

# Scientific Notation

Technician Exam Preparation Class  
June 2020  
Session 19

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# Scientific Notation

Pfx	Symbol	Factor	Pfx	Symbol	Factor
giga	G	1,000,000,000	milli	m	0.001
mega	M	1,000,000	micro		0.000001
kilo	k	1,000	nano	n	0.000000001
unit		1	pico	p	0.000000000001

Each step either adds or subtracts 3 decimal positions

# Some Examples

- A frequency display of 2425 MHz would be 2.425 GHz
- A frequency of 28,400 kHz would be 28.4 MHz
- 500 milliwatts would be 0.5 watts
- 1.5 amperes is 1500 milliamperes
- One microvolt is one-millionth of a volt
- If an ammeter calibrated in amperes measures a 3000-milliampere current would show a reading of 3 amperes

# Your Turn!

- How many volts are equal to one microvolt?
- What is another way to specify a radio signal frequency of 1,500,000 hertz?
- If a frequency display calibrated in megahertz shows a reading of 3.525 MHz, what would it show if it were calibrated in kilohertz?
- How many microfarads are equal to 1,000,000 picofarads?

# Your Turn!

- How many volts are equal to one microvolt?
  - 1 millionth of a volt
- What is another way to specify a radio signal frequency of 1,500,000 hertz?
  - 1.5 MHz
- If a frequency display calibrated in megahertz shows a reading of 3.525 MHz, what would it show if it were calibrated in kilohertz?
  - 3525 kHz
- How many microfarads are equal to 1,000,000 picofarads?
  - 1 microfarad

# Random Definitions

**Relay**: an electrically controlled switch, usually using magnetism (inductance) to switch the relay

**Integrated Circuit**: a device that combines multiple transistors, capacitors, resistors, etc. into one package

**Solder**: comes in many types. Rosin Core solder is used for electrical circuits. A good solder connection will have a bright, silvery surface. A dull and grainy surface indicates a faulty, or “cold” connection

**How to damage a meter?** Measure voltages or currents beyond the instrument’s rated capacity or measure volts in the resistance setting....

**Jot down any questions  
you may have to ask  
during the online meeting**