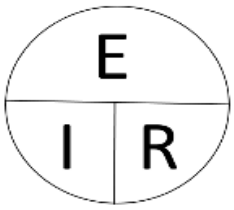
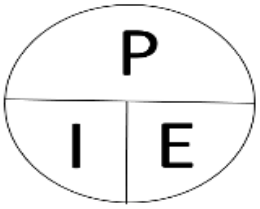
Technician Class License – Cheat Sheet (stuff you just memorize)

Ohm's Law



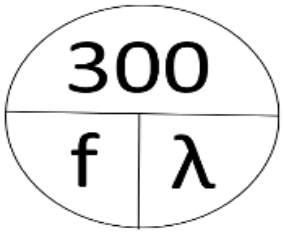
E = Electromotive Force (Volts)
I = Current (Amps) Intensity
R = Resistance (Ohms)

Power



P = Power (Watts)
I = Current (Amps)
E = Electromotive Force (Volts)

Wavelength



f = frequency in MHz
λ = wavelength

Most of the questions involve moving the decimal point 3 positions

Question	Answer	Operation
One microvolt	One one-millionth of a volt	
1,000,000 picofarads	1 microfarad	
One kilovolt	One thousand volts	Add 3 zeros (move decimal point right 3 positions)
3.525 MHz	3525 kHz	Add 3 zeros (move decimal point right 3 positions)
1,500,000 hertz	1500 kHz	Subtract 3 zeros (move decimal point left 3 positions)
500 milliwats	0.5 watts	Subtract 3 zeros (move decimal point left 3 positions)
2425 MHz	2.425 GHz	Subtract 3 zeros (move decimal point left 3 positions)
3000 milliampere	3 amperes	Subtract 3 zeros (move decimal point left 3 positions)
28,400 kHz	28.400 MHz	Subtract 3 zeros (move decimal point left 3 positions)

Metric Prefix

Giga	one billion	10^{9}	1,000,000,000
Mega	one million	10^{6}	1,000,000
Kilo	one thousand	10^{3}	1,000
Base			
Mili	one thousandth	10^{-3}	1/1,000
Micro	one millionth	10^{-6}	1/1,000,000
Nano	one billionth	10^{-9}	1/1,000,000,000
Pico	one trillionth	10^{-12}	1/1,000,000,000,000

