

Suspect answers in RIC-7, Issue 3 dated April 2007

B-001-03-03 (1)

A person found guilty of transmitting a false or fraudulent distress signal, or interfering with, or obstructing any radio communication, without lawful cause, may be liable, on summary Conviction, to a penalty of:

1. a fine, not exceeding **\$5 000**, or a prison term of one year, or both
2. a fine of \$10 000
3. a prison term of two years
4. a fine of \$1 000

The answer is almost correct except for the amount. The Radiocommunication Act, paragraph 9.1 refers to twenty-five thousand dollars (**\$25 000**).

See [http://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/R-2.pdf/\\$FILE/R-2.pdf](http://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/R-2.pdf/$FILE/R-2.pdf)

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B-001-04-05 (4)

Two Morse code qualifications are available for the Amateur Radio Operator Certificate. They are:

1. 5 and 10 w.p.m.
2. 7 and 12 w.p.m.
3. 7 and 15 w.p.m.
4. 5 and 12 w.p.m.

RIC-7 dated July 2001 correctly asked:

B-001-04-05 (1)

One Morse code qualification is available for the Amateur Radio Operator Certificate. It is:

1. 5 w.p.m.
2. 7 w.p.m.
3. 15 w.p.m.
4. 12 w.p.m.

The twelve words per minute qualification was discontinued in 2001.

See <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf05475.html>

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B-001-05-04 (1)

A radio amateur with Basic and **12 w.p.m.** Morse qualifications may install an amateur station for another person:

RIC-7, Issue 2 dated July 2001 correctly asks

A radio amateur with Basic and **5 w.p.m.** Morse qualifications may install an amateur station for another person:

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B-001-11-01 (3)

Amateur radio stations may communicate:

1. with anyone who uses international Morse code
2. with non amateur stations
3. with **any station** involved in a real or simulated emergency
4. only with other amateur stations

I believe **Choice #4** is a better answer. Question B-001-06-02 confirms that amateur stations must be used to communicate with "similarly licensed stations".

In my view, the word "ANY" in the suggested choice invalidates the answer because RIC-3 is quite clear that an amateur certificate only allows communications with licensed amateurs regardless of the situation.

RIC-25 dated 1993 (now obsolete) already said "48. No operator of an amateur station shall (a) communicate with a radio station other than a radio station licensed in the amateur service".

RIC-3, Issue 3, dated July 2005 states: "47. A person who operates radio apparatus in the amateur radio service may only (a) communicate with a radio station that operates in the amateur radio service"

and further emphasizes:

"48. In a real or simulated emergency, a person operating radio apparatus in the amateur radio service may only communicate with a radio station that is in the amateur radio service"

The words "real or simulated emergency" in choice #3 are a red herring.

RIC-25 dated 1993 (now obsolete) **used** to say "51. In a real or simulated emergency, the operator of an amateur station may communicate **any** message..." but I-C seemed to have clarified that with amendments promulgated in February 2000.

See <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf02088.html>

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B-001-17-05

The French version CIR-7 dated July 2001 refers to **5 words** per minute.

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B-001-21-06

RIC-7 dated July 2001 correctly refers to **5 w.p.m.** (three places).

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B-001-21-07 (3)

Which of the following answers is NOT correct? Canadian radio ~~Canadian~~ CEPT international radio licences for operation in any of the 32 CEPT member **[amateurs may apply for]** countries, and:

1. foreign radio amateurs, holding CEPT Class 1 licences, will receive recognition in Canada equal to Basic and **12 w.p.m.**
2. Canadian radio amateurs, holding Basic Qualification only, will be granted CEPT Class 2 recognition (operation above 30 MHz)
3. foreign radio amateurs, holding CEPT Class 1 licences, will receive recognition in Canada equal to Basic Qualification only
4. Canadian radio amateurs, holding Basic and **12 w.p.m.** qualifications, will be granted CEPT Class 1 recognition

RIC-7 dated July 2001 correctly asks:

B-001-21-07 (3)

Which of the following answers is NOT correct? Canadian **[radio amateurs may apply for Canadian]** CEPT international radio licences for operation in any of the 32 CEPT member countries, and:

1. foreign radio amateurs, holding CEPT Class 1 licences, will receive recognition in Canada equal to Basic and **5 w.p.m.**
2. Canadian radio amateurs, holding Basic Qualification only, will be granted CEPT Class 2 recognition (operation above 30 MHz)
3. foreign radio amateurs, holding CEPT Class 1 licences, will receive recognition in Canada equal to Basic Qualification only
4. Canadian radio amateurs, holding Basic and **5 w.p.m.** qualifications, will be granted CEPT Class 1 recognition

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B-001-22-01 (2)

Which of these statements is NOT correct?

