Chattanooga Amateur Radio Club P.O. Box 23121 Chattanooga TN 37422 http://w4am.org

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PUBLIC NOTICE

Federal Communications Commission

Released: October 20, 2009

AMATEUR SERVICE COMMUNICATIONS DURING GOVERNMENT DISASTER DRILLS

Transmissions by amateur stations participating in government disaster drills must comply with all applicable amateur service rules. While the value of the amateur service to the public as a voluntary noncommercial communications service, particularly with respect to providing emergency communications, is one of the underlying principles of the amateur service,[1] the amateur service is not an emergency radio service. Rather, it is a voluntary, non-commercial communication service authorized for the purpose of self-training, intercommunication and technical investigations carried out by licensed persons interested in radio technique solely with a personal aim and without pecuniary interest.[2]

State and local government public safety agencies occasionally conduct emergency preparedness or disaster drills that include amateur operations. Some entities, such as hospitals, emergency operations centers, and police, fire, and emergency medical service stations, have expressed interest in having their employees who are amateur station operators participate in these drills by transmitting messages on the entity's behalf. The Commission's Rules, however, specifically prohibit amateur stations from transmitting communications "in which the station licensee or control operator has a pecuniary interest, *including communications on behalf of an employer*."[3]

Given the public interest in facilitating government-sponsored emergency preparedness and disaster drills, we take this opportunity to provide a clear process for requesting a waiver, and the information that we require in order to consider granting such a request.[4] Waiver requests should be submitted to the Wireless Telecommunications Bureau by the government entity conducting the drill, and must provide the following information: (1) when and where the drill will take place; (2) identification of the amateur licensees expected to transmit amateur communications on behalf of their employers; (3) identification of the employers on whose behalf they will be transmitting; and (4) a brief description of the drill. We emphasize that the filing of a waiver request does not excuse compliance with the rules while that request is pending. The waiver must be requested prior to the drill, and employees may not transmit amateur communications on their employer's behalf unless the waiver request has been granted.

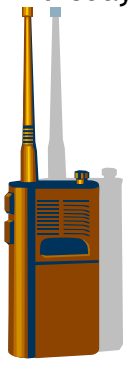
In an actual emergency, the Commission's Rules provide that an amateur station may use any means of radiocommunication at its disposal to provide essential communication needs in connection

[1] *See* 47 C.F.R. § 97.1(a). *See also* Recommendations of the Independent Panel Reviewing the Impact of Hurricane Katrina on Communications Networks, *Order*, EB Docket No. 06-119; WC Docket No. 06-63, 22 FCC Rcd 10541, 10576 ¶ 111 (2007) (noting that the amateur radio community played an important role in the aftermath of Hurricane Katrina and other disasters).

[2] *See* 47 C.F.R. § 97.3(a)(4).
[3] *See* 47 C.F.R. § 97.113(a)(3) (emphasis added).
[4] *See* 47 C.F.R. § 1.925.
2
with the immediate safety of human life and the immediate protection of property when normal communication systems are not available.[5] In those circumstances, rule waiver is not necessary.
For further information regarding matters discussed in this *Public Notice*, contact William T. Cross of the Wireless Telecommunications Bureau, Mobility Division, at (202) 418-0680, William.Cross@fcc.gov.
By the Chief, Wireless Telecommunications Bureau; Chief, Public Safety and Homeland Security Bureau; and Chief, Enforcement Bureau.
-FCC-
[5] *See* 47 C.F.R. § 97.403. *See also* Amendment of Part 97 of the Commission's Rules Governing the Amateur Radio
Services, *Report and Order,* WT Docket No. 04-140, 21 FCC 11643, 11667 ¶ 52 (2006) (clarifying that amateur radio operators who are emergency personnel may use their amateur radio stations while in paid duty status, but not addressing the prohibition against transmitting messages on behalf of an employer).

Tuesday Night 8 PM 146.610

Thursday night 8 PM 146.790



CARC Sunday night net 9 PM 146.790

October 1, 2009 regular monthly meeting Chattanooga Amateur Radio Club

Officers present : Mark Rose, Bill Dobbs, Jim Knight, Susan Miller
Directors present: Tom Cash, Susan Miller, Lowell Bennington, Ben Timmerman

Meeting was called to order by president, Mark Rose at 7:07.
Everyone introduced themselves. We had two visitors.

