Open house at the Bruce Nuclear Power Development seemed to be a success as 7,644 people took advantage of it. I met a few Amateurs during the tour and hope that they enjoyed themselves.

Not wanting to break the law "if anything can go wrong, it will", my first effort for program went astray. The film I had hoped for was not available at the last moment so a scramble for substitution ensued. I would like to thank Dick VE3 BIS for stepping in with a technical talk which I found very interesting.

As for future agenda, the only things so far confirmed are:

October - Film

November - Speaker, Mitch Powell VE3 OT  
President and ARRL Canadian Director

If anybody has an interesting story, vacation, technical topic etc which they would be willing to share with the rest of the club I would appreciate hearing from you.

73's  
Andy VE3 LCZ

.....  
4th annual LONDON AMATEUR RADIO CLUB  
SWAP 'n SHOP

SUNDAY, OCTOBER 25, 1981 DOORS OPEN 9:00 A.M. to 4:00 P.M.

LORD DORCHESTER SECONDARY SCHOOL  
Dorchester, Ontario

TALK IN ON 146.52 SIMPLEX or VE3TTT 147.78/147.18  
Admission - \$2.00 per person (under 12 free)

- Acres of free parking -
- Huge indoor sales area -
- Cafeteria food service all day long -
- Hourly door prizes from 10:00 A.M. - 3:00 P.M. -
- Major prize draw at 3:00 P.M. -

AZDEN 3000 25 Watt Synthesized 2 Metre Transceiver  
(Winner does not need to be present)

Tables - \$1.00 per table (plus Admission)

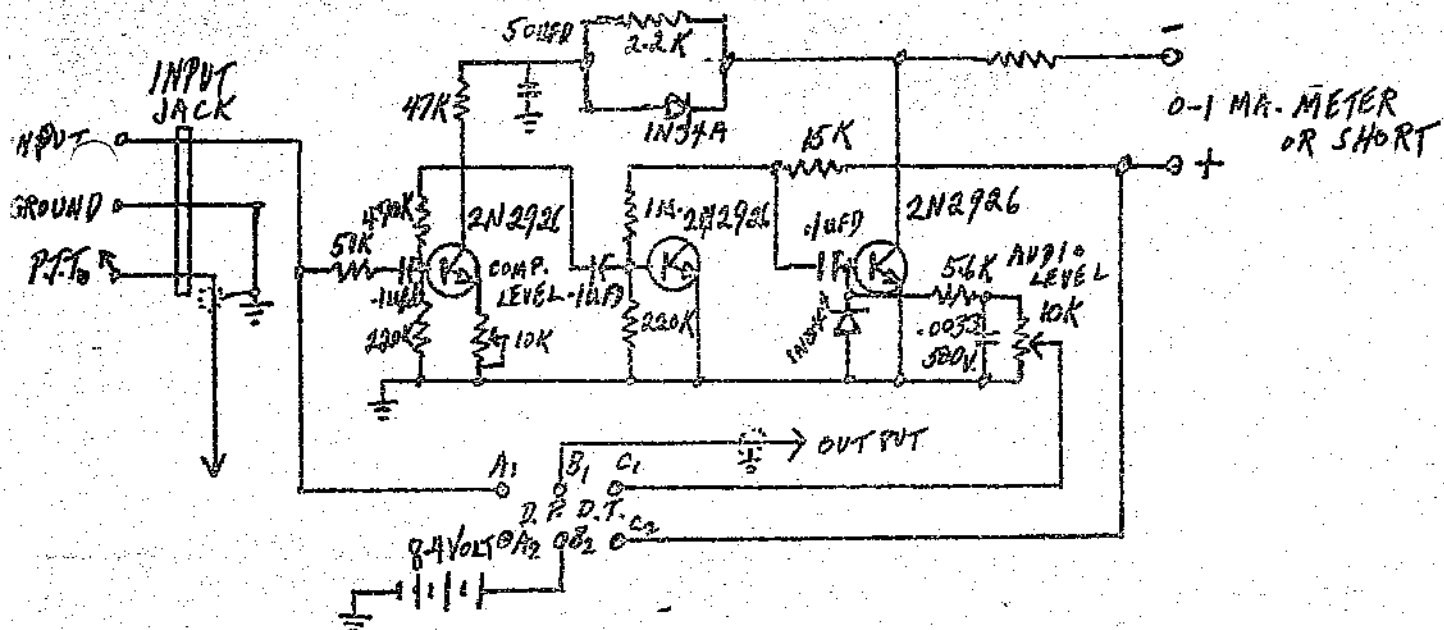
NOTE: Vendors must reserve and pay for tables in advance.