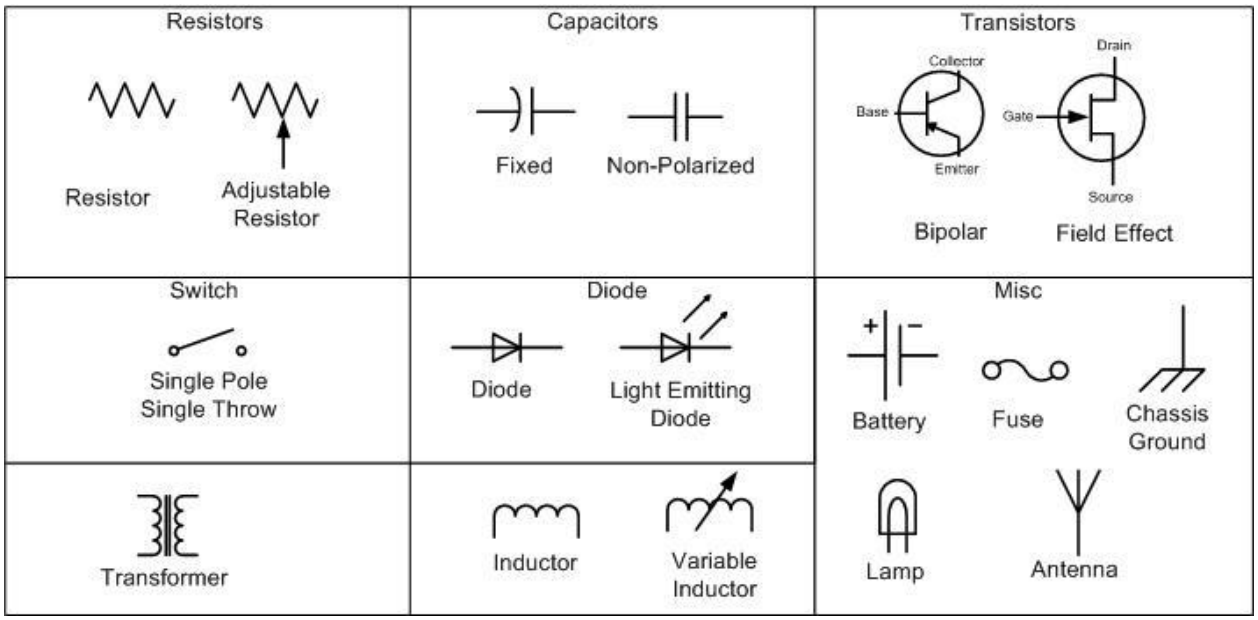
Amateur Radio Bands

HF (High Frequency)	3 MHz – 30 MHz
VHF (Very High Frequency)	30 MHz – 300 MHz
UHF (Ultra High Frequency)	300 MHz – 3000 MHz [3 GHz]

Frequency / Wavelength

Frequency = the number of cycles per second or Hertz. Once cycle = 1 Hertz, 100 Cycles = 100 Hertz, one thousand cycles = 1 KHz, one million cycles = 1 MHz, one billion = 1 GHz. Wavelength gets shorter as frequency increases

Voltage stays the same in a parallel circuit – you use a voltmeter in parallel to test voltage
Current stays the same in a series circuit – you use an ammeter in series to test current



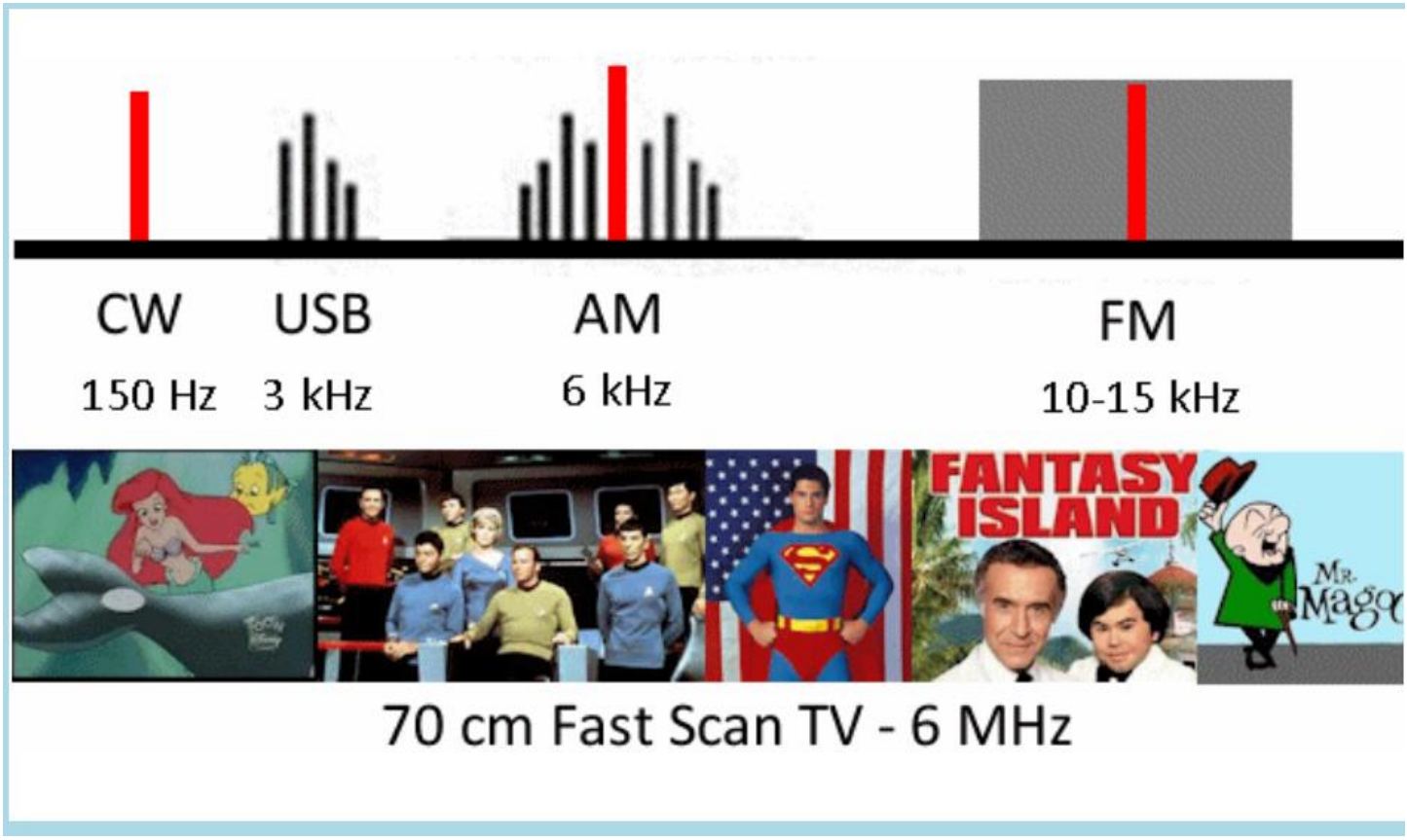
Transistors – made up of three layers of semiconductor material. Function as a switch or amplifier
Capacitors – made of two conductors separated by an insulator. Stores energy in an electric field
Inductors – coil of wire. Stores energy in a magnetic field
Oscillator/tuned circuit/filter – a capacitor and an inductor connected either in series or parallel
Diode – allows current to flow in only one direction. Leads are Anode (+) and Cathode (-) [stripe]