Swapfest Chattanooga is October 24. Burk's United Methodist Church parking lot, Hixson Pike, Chattanooga, Tn.
There will be Testing. Jim Knight, the Swapfest Non-chairman, has secured a room for testing.. Ben Timmerman and Lowell Bennington will begin the testing at 11:00am.
Bring your original license, a copy of your original license for testers to keep, and $15,.
If you do not pass the test the first time, you will be allowed to retest that day for another $15.
If you begin testing, pass the first test and want to continue, you will be allowed to. Only the original $15 will be charged in this case.
Is everyone getting their Waves?
Rick Curtis made the motion to accept the minutes from the August meeting as written in the Waves, Bill Dobbs seconded the motion. The motion passed.

Jim Knight gave the treasurers report : checking account ….$9,123.13
Hamfest account…….9,702.13
P.O. account……135.09
Total all accounts $18,960.35
Jim has not attempted to remove the money from the PO account.
Dues are due Jan 1,2010 and delinquent on March 30, 2010. Individual dues are $18 and family members are $9.
If members will renew their ARRL dues thru the club, any time during the year, the club will receive $2.
Jim Bowman, nominating committee chairman, reported that they have called a list of members and received several "no's". They would like to have two people running for each office.
Nominations are due by October 20, so that they can be printed in the next Waves.
3rd Tuesday of the month Memorial Hospital 6:00pm DSTAR meeting. Very enjoyable meeting.
Board meeting October 15, Ryan's on Hixson Pike, 6:00pm.
Red Cross offers classes in damage assessment, sheltering, feeding and first aid. They are encouraging Hams to take the damage assessment training in order to help in emergencies and disasters.
Meeting adjourned at 7:40.
Respectfully submitted,
Susan Miller, KI4RZJ
Recording Secretary

Chapter 1: Resistors

Jan 13th 2001 , Naveen P N

I begin the tutorials by assuming that you have basic knowledge about electricity like current ,voltage, charges etc.

A resistor is an electronic device that offers obstruction to the flow of electric current.

It can be defined as voltage per unit current through a conductor.

Resistance(R)= Voltage (V) / Current (I)

i.e. R=V/I

The unit of resistance is ohm denoted by Ω .

The circuit symbol of a resistor is:

 or 

In reality, a resistor looks somewhat like this:

It has no polarity (i.e. + and -) like a battery and can be connected either way in a circuit.

When you ask for a resistor at a store you need to specify 3 things:

1. Resistance
2. Power handling capacity (wattage)
3. Tolerance

The *resistance* is the value of the resistor in ohm . It can also be in kiloohm (kΩ) or megaohm (MΩ).

Here 1kΩ = 1000Ω

And 1 MΩ = 1000kΩ

The power handling capacity of a resistor determines the amount of current that can be passed safely through it. It is specified in watt (W). The normal resistors that we use will have a ¼ W capacity. This means that if the resistance is 1kΩ and ¼ W , then the max. Current that can be passed through it is given by:

$$I = \sqrt{W / R}$$

Where I is max. Current, W is the wattage rating, R is the resistance. For the 1kΩ and ¼ watt resistor,

W= ¼ = 0.25 w

R = 1kΩ

Hence I = 16mA (mA = milliamp = 0.001 amp) . This is the max. Current that can flow through this resistor.

The resistors are available in 1/8 W, ¼ W, ½ W , 1W , 2W and so on.

As the wattage increases the resistor's cost tend to increase and they also get bulkier.

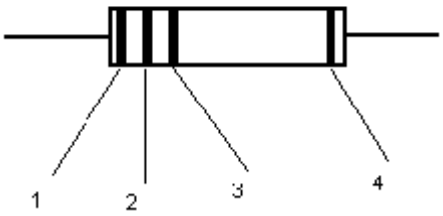
Tolerance is the extent to which the resistor value sways from the original value. You may think as to why the resistance value should change from the printed value? Well, we live in a world that is far from perfect and resistors are no exceptions. Their value changes mainly due to the change in temperature.

