

Radio Teacher Technician Test Subelement T3 Notes

These notes cover the information needed to answer the questions on Subelement T3 of the Amateur Radio Technician Test. They can be used by instructors as a reference to make sure that all of the information in this subelement is addressed in class.

Subelement T3 covers operating practices.

Definitions:

RACES: Radio Amateur Civil Emergency Service. This service started originally for war time use. Since the role of civil defense has changed to civil preparedness the role of RACES has also expanded. It now includes hurricanes, floods, fires and other disasters such as train wrecks.

ARES: Amateur Radio Emergency Service. ARES is sponsored by the Amateur Radio Relay League (ARRL). The only qualification for membership is an amateur radio license and a desire to serve. ARES members assist with communications for governmental and non- governmental agencies in times of need.

Both organizations RACES and ARES provide communications during emergencies

Phonetic Alphabet:

The words used in the International Telecommunication Union (ITU) phonetic alphabet have been carefully chosen so that no two words sound the same. The words are internationally recognized substitutes for letters. You should learn and use this phonetic alphabet. Using cute phrases or other word combinations can cause confusion and are not easily understood by some operators.

CQ:

“CQ” is the procedural signal for calling any station.

If you are looking for any station with which to make contact you should: Listen to make sure that the frequency is not busy then call “CQ” followed by your callsign. When responding to another stations CQ you should say the other station's callsign followed by your callsign.

If you are using a repeater, you can say your callsign instead of CQ to indicate that you are listening for calls from any station.

As stated above, you should always listen to determine if a frequency is busy before transmitting.

Specific Station:

If you know the station's callsign you wish to communicate with say the other stations' callsign followed by your callsign.

Test Transmissions:

An amateur must properly identify their station when making a transmission to test equipment or antennas. Normal rules apply for identifying test transmissions. Station identification is required at least every ten minutes and at the end of every transmission.

A brief test transmission that does not include any station identification is an illegal unidentified transmission.

Band Plans: Voluntary guidelines, beyond the divisions established by the FCC for using different operating modes within an amateur band that provide a more efficient use of the radio spectrum. The amateur community develops the band plans used by the amateur radio service.

The recognized frequency coordination body is in charge of the repeater frequency band plan in your local area. The main purpose of repeater coordination is to reduce interference and promote proper use of spectrum.

The transmitting station is accountable if a repeater station inadvertently retransmits communications that violate FCC rules.

The 6-meter, 2-meter, and 1 1/4-meter bands have mode restricted sub-bands available to Technician class licensees.

CW (Morse code) is the only mode permitted in the restricted sub-band at 50.0-50.1 MHz or at 144.0-144.1 MHz.

CW (Morse code) and Data are permitted in the restricted portion of the 1 1/4-meter band?

Power:

An amateur must use the minimum transmitter power necessary to carry out the desired communication.

Good engineering:

Good engineering and amateur practices must be applied to amateur station operation when circumstances are not specifically covered by FCC rules.

Operating Practices:

If you hear a newly licensed operator that is having trouble with their station one should contact them and offer to help with the problem. Also, If you are contacted by an operator that there is a issue with your signal please do not take offence and investigate the matter objectively.

If you want to break into a conversation between stations that are using the frequency just say your call sign between their transmissions.

If two amateur stations want to use the same frequency, remember that no frequency will be assigned for the exclusive use of any station and neither has priority.

Make sure you are operating on a permissible frequency for your license class before responding to another stations call.

Monitoring before transmitting, keeping transmissions short, identifying legally and using the minimum amount of transmitter power necessary is considered to be proper repeater operating practice.

Indecent and obscene language prohibited in the Amateur Service because it is offensive to some individuals, because young children may intercept amateur communications with readily available receiving equipment and because such language is specifically prohibited by FCC rules. There is no official list of prohibited obscene and indecent words.

Avoid the use of racial or ethnic slurs when talking to other stations because it is offensive to some people and reflects a poor public image on all amateur radio operators.

Political jokes, jokes, stories and religious preferences are not prohibited communications while using amateur radio.

FCC rules apply to your station when using amateur radio at the request of public service officials or at the scene of an emergency.

If you unintentionally interfere with another station, properly identify your station and move to a different frequency.

You may never deliberately interfere with another station's communications.

No station has exclusive use of a specific frequency.

Interference:

One of the most difficult aspects of Amateur Radio public relations happens when your neighbors TV or telephone receives interference from your transmitting equipment. First check that your transmitter is in proper working order. At this point you should work with the neighbor, if possible, to assist in taking care of the issue.

If you receive a report that your transmissions are causing splatter or interference on nearby frequencies check your transmitter for off frequency operation or spurious emissions.

If the transmitter complies with FCC rules, it is the responsibility of the owner of the television receiver or telephone to correct the issue. Even so, as a courtesy, you should assist the neighbor in correcting the issue.

Interference caused by strong signals from a nearby source is called "receiver front-end overload". The owner of the television receiver is responsible for taking care of the interference if signals from your transmitter is causing front end overload on their TV. Of course your transmitter must be in proper working order for this to be true.

If the cable of a cable television system is broken or has loose connections, TV interference may result when the amateur station is transmitting, or interference may occur to the amateur receiver.

The best way to reduce on the air interference when testing your transmitter is to use a dummy load. A dummy load is usually a 50 ohm resistive element that is connected to the transmitter that turns the transmitters' power into heat.