1. The fee for taking an examination for an Amateur Radio Operator Certificate by an accredited volunteer examiner is to be negotiated
2. The fee for taking an examination for an Amateur Radio Operator Certificate at an Industry Canada office is \$5 per qualification
3. An accredited volunteer examiner must hold an Amateur Radio Operator Certificate with Basic, Advanced, and **12 w.p.m.** qualifications
4. The fee for taking an examination for an Amateur Radio Operator Certificate at an Industry Canada office is \$20 per qualification

RIC-7 dated July 2001 correctly refers to **5 w.p.m.**
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B-003-11-02 (2)

What can be done to keep a CW transmitter from chirping?

1. Add a key-click filter
2. Keep the power supply voltages very steady
3. Keep the power supply current very steady

Choice #4 got lost along the way and should read
"Add a low pass filter"
as it did in RIC-7 dated January 2001.

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B-004-03-01 (2)

Which component can amplify a small signal using low voltages?

1. A variable resistor
2. An electrolytic capacitor
3. A multiple-cell battery
4. A PNP transistor

Choice #4 is obviously the correct answer.

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B-005-05-02 (1)

A 6 volt battery is connected across three **resistances of connected in parallel**.

1. The current through the **10 ohms, 15 ohms and 20 ohms** separate resistances, when added together, equals the total current drawn from the battery

RIC-7 dated July 2001 correctly asks:

B-005-05-02 (1)

A 6 volt battery is connected across three resistances of 10 ohms, 15 ohms and 20 ohms connected in parallel.

1. The current through the separate resistances, when added together, equals the total current drawn from the battery

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B-006-04-10 (4)

If the frequency is increased, how would this affect the loss on a **transmission line**?

1. It is independent of frequency
2. It would increase
3. It depends on the line length
4. It would decrease

Choice #2 is the correct answer: Losses in transmission lines go up with increasing frequency.

Conductor losses due to Skin Effect and losses through the dielectric all increase with frequency.

See <http://www.rfcafe.com/references/electrical/coax.htm> or <http://www.timesmicrowave.com/cgi-bin/calculate.pl>

B-006-12-01 (4)

If you made a half-wavelength dipole antenna for **28.550** MHz, how long would it be?

1. 10.5 metres (34.37 ft)
2. **28.55** metres (93.45 ft)
3. **5.08** metres (**16.62** ft)
4. 10.16 metres (33.26 ft)

B-006-12-01 (4)

Si vous construisez une antenne dipole demi-onde syntonisée à **28,150** MHz, quelle en sera la longueur?

1. 10,5 mètres (34,37 pieds)
2. **28,55** mètres (93,45 pieds)
3. **5,08** mètres (**16,62** pieds)
4. 10,16 mètres (33,26 pieds)

Choice #3 is closer to reality except that it seems to have been computed with the incorrect frequency stated in the French CIR-7 yielding 5.08 metres ($143 / 28.15$) or 16.62 feet ($468 / 28.15$). **Choice #3** should rather read **5.01** metres ($143 / 28.55$) or **16.39** feet ($468 / 28.55$).

B-007-03-02 (3)

What is the maximum distance along the earth's surface that is normally covered in one hop using the F2 region?

1. None; the F2 region does not support radio-wave propagation
2. 2160 km (1200 miles)
3. 4500km (2500 miles)
4. 325 km (180 miles)

Answer is valid but all three **metric** conversions need to be corrected:
(2) 1200mi = 2000km, (3) 2500mi = 4000km, (4) 180mi = 300km.

B-007-03-03 (1)

What is the maximum distance along the earth's surface that is normally covered in one hop using the E region?

1. 2160 km (1200 miles)
2. 325 km (180 miles)
3. 4500 km (2500 miles)
4. None; the E region does not support radio-wave propagation

Answer is valid but all three **metric** conversions need to be corrected:

(1) 1200mi = 2000km, (2) 180mi = 300km, (3) 2500mi = 4000km.

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B-007-08-01 (4)

What kind of propagation would best be used by two stations within each other's **skip zone** on a certain frequency?

