

**Checkpoint Survival Guide
for Radio Operators
Operating the Canadian Ski Marathon
v7.2**

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Purpose

This document is intended to be a guide of checkpoint radio activities for those unfamiliar to the event. From the radio operator point of view, Gold Camp is just a checkpoint. The document may also be a refresher to the seasoned veterans.

Ski Marathon Overview

The Canadian Ski Marathon (CSM) is a cross-country ski event along a wilderness trail that has been run since 1967. It originally ran from Montreal to Ottawa. Today, it runs between Lachute and Buckingham in Quebec, a distance of approximately 160 kilometres, usually the second weekend in February. The direction of travel changes each year. For example, in 2001 the course was run forward from Lachute to Buckingham and in 2000 the course ran in reverse from Buckingham to Lachute.

There are approximately 2000 participants. The participants are divided into two large categories: *Coureurs des Bois*, and *Tourer*. The need for volunteers is great. In the past, there have been up to 600 volunteers one year to run the event.

Amateur radio operations have part of the CSM since 1973. There is a requirement for communications between various mobile units and the checkpoints. Radio operators are placed at each checkpoint, with designated CSM staff, and at Montebello, Papineauville, Gold Camp, Buckingham, and Lachute.

The amateur radio personnel are present to ensure communications with the CSM administrative and operations networks. They are in continuous contact with the communications headquarters, other checkpoints, and the President and Operations vehicles (Admin-1, Admin-2, and Admin-3). The amateur radio personnel are also in contact with the Safety "sweep" teams as they travel between checkpoints.

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Radio Assignments

Amateur radio personnel will be assigned to one of the following:

Admin-(1,2,3)
Safety-(1,2,3,4)
Trail-(1,2,3)
Checkpoints-(1 to 11, Gold Camp)
Net Control - (Montebello, Buckingham, Lachute)
Papineauville Dormitory
Other assignments as requested from the CSM

The organizer for the amateur radio operations will assign personnel to the required areas. The above list of assignments may change from year to year-based on available personnel and the conditions. The organizer for the amateur radio operations will make that determination in consultation with CSM staff. Be prepared to work at any of the above positions.

Directions and Maps

Written directions to the dormitories, the checkpoints, and other locations can be found in the reference document "*Checkpoint Directions*". Checkpoint site layouts can be found in the reference document "*Checkpoint Maps*". These are found on the radio operator's website (see Reference below). Contact the organizer of amateur radio operations for additional information.

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Equipment

The pack list below is to be used as guideline. Any questions or concerns regarding the appropriateness for required radio equipment should be directed to the organizer for amateur radio operations.

Checkpoint/Net Control/Mobile Required Equipment
- Radio - 50 watt with CTCSS (e.g., mobile, HT w/ amplifier)
- Scanner or equivalent to monitor simplex frequencies
- 5/8 Wave Antenna or equivalent (or better)

Suggested Additional Equipment for Checkpoint/Net Control/Mobile
- Handheld for Intra-site communications
- Second Radio (backup)
- Radio user manuals or "crib" sheet for radios (to change/add frequencies, adjust squelch, scan function, etc.)
- FRS - useful for communications with CP captain
- Flashlight(s)
- Batteries, alternate power source
- Paper
- Pencil
- Clothes appropriate to where you are working
- Snacks, Fluids
- List of radio operators and their assignments (and responsibilities)

Other Equipment (for the weekend)
- Bedding and toiletries (including sleeping bag, alarm clock, mattress, and towel) where appropriate

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Radio Frequencies

Net Frequencies

The list of repeater frequencies used by the net are found in the Frequencies List. This document can be found on the radio operators' website (see References below).

Simplex Frequencies

Usually the simplex frequencies are those listed below, but check the Frequency list document for the most current information.

Sweeps, Patrols - Simplex 146.520

Intra-Checkpoint - Simplex 147.57

Notes about the Frequencies

Your checkpoint radio team should be able to maintain a continuous watch on both the net frequency and 146.52. If you can also listen on 147.57 that is good, but not at the expense of either of the first two duties.

