

Ham Radio License Manual and Tech Q&A – Errata and Corrections

The following text is intended to support or correct text in the HRLM 2nd edition and in the Tech Q&A 5th edition. Determine the version of the manual you are using by referring to the first page of the preface inside your copy. Look for the text box with the copyright information where you'll also find the edition and printing information. (If the edition number is not followed by printing information, the book is the first printing.) The ARRL wishes to thank readers who sent feedback about errors.

The current question pool for the Technician Class license took effect on July 1, 2010.

Question Pool Changes

T2C02 – withdrawn due to FCC rule changes

T2C03 – withdrawn due to FCC rule changes

Chapter 1 – Welcome to Amateur Radio

No errata or corrections

Chapter 2 – Radio and Signals Fundamentals

HRLM 2nd edition, 1st printing, Table 2-3: change the typical bandwidth for a CW signal from “100 to 300 Hz (0.1 to 0.3 kHz)” to “150 Hz”. (See the supplemental information also.) The supporting table for question T8A11 should also be changed in the *ARRL Tech Q&A* (5th edition, 1st printing).

Chapter 3 – Electricity, Components, and Circuits

HRLM 2nd edition, 1st printing, Figure 3-14: the first sentence of the caption should read, “...current flow through a circuit.”

Chapter 4 – Propagation, Antennas, and Feed Lines

The word “diffraction” or “diffract” is used improperly in several places where “refraction” or “refract” is intended. (HRLM 2nd edition, 1st printing) Please make the following substitutions:

“Refraction” for “Diffraction”

page 4-1, Section 4.1, paragraph 3, line 6

page 4-3, paragraph 3, line 4

“Refract” for “Diffract”

page 4-3, paragraph 2, line 4

page 4-4, paragraph 2, line 1

In the *ARRL Tech Q&A* (5th edition, 1st printing) the answer for question T5B10 incorrectly shows the decibel value as -9 dB. The correct value is -6 dB and the magnitude of the change is 6 dB.

Chapter 5 – Amateur Radio Equipment

HRLM 2nd edition, 1st printing, Section 5.2, page 5-8 – Amateur Digital Modes: Winlink 2000 uses the B2F protocol, not B2R

HRLM 2nd edition, 1st printing, Section 5.2, page 5-13 – In the list of exam questions covered in the preceding sub-sections, replace T8D08 with T8D07.

Chapter 6 – Communicating With Other Hams

HRLM 2nd edition, 1st printing, Section 6.6, page 6-27, paragraph 7, line 3: The last sentence should read, "Identify every 10 minutes and at the end of the communication."

Chapter 7 – Licensing Regulations

HRLM 2nd edition, 1st printing, page 7-8, Station Inspection: delete "or US government official".

HRLM 2nd edition, 1st printing, page 7-14, Power limits: Replace the first two bullet points with, "Novices and Technicians are limited to 200 watts PEP on HF bands."

HRLM 2nd edition, 1st printing, page 7-16, Section. 7.4, paragraph 2, line 1: Replace "outside the US" with "in other countries" to avoid confusion about operating in international waters.

HRLM 2nd edition, 1st printing, page 7-18: In the section "Prefix and Suffix", most Canadian hams use call signs from the block of prefixes from VA through VG.

Tech Q&A 5th edition, 1st printing, subelement T7, page 17: In the answer to question T7D01, replace "electromagnetic" with "electromotive".

Chapter 8 – Operating Regulations

No errata or corrections

Chapter 9 - Safety

HRLM 2nd edition, 1st printing, page 9-8, beginning with the second paragraph, replace the text with the following paragraphs:

Some modes have lower average power than others as illustrated in **Figure 9.3**. For example, while sending Morse, the transmitter is off between the individual dots and dashes. SSB signals only reach peak power for short periods at voice peaks and so have the lowest duty cycle. FM, however, is a constant-power mode and so the signal is continuously at full power when the transmitter is on. The *operating duty cycle* for typical uses of each mode (also called the *emission duty cycle*) is shown in **Table 9-4**.

Further reducing exposure, because most amateur operation is intermittent, the time spent transmitting on the air is low, reducing average exposure. For example, during a roundtable contact, between three stations, each is likely to be transmitting only one-third or 33% of the time.

For a given PEP, an emission with a lower operating duty cycle produces less RF exposure. PEP multiplied by the mode's operating duty cycle and the fraction of the time spent transmitting gives the resulting overall average power during the exposure period.

Average power = PEP x operating duty cycle x (time transmitting / averaging period)

(The current text resumes here with "For example, let's say that your 100-watt transmitter...")

Chapter 10 – Glossary

HRLM 2nd edition, 1st printing: Replace the definition of "Amateur operator" with "A person named in an amateur operator/primary license station grant on the ULS consolidated licensee database to be the control operator of an amateur station."

HRLM 2nd edition, 1st printing, Duplexer: replace "single frequency or channel" with "closely spaced frequencies or channels".

HRLM 2nd edition, 1st printing, Emergency: replace the definition with, "a situation where there is an immediate threat to the safety of human life or property."