The tolerance values of commercially available resistors are usually ±5%, ±10% and ±20%, where the value indicates the % drift from the original value.

e.g. , if the resistor value if 1kΩ and has a ±10% tolerance, it means that the actual value of the resistor may be between 1kΩ ±10% i.e 1kΩ + 100Ω or 1kΩ - 100Ω i.e. 1.1kΩ to 0.9kΩ

How to identify the resistance value from color bands:

Hold the resistor as shown below:



Three bands that are close together are to the left.

Then colors of:

Band no.1 signifies the 1st digit

Band no.2 signifies the 2nd digit

Band no.3 the multiplier.

Band no.4 the tolerance.

Band Color	Band 1 and 2	Multiplier	Tolerance
Black	0	1	-
Brown	1	10	1%
Red	2	100	2%
Orange	3	1000	-
Yellow	4	10,000	-
Green	5	100,000	-
Blue	6	10e6	-
Violet	7	10e7	-
Grey	8	10e8	-
White	9	10e9	-
Gold	-	0.1	5%
Silver	-	0.01	10%
No Color	-	-	20%

For example:

Band 1 =Red

Band 2= Violet

Band 3= Orange

Band 4= gold

Resistance = 27 X 1000 = 27000ohm = 27 kΩ ± 5%

Band 1= Brown

Band 2= Black

Band 3 = Red

Band 4 = Silver

Resistance = 10 X 100 = 1000 ohm = 1kΩ ± 10%

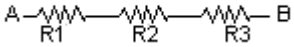
The standard values available commercially are have the first 2 digits: 1,12,15,22,27,33,39,47,51,56,68 or 82

Resistors in series and parallel:

Sometimes, resistor values other than the standard available values are required for a circuit. In such a case the required value is obtained by connecting a number of resistors either in series or in parallel.

Series Connection:

In series connection, the resistors are connected end to end as shown below:



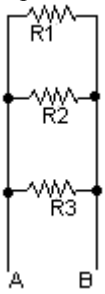
In such a connection, the total resistance between the terminals A and B is the sum of individual resistances.

i.e., Rab = R1 + R2 + R3

For example, if a 2.2K and 3.3K resistors are connected in series, the total resistance is 2.2+3.3 = 5.5Kohm.

Parallel Connection:

In parallel connection, the resistors are connected as shown below:



In such a case, the total or effective resistance between terminals A and B is given by:

1/Rab = 1/R1 + 1/R2 + 1/R3

i.e. the reciprocal of the effective resistance is equal to sum of the reciprocals of the individual resistances.

If there are only two resistors, the above formula reduces to:

Rab = (R1*R2) / (R1+ R2)

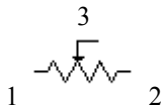
e.g., if two 1K resistors are connected in parallel, the effective resistance is (1*1)/(1+1)= 1/2 = 0.5K=500 ohm.

Variable Resistors:

The resistors studied above are "fixed" type, i.e their value cannot be changed. There is another type of resistor called as the variable resistor whose resistance can be varied. They are called as "Potentiometers(pots)" or "Presets".

A potentiometer looks bigger than a preset and is used for frequent variations. The preset is used for setting up or calibrating a circuit and once done is usually not touched often. A common example of a potentiometer is the volume control on your cassette player.
Usually all pots and presets have 3 terminals, the outer 2 are fixed ends and the middle terminal gives a variable resistance along with either of the other two.

The circuit symbol is:



The terminal with the arrow(3) is the variable terminal.
The terminals 1 & 2 are fixed.

The pots value is specified as the max. value of resistance it can provide. For example, if the pots value is 10K it means its resistance can be varied between 0 to 10K ohms.
In the above figure, if you use 1 & 2 to connect the pot. to the circuit,the resistance is fixed and equal to the max. value (in this case 10K ohm)
If 1 & 3 OR 2 & 3 are used , it provides a variable resistance from 0 to 10k as the pot's shaft is rotated.