PHONETICS

ITU Phonetics	DX Phonetics
A = **ALPHA**	AMERICA, Amsterdam
B = **BRAVO**	BOSTON, Baltimore, Brazil
C = **CHARLIE**	CANADA, Columbia, Chile
D = **DELTA**	DENMARK
E = **ECHO**	ENGLAND, Egypt
F = **FOXTROT**	FRANCE, Finland
G = **GOLF**	GERMANY, Guatemala, Geneva, Greece
H = **HOTEL**	HONOLULU, Hawaii
I = **INDIA**	ITALY
J = **JULIET**	JAPAN
K = **KILO**	KILOWATT, Kentucky, King
L = **LIMA**	LONDON, Lima, Luxembourg
M = **MIKE**	MEXICO, Montreal
N = **NOVEMBER**	NORWAY, Nicaragua
O = **OSCAR**	ONTARIO, Ocean
P = **PAPA**	PORTUGAL, Pacific
Q = **QUEBEC**	QUEBEC, Queen
R = **ROMEO**	RADIO, Romania, Russia
S = **SIERRA**	SANTIAGO, Spain, Sweden
T = **TANGO**	TOKYO, Texas
U = **UNIFORM**	UNITED, Uruguay
V = **VICTOR**	VICTORIA, Venezuela
W = **WHISKEY**	WASHINGTON
X = **X-RAY**	X-RAY
Y = **YANKEE**	YOKOHAMA
Z = **ZULU**	ZANZIBAR, Zulu

COMMON Q Codes

QRM	**Interference**
QRN	Static
QRO	Increase Power
QRP	Decrease Power
QRT	Stop Transmission
QRZ	Who is calling me?
QSB	Varying signal strength
QSL	Did you receive the message?
QSO	Communication, message
QSY	**Change frequency**
QTH	Location
QST	General call



Emergency Amateur Radio Club	earchi.org
Ham Education	hameducation.org
Amateur Radio Relay League	arrl.net
Federal Communications Commission	fcc.gov
Department of Emergency Management	Honolulu.gov/dem
Volunteer	Honolulu.gov/demvolunteer
Ron Hashiro	qsl.net/ah6rh
Hawaii Repeaters	hawaiirepeaters.net
QRZ	qrz.com

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EHam	eham.net/reviews
Gigaparts	gigaparts.com (retail)
Ham Radio Outlet	hamradio.com (retail)
DX Engineering	dxengineering.com (retail)
Chirp	chirp.danplanet.com (CHIRP programming software)
Miklor	miklor.com (Chinese radio info)