Reservations and payments must be sent to:

LONDON AMATEUR RADIO CLUB, INC.

c/o D. Reiber VE3 IBV

417 Regal Drive, London, Ont. N5Y 1J8  
(519) 455-3947

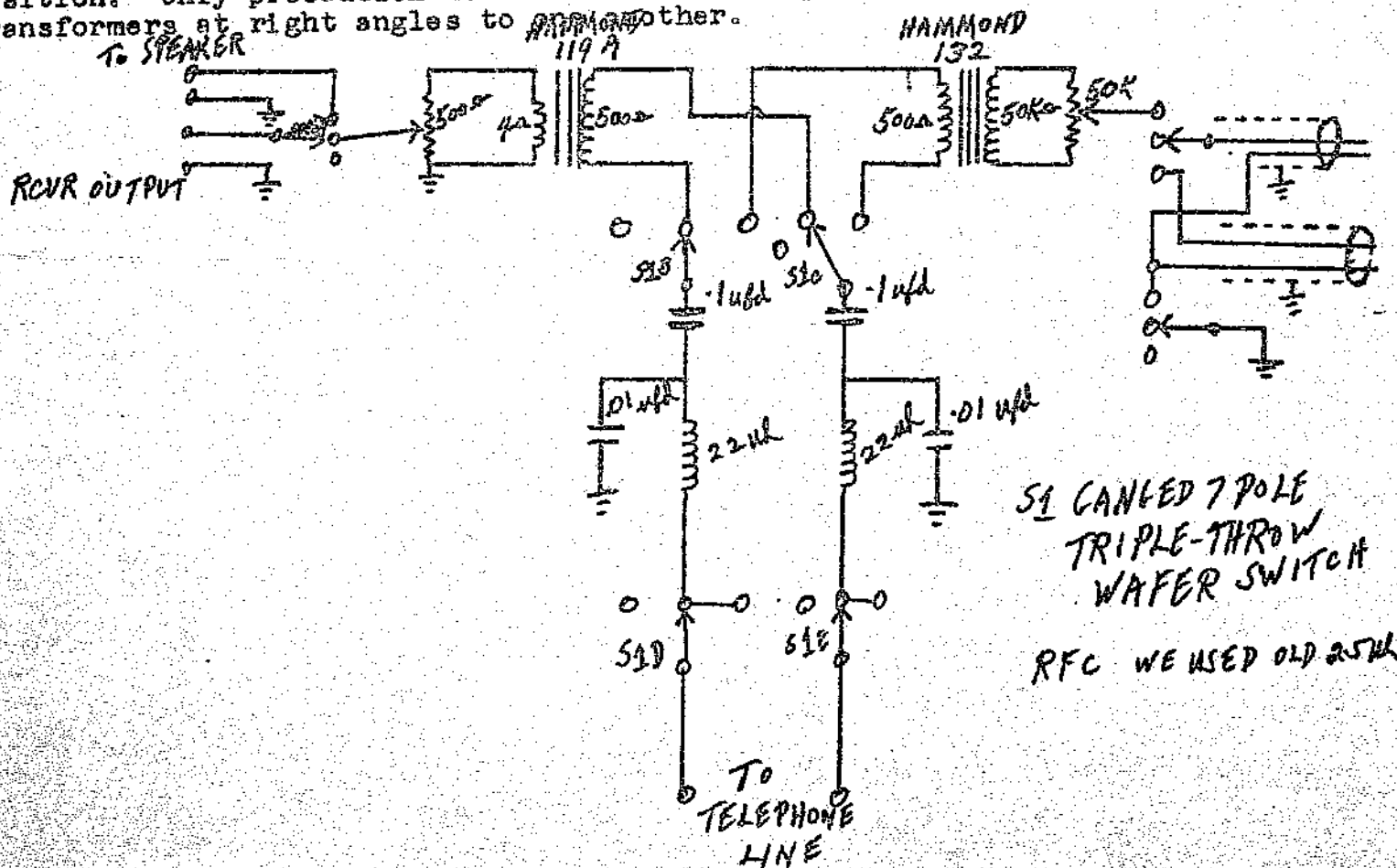


Speech Compressor Circuit of A.B. Morgan VE3OI

Redrawn by VE3BSF. All resistors are 10%  $\frac{1}{2}$  watt All Capacitors are 50 volt  
 Layout not critical and parts layed out just like circuit works quite nicely.

A PRACTICAL PHONE PATCH

Received this from VE3CAA. Switch is shown in center or receive position. Only precaution here is to use well grounded leads and place transformers at right angles to one another.



S1 CANED 7 POLE  
 TRIPLE-THROW  
 WAFER SWITCH  
 RFC WE USED OLD 25K



# ONE ROUND TUIT

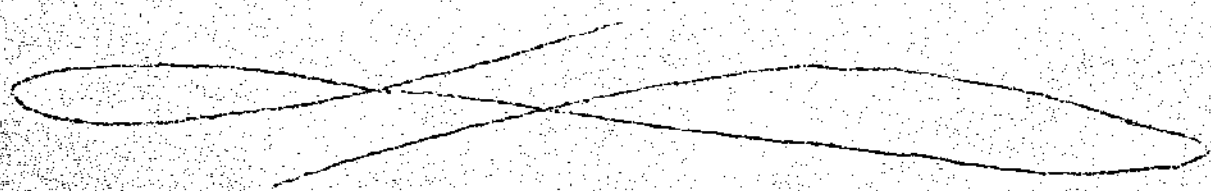
At long last we have them in sufficient quantity-for all members to have their own. Please cut yours out and save it ! Guard it and never lose it ! Don't let anyone take it away from you.

These Tuits have been hard to come by, especially round ones, but now, by special arrangement, you can have yours.

We are glad, because the demands have been great, and now that they are in hand, most of our problems about reports, and about really getting things done will be solved. We look for our efficiency to double, now that everyone has his own personal round tuit.

So many of you have said, "I will get started on this just as soon as I can get around tuit". Other comments are, "We've been so busy, and there's so terribly much to do, that we just haven't gotten around tuit". Now all of that is past. Everyone has their own round tuit, and I know great accomplishments are in store !

IF YOU FIND MISTAKES  
IN THIS PUBLICATION,  
PLEASE CONSIDER  
THAT THEY ARE THERE  
FOR A PURPOSE. WE  
PUBLISH SOMETHING  
FOR EVERYONE, AND  
SOME PEOPLE ARE  
ALWAYS LOOKING  
FOR MISTAKES !!!



# burlington badge man

DIVISION OF EEL

17-3009 CENTENNIAL DR., BURLINGTON, ONTARIO L7M 1B3. (416) 639-7175

presents a series of formulae and helpful information which the serviceman, experimenter or technician may find useful.

## RESISTANCES IN SERIES

Total Resistance =  $R_1 + R_2 + R_3 \dots$  etc.

## RESISTANCES IN PARALLEL

Effective Resistance =  $\frac{R_1 \times R_2}{R_1 + R_2}$

Where  $R_1$  and  $R_2$  are the individual resistors.

Note—The effective resistance will always be less than the resistance of the lowest value.