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Checkpoint Locations

Directions to the checkpoint locations (checkpoints 1-11 and Gold Camp) are available from the radio operators' website (see References below). Maps showing the proposed checkpoint layouts are also found on the radio operators' website (see References below). At Gold Camp, the CP staff stay there overnight, but radio operator does not need to stay overnight at this location. The radio operator may leave once the sweep is in. Overnight accommodations will be available at Papineauville.

Radio Checkpoint Functions

Amateur radio personnel for a given checkpoint are to arrive on site shortly before the Checkpoint Leader and they must stay until they have clearance to leave from Safety-1 and Admin-2. They must confirm, by reporting through Net Control:

- Their arrival at the checkpoint, as soon as they arrive.
- They should report when they are ready to operate. This is not the same as being on site. They have to be in a spot that has been approved by their checkpoint captain.
The antennas have to be up and the operators have to be able to work the net and sweep frequencies. Checkpoint operators are paired so one can concentrate on the net and the other can concentrate on the sweep frequency (146.520).
- The arrival of the Checkpoint Leader.
- When the checkpoint is operational (check with CP Leader).
- The statistical information required as per the form provided.
Information typically consists of the number of check-ins and check-outs total from the start to the time of the report, not broken down by skier class, and not the total since the last hourly report. As these numbers are used to ensure there is no one left on the trail, they should be checked and read back to the operator. (This also gives the adjacent checkpoints a chance to check their copy.) The reporting of the information should be done prior to being asked for it by net control. Ideally, this would be done 15-20 minutes past the hour every hour the checkpoint is receiving and sending skiers. Checkpoint radio operators should pay particular attention to the statistical information reported to net control from the stations one checkpoint upstream and one CP downstream of them. Your CP captain will want to know some of this info to prepare for the volume of skiers on their way to your CP.
- The closing of a checkpoint to outgoing skiers, for safety, checkpoint, and radio personnel.
They should also complete the statistical form(s) during the day and return them to the Checkpoint Leader when the checkpoint closes.

General Radio Checkpoint Procedures for Saturday and Sunday

Items to Remember for the day

- Note time when messages received, from whom, for whom, and if further action is required.
- Note time when messages sent, from whom, for whom, and if further action is required.
- Monitor Net frequency and simplex Frequencies.
Your checkpoint radio team should be able to maintain a continuous watch on both the net frequency and the patrol and sweep reports frequency (146.52). If you can also listen on the intra-checkpoint communication frequency (147.57) that is good, but not at the expense of either of the first two duties.
 - Net Frequency - (see section '[Radio Frequencies](#)' for specifics)
 - 146.52 for patrol and sweep reports
 - 147.57 for intra-checkpoint communication (e.g., CSM staff on site, or working a split checkpoint(#4))
- Inform Net Control when CSM staff without radios have arrived on site or are leaving site (e.g., OPS-3, OPS-4). Listen for net requests to locate personnel without transmitters, and advise both the personnel concerned and the net if they show up at your checkpoint.

Sequence of Events to Remember:

PreDeparture/Enroute Events

- Equipment check done prior to departure.
- Radio check with net control while traveling to checkpoint. Give your ETA ASAP.

Startup Events

- Inform net control when you arrive at the checkpoint.
- Get information package from checkpoint captain; meet other checkpoint personnel as required.
- Check with checkpoint captain to ensure your setup location does not interfere with checkpoint operations. Try to use the location suggested on the checkpoint maps.
Confirm with checkpoint captain where any extra vehicles are to be parking if they are not going to be used as part of the radio station(s) through the day.
- Ensure you have completed the waiver(s) in the information package.
- Inform net control when you are ready to receive traffic.

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- Inform net control when Checkpoint staff or arrives.
- Inform net control when Checkpoint (CP) is ready to accept skiers (info from CP captain).
- Confirm with CP captain - safety and waxing teams present.
If CP captain has a scheduled ETA for safety and /or waxing teams (not all CPs have waxing teams) then don't worry about an ETA unless either the CP captain asks you to get the info, or the ETA has already passed, in which case you can report the team as "not yet on site", and let net control call admin or safety about it.