1. Scatter-mode
2. Sky-wave
3. Ducting
4. Ground-wave

Choice #1 is the correct answer. Topic 007-08 is expressly about Scatter. The Skip Zone is universally defined as starting beyond the reach of the Ground Wave.

RIC-7 even says so right here

B-007-03-01 (3)

What is a skip zone?

3. An area which is too far away for ground-wave propagation, but too close for sky-wave propagation

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B-008-03-07 (4)

In a Morse code transmission, **local** RF interference (key-clicks) is produced by:

1. shift in frequency when keying the transmitter
2. sparking at the key contacts
3. sudden movement in the receiver loudspeaker
4. poor shaping of the waveform

Choice #2 is the correct answer. Here are quotes from the 1957 ARRL Handbook, Chapter 8 "Keying and Break-In", page 237:

"There are four factors that have to be considered in the keying of a transmitter. They are **r.f. clicks**, **envelope shape**, chirp and backwave."

"R.F. Clicks

Whenever any circuit carrying d.c. or a.c. is closed or broken, the small or large spark (depending upon the voltage and current) generates a small amount of r.f. during the instant of make or break. This r.f. covers a frequency range of many megacycles.

A typical example of this type of 'miniature transmitter' is when a lamp or other appliance is switched off in the house; at that instant a click may be heard in the broadcast or shortwave radio."

[B-008-03-05 and B-008-03-07 allude to this symptom with their insistence on the word **local**]

The Handbook goes on to say...

"Envelope shape

The key clicks that go out **on the air** with your signal ... are controlled by the shape of the envelope of the signal.

...

The 'rectangular-shaped' dits [of Fig. 8-2A] have serious key clicks extending many kilocycles, either side of the transmitter frequency.

...

The pattern at Fig. 8-2A is the transmitter output with no envelope-shaping provisions. A signal like this has horrible clicks on the air, which are the inescapable result of turning the transmitter on and off too rapidly."

[B-008-03-06 alludes to this symptom by including the word **distant**]

...

"At the moment it is sufficient to appreciate that on-the-air clicks are determined by the shaping, while r.f. clicks caused by the spark at the key can only be heard in the station receiver and possibly a broadcast receiver in the same house or apartment."

The operative words in the questions are "**LOCAL**" and "**DISTANT**".

Typographical errors:

B-001-01-03	“National Defense” should read “National Defence” See http://www.forces.gc.ca/site/about-notresujet/index-dnd-eng.asp
B-001-04-03	Period missing on the end of w.p.m. in “has equivalency for the Basic and 12 w.p.m qualifications”
B-001-07-04	“Telecommands to” should read “radio control of”
B-001-07-08	Superfluous space in “a non- amateur station”
B-001-07-09	Letter “y” missing in “Industr Canada”
B-001-07-09	Letter “y” missing in “third-part traffic”
B-001-07-10	“s” missing in “communication which include” Should read “includes” because communication is singular.
B-001-07-10	“g” missing on the end of “broadcasting undertakin”
B-001-08-01	“n” missing in “address shown o Industry Canada records”
B-001-09-09	Article “A ” missing in front of “radio amateur may permit any person”
B-001-14-08	“Affiliated Radio System” should read “Affiliate Radio System” See http://www.cfars.ca/ See http://en.wikipedia.org/wiki/Military_Affiliate_Radio_System See http://www.army.mil/USAPA/epubs/pdf/r25_6.pdf
B-001-14-09	“Affiliated” should read “Affiliate”
B-001-14-11	“Affiliated” should read “Affiliate” (twice).
B-001-18-01	“Telecommand” should read “Remote-controlled”
B-001-21-05	Word “location” should read “located”
B-002-01-05	Word “telecommand” should read “radio” in choice #4.
B-002-04-08	“other activity on the same increasing interference from frequency” should read “increasing interference from other activity on the same frequency”
B-003-12-09	Word “degrees” should replace symbol “°” for better readability.
B-003-20-10	“neighbors” (American) should read “neighbours” (Canadian)

B-004-04-02	“labeled” should read “labelled”
B-004-06-11	“colors” (American) should read “colours” (Canadian)
B-006-13-06	“favorably” (American) should read “favourably” (Canadian)
B-008-01-07	“receiver reamplifier” should read “receiver preamplifier”

This document has been submitted to Industry-Canada in January 2010.