## A.C. RESISTANCE (INDUCTIVE REACTANCE) OF A COIL

Reactance (ohms) =  $6.28 \times f \times L$

Where  $f$  = frequency in cycles per second.

$L$  = inductance in henries

## A.C. RESISTANCE (CAPACITIVE REACTANCE) OF A CAPACITOR

Reactance (ohms) =  $\frac{1,000,000}{6.28 \times f \times C}$

Where  $f$  = frequency in cycles per second

$C$  = capacitance in microfarads

## RESONANCE

$f = \frac{1}{\sqrt{L \times C}}$      $L = \frac{25,330}{f^2 \times C}$      $C = \frac{25,330}{f^2 \times L}$

Where  $f$  = frequency in megacycles

$L$  = inductance in microhenries

$C$  = capacitance in micromicrofarads (mmfd.)

## IMPEDANCE OF A CIRCUIT

When an inductor, capacitor, and a resistor are connected in series in a circuit

$Z = \sqrt{R^2 + (X_L - X_C)^2}$

Where  $Z$  = impedance in ohms

$R$  = resistance in ohms

$X_L$  = reactance of inductor in ohms

$X_C$  = reactance of capacitor in ohms

The impedance of a circuit containing a resistor and capacitor in series is:

$Z = \sqrt{R^2 + X_C^2}$

Where  $Z$  = impedance in ohms

$R$  = resistance in ohms

$X_C$  = reactance of capacitor in ohms

The impedance of a circuit containing a resistor in parallel with a capacitor is:

$Z = \frac{R \times X_C}{\sqrt{R^2 + X_C^2}}$

Where  $Z$  = impedance in ohms

$R$  = resistance in ohms

$X_C$  = reactance of capacitor in ohms

## OHMS LAW FOR A.C.

$E = I \times Z$      $Z = \frac{E}{I}$      $I = \frac{E}{Z}$

Where  $Z$  = impedance of circuit in ohms

$E$  = Voltage drop

$I$  = Current in amperes

## A.C. VOLTAGE

The maximum voltage is  $1.414 \times$  the effective voltage.

The effective voltage is  $.707 \times$  the maximum voltage.

The average voltage is  $.636 \times$  the maximum voltage.

## POWER AND OHMS LAW

$W = E \times I$      $W = I^2 \times R$      $W = \frac{E^2}{R}$

$E = I \times R$      $E = \sqrt{W \times R}$      $E = \frac{W}{I}$

$I = \frac{E}{R}$      $I = \sqrt{\frac{W}{R}}$      $I = \frac{W}{E}$

$R = \frac{E}{I}$      $R = \frac{E^2}{W}$      $R = \frac{W}{I^2}$

## THE DECIBEL (DB.)

The number of decibels corresponding to a given power ratio is 10 times the common logarithm of the ratio.

$N = 10 \times \log_{10} \times \frac{P_2}{P_1}$

Where  $N$  = number of decibels

$\frac{P_2}{P_1}$  = power ratio

Note—In the case of voltage or current the number of decibels corresponds to 20 times the common logarithm of the ratio.

This is true only when the two voltages or currents operate in the same or equal impedances.

## TRANSFORMER RATIOS

$\frac{\text{Voltage Across Secondary}}{\text{Voltage Across Primary}} = \frac{\text{Number of Secondary Turns}}{\text{Number of Primary Turns}}$

## VALUE OF CATHODE RESISTOR FOR 1 TUBE

$R = \frac{E_g}{I_k}$

Where  $R$  = resistance in ohms

$E_g$  = value of grid bias required.

$I_k$  = total cathode current in amperes.

## VOLTAGE AMPLIFICATION

Voltage Amplification =  $\frac{\mu \times E_g \times R_p}{r_p + R_p}$

Where  $\mu$  ( $\mu$ ) = amplification constant of the tube

$E_g$  = the input voltage

$r_p$  = the plate impedance

$R_p$  the external or load impedance.