Day Events

- Note time of first skier's arrival.
- Note time of first skier's departure.
- You inform net control that skiers have departed the checkpoint. The next checkpoint should be listening and can ask net control if they miss it.
- Note time when patrol leaves (may not have a radio).
- Inform net control when patrol leaves.
- Note time when sweep(s) leave. Inform net control of sweep's departure.
Generally there is only one sweep per section. The last section on Saturday and the first section on Sunday will have two sweep teams. This is to account for skiers splitting to and merging from Gold Camp.
- Inform net control when checkpoint closed to outgoing skiers and note the time.
- Inform net control when patrol(s) and sweeps arrive and note the time.
- Inform net control when last sweep arrives and note the time.
- Inform net control of hourly cumulative counts for skier check-ins and skier checkouts when counts are available and net traffic permits. If possible, the counts should be sent hourly, 15 minutes past the hour.

Shutdown Events

- Contact Designated CSM safety person (Safety-1, Safety-2 or Safety-3) for authorization to release checkpoint safety staff. Each safety person is responsible for different checkpoints.
- Contact Admin-2 for authorization to release checkpoint staff.
NOTE: It maybe a number of hours before the following would be done.
- Monitor net to confirm that sweep skier has arrived at the next checkpoint.
Note: Designated CSM safety person (Safety-1, Safety-2 or Safety-3) may determine that the radio staff is no longer required at a checkpoint prior to the arrival of the sweep at the next checkpoint -- Do not assume that once the sweep has good contact with the next checkpoint that the radio staff will be released.
- Contact the designated CSM safety person (Safety-1, Safety-2 or Safety-3) for authorization to release checkpoint radio staff. Each checkpoint may have a different CSM safety person responsible for release of the radio staff.
- Contact Admin-2 for authorization to release checkpoint radio staff after getting the release from the designated CSM safety person.

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- After both the designated CSM safety person and Admin-2 have released the checkpoint radio staff, inform net control that the checkpoint radio communications is closed.
- Contact organizer for amateur radio operations to see if you are needed anywhere else after the current assignment finishes.
- Suggest you monitor net traffic while driving back from checkpoint.

Radio/Net Procedures

The procedures listed below are guidelines. Contact the organizer for radio operations if you have any questions regarding radio/net procedures.

1. Use tactical callsigns. Tactical callsigns identify a functional unit or a location for this event. For example, checkpoint seven (not "See Pee Seven") is the tactical callsign for the operators working at checkpoint seven; admin two is the tactical callsign of the operator(s) working with the CSM person(s) designated as "Admin two"; sweep six is the tactical callsign of the sweep skiers between checkpoint six and checkpoint seven.

The tactical callsigns are as follows:

Checkpoint One	Sweep One
Checkpoint Two	Sweep Two
Checkpoint Three	Sweep Three
Checkpoint Four	Sweep Four
Checkpoint Five	Sweep Five
Checkpoint Six	Sweep Six
Checkpoint Seven	Sweep Seven
Checkpoint Eight	Sweep Eight
Checkpoint Nine	Sweep Nine
Checkpoint Ten	Sweep Ten
Checkpoint Eleven	
Admin One	Net Control (Montebello)
Admin Two	Papineauville
Admin Three	Gold Camp
Safety One	Net Control(Buckingham)/Banquet
Safety Two	Net Control(Lachute)/Banquet
Safety Three	
Safety Four	

2. Note: This list may not be complete. The organizer of radio operations will provide a complete list of radio operators and their tactical callsign. During the event additional tactical signs might result so as avoid confusion when more than radio station is set up in vicinity to one another.

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3. Avoid use of Q codes. Not everyone is conversant with them. Be patient with the old Pharts that can't get the Q codes out of their heads.
4. Keep your communications short and concise.
5. Remember to identify yourself as per radio regulations. (i.e., your real callsign every 30 minutes). If you haven't contacted net control within the last 30 minutes, drop your callsign in (once) after your tactical call i.e. "net control from checkpoint three, va3unk" (note the purpose here is legal, not practical, so don't waste time with phonetics). A directed net is considered one long conversation, so if you are calling back into the net within a half hour of your last identification, your tactical callsign is all that is required. For example, one way would be include your call sign with the tactical callsign (either at start or at end of a transmission)
6. Use traffic modifiers when the net is busy. This helps the net flow much smoother and allows all traffic to get through. Traffic modifiers for the CSM are **ROUTINE**, **PRIORITY**, **URGENT**. Suffix your call to net control with the modifier (e.g., Net control this is Admin 2 for looking for Checkpoint 10, urgent)
 - **ROUTINE** indicates the traffic has no particular importance or urgency.
 - **PRIORITY** indicates the traffic is time critical.
 - **URGENT** indicates the traffic is time critical and important.

Confirm with the organizer for radio operations how net control will be handled (e.g., everything through net control or net control acts a monitor and intervenes where appropriate). The latter will usually only happen when there is a longer exchange between two stations, or early (pre 05:00) in the morning.

An example Call sequence (CP is **bold** and Net Control is *italic*)

>**Net Control from Checkpoint Three looking for Checkpoint Four, routine**
>*Checkpoint four, please call Checkpoint Three*
>**Checkpoint three this is Checkpoint Four**
>**This is *Checkpoint Three*** (Exchange occurs)
>**Checkpoint three (or four) clear, back to net**

Net Control Location(s)

All ham radio communications go through headquarters during the CSM.

Lachute-Buckingham Direction (Forward)

- The CSM Operations communications headquarters is located at the Château Montebello from Friday evening until Sunday noon and at the Buckingham High School in Buckingham from noon Sunday.

Buckingham-Lachute Direction (Backward)

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- The CSM Operations communications headquarters is located at the Château Montebello from Friday evening until Sunday noon and at the Banquet location from noon Sunday.

Papineauville Dormitory is the backup net control station to the net control station located at Château Montebello regardless which direction the event is running.

Net Control Functions

- Net Control personnel at Montebello and the Banquet location should keep a log of their communications and of checkpoint statistics. These documents should be given to Admin-2 at the skiers' banquet on Sunday night.
- Net Control must record all information provided from checkpoint radio operators and be ready to relay it to Admin-2 on request.

Net control should be the network's memory. Therefore they should ideally record everything that happens on the net, such as "admin x is off the net / back on the net/ looking for ... Any traffic that gets passed should be recorded and time stamped.

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Who to Ask About...

The various CSM personnel have different areas of responsibility. The list below outlines some of the more common issues.

Role or Responsibility	Examples
Admin-1 – President of the CSM	<ul style="list-style-type: none"> • Matters of policy not affecting safety, i.e. cheating, awards related issues,, etc.
Admin-2 - overall logistics	<ul style="list-style-type: none"> • Missing or malfunctioning checkpoint equipment • Checkpoint team has not arrived • Waxing team has not arrived • Releasing checkpoint team • Releasing radio operators
Admin-3 - trail issues	<ul style="list-style-type: none"> • Obstructions on trail • Detours • Repairs needed to trail • Track setting issues
Safety-1 – safety issues	<ul style="list-style-type: none"> • Skiers pulled off the trail for any reason BETWEEN CHECKPOINTS (since these will be logged "out" of one CP and not "in" to the next one, they would be considered MISSING if they were not accounted for somewhere.) • Releasing safety team • Releasing radio operators

The above list is to be used as a guideline. If you are not sure, contact net control. Either they will know who should be contacted or the individual who is responsible will contact the net to inform them.

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Accommodations

If you are in need of accommodations for the weekend, contact the organizer of amateur radio operations. The organizer will let you know where you will be billeted for the weekend (one or two nights). Note that accommodations are provided only for operators whose duties require them to be on site late one day, and the next day as well, precluding the possibility of both a long drive and a full night's sleep.