## D.C. METER FORMULAE

The ohms per volt or resistance of a meter is:

Ohms per volt =  $\frac{1}{I_{fs}}$

Where  $I_{fs}$  = current in amperes required for full scale deflection

The value of a current shunt for increasing the current range of a meter is:

$R = \frac{R_m}{K - 1}$

Where  $R$  = resistance required

$R_m$  = meter resistance

$K$  = multiplying factor (full scale).

The value of multiplying resistor to increase the range of a voltmeter is:

$R = \frac{E_{fs}}{I_{fs}}$

Where  $R$  = multiplying resistor

$E_{fs}$  = full scale volts desired

$I_{fs}$  = full scale current of meter in amperes.

## SHUNT AND MULTIPLIER VALUES FOR 0-1 D.C. MILLIAMETER (27 ohms)

Current Scale mls	Shunt Res. ohms	Volt Scale volts	Mult. Res. ohms
0-10	3.0	0-10	10,000
0-50	.551	0-50	50,000
0-100	.272	0-100	100,000
0-500	.0541	0-250	250,000
		0-500	500,000
		0-1000	1,000,000

## INDUCTANCE & TURNS FORMULA FOR A SINGLE LAYER CLOSE WOUND COIL

$L = \frac{2 \times A^2 \times N^2}{(3 \times A) + (9 \times B) + (10 \times C)}$

To determine the number of turns for a given value of inductance:

$N = \sqrt{\frac{(3 \times A) + (9 \times B)}{2 \times A^2}} \times L$

Where  $L$  = inductance in microhenries

$A$  = diameter of the coil form in inches

$B$  = length of winding in inches

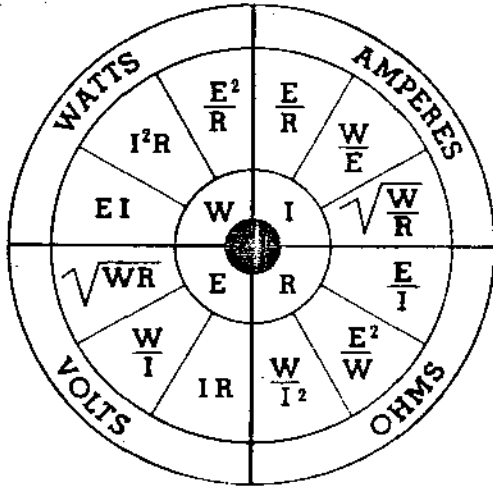
$N$  = number of turns

## FREQUENCY CONVERSION

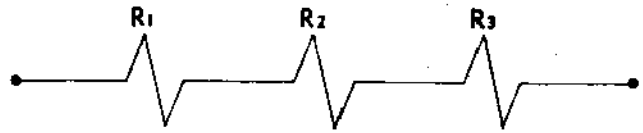
Frequency in kilocycles  $\frac{300,000}{\text{wave length in meters}}$

# OHMS LAW EQUATIONS

## DC CIRCUITS



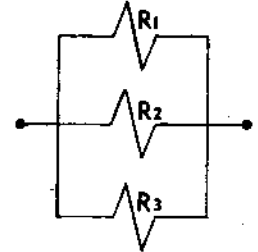
## RESISTANCE FORMULAS



**SERIES RESISTANCE:**  $R_{TOTAL} = R_1 + R_2 + R_3$

**PARALLEL RESISTANCE:**

$$R_{TOTAL} = \frac{1}{\frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3}}$$



## LEAD SIZE CONVERSION CHART

B & S No.	Diameter
#26	.016"
#24	.020"
#22	.025"
#20	.032"
#18	.040"

## CENTIGRADE-FAHRENHEIT CONVERSION TABLE

Deg. C.	Deg. F.	Deg. C.	Deg. F.
-40	-40.0	80	176.0
-30	-22.0	90	194.0
-20	-4.0	100	212.0
-10	14.0	110	230.0
0	32.0	120	248.0
10	50.0	130	266.0
20	68.0	140	284.0
30	86.0	150	302.0
40	104.0	160	320.0
50	122.0	170	338.0
60	140.0	180	356.0
70	158.0	190	374.0
		200	392.0

The following formulas may be used for converting temperatures given on any one of the scales to the other scales:

$$\text{Degrees Fahrenheit} = \frac{9 \times \text{degrees C.}}{5} + 32$$

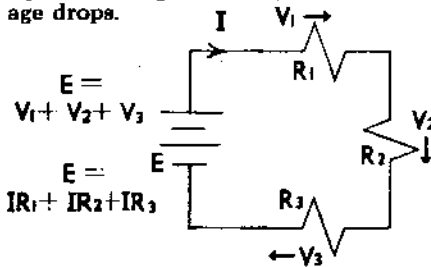
$$\text{Degrees Centigrade} = \frac{5 \times (\text{degrees F.} - 32)}{9}$$

## KIRCHHOFF'S CIRCUIT LAWS

The two fundamental rules of circuits are Kirchhoff's Laws. They can be used to determine the distribution of voltages and currents in a circuit.

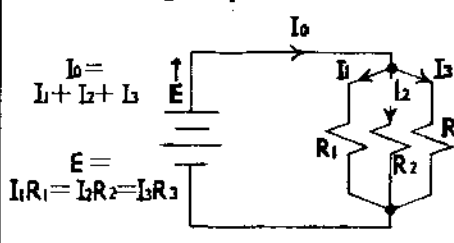
### KIRCHHOFF'S VOLTAGE LAW:

Around any complete circuit, the algebraic sum of the voltage sources equals the algebraic sum of the voltage drops.



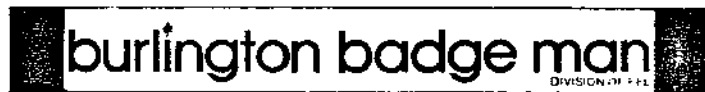
### KIRCHHOFF'S CURRENT LAW:

At any junction point, the algebraic sum of the currents entering the point equals the algebraic sum of the currents leaving the point.



## COMMON PREFIXES

MULTIPLIES	PREFIXES	SYMBOLS
10 <sup>12</sup>	TERA	T
10 <sup>9</sup>	GIGA	G
10 <sup>6</sup>	MEGA	M
10 <sup>3</sup>	KILO	k
10 <sup>2</sup>	HECTO	h
10	DEKA	dk
10 <sup>-1</sup>	DECI	d
10 <sup>-2</sup>	CENTI	c
10 <sup>-3</sup>	MILLI	m
10 <sup>-6</sup>	MICRO	u
10 <sup>-9</sup>	NANO	n
10 <sup>-12</sup>	PICO	p



I T E M S  
F O R S A L E

TONE ALERT UNITS:

P.C. Board only	\$ 6.00
Components	\$ 16.00
P.C. Board Wired & Tested	\$ 49.00
Tone Alert Unit Complete 12 DC Model	\$ 65.00
Tone Alert Unit Complete 117V AC Model	\$ 79.00

CONTACT - VE3 BIS  
797-2401

.....

Realistic DX 160 RCVR New B.C. to 30 MHZ. \$125.00

CONTACT - Jeff  
VE3 KPT  
363-2523

.....

TRANSFORMERS 60 Hz

Qty.	Primary	Secondary
2	110-115-120V	1110 V. C.T. at 1.3 AMP.
2	115V	5 V. C.T. at 15 AMP.
6	115V	6.3 V. C.T. at 20 AMP.

6 Chokes RMS Test 2000V 1 Hy-1.3 Amp - 9.0 Ohm

2 Tubes Comp/Skts 8438/4-400A 60%

4 RCA High Voltage Rectifier Units CR 275/866A/3B28/3B25

For Sale Prices Negotiable.

CONTACT - VE3 JUO  
Don L. Finlayson

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