If you are staying at the Papineauville dormitory or the Chateau Montebello, contact the accommodation site coordinator for specifics. For example, in 2001, the radio operators working at Chateau Montebello slept in a room in the employees' quarters at Cedar Hall. If you are staying at the Papineauville dorm, please be prepared to sleep on the floor and to provide your own bedding and toiletries (including sleeping bag, alarm clock, mattress, and towel).

For other locations, ask the organizer of amateur radio operations whether you will be required to bring your own bedding and toiletries.

For all locations, check with either the accommodation site coordinator (where appropriate) or the organizer of amateur radio operations (where appropriate) to confirm where you are to park your vehicle.

Check-in Times

Papineauville Dormitory - After 5 PM Friday

Chateau Montebello - After 3 PM Friday

Contact the organizer of radio operations or the accommodations site coordinator if you have any questions regarding check-in times.

Checkout Times

Papineauville Dormitory - 9 am Sunday

Chateau Montebello - Noon Sunday

Check your schedule, as you will probably have to check out before proceeding to your assignment, possibly before going to breakfast.

Contact the organizer of radio operations or the accommodations site coordinator if you have any questions regarding checkout times.

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Meals

Ham radio volunteers working at:

- Papineauville will eat at the school cafeteria for breakfast and dinner, and will receive a box lunch for lunch on Saturday. They will sleep in the ham radio room, if necessary. They should see the Accommodation Coordinator at the school for their tickets.
- Château Montebello will eat their breakfast at the Château. They will receive a box lunch for lunch, and will eat their Saturday dinner at La Belle Bedaine Restaurant in Montebello. Admin-2 will provide them with meal ticket.
- Checkpoints - See Checkpoint Captain for meal details while at the checkpoint. If you are staying at Papineauville or Chateau Montebello, contact the Accommodation Coordinator for breakfast or dinner meal vouchers.

Amateur radio operators working in other positions should contact the CSM person they are working with (if appropriate) or they should contact the organizer of amateur radio operations for information regarding meals.

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Terms and Definitions

Coureur des Bois:

Skier to complete all 10 sections.

There are 4 different levels (Gold Bar, Gold, Silver, and Bronze) of skiers. The differences are outlined below:

Bronze - Skier intends to complete all 10 sections

Silver - Skier intends to complete all 10 sections carrying a pack weighting a minimum 5 kg.

- Skier has previously completed the event as Coureur des Bois Bronze

Gold - Skier intends to complete all 10 sections carrying a pack weighting a minimum 5 kg.

- Skier is camping out Saturday night at a designated area.

- Skier has previously completed the event as Coureur des Bois Silver

Gold Bar - A Coureur des Bois who have previously completed Coureur des Bois Gold.

Note usually the Gold and Gold Bar are thought of as Gold for our purposes.

Tourer:

Individual category for a person who intends to complete any number of sections.

Maxi-team:

Minimum of 12 skiers under a common team name. Twenty best results combined to determine team's standing

Mini-team:

4 skiers as a team

Section:

Part of the trail numbered based on the checkpoint with the lower number.

For example, section 4 is the trail between checkpoint 4 and checkpoint 5.

Patrol:

One or more skiers that travel with the majority of Tourers between checkpoints.

Sweep:

One or more skiers that follow behind the skiers. No skier should be behind the sweep skiers

Safety-x:

Designated CSM safety personnel

Safety-1: responsible for overall safety issues and checkpoint sections. Safety-1 is also usually the Director of Safety

Safety-2: responsible for checkpoint sections

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Safety-3: responsible for checkpoint sections

Safety-4: responsible for transport and pickup of skiers requiring assistance

Admin x:

Designated CSM admin personnel (e.g., chairman, etc.)

Admin-1: - responsible for overall event activities (President)

Admin-2: - responsible for event logistics issues (Logistic Officer Operations)

Admin-3: - responsible for trail related issues (Director Operations (Logistic Director))

Ops-x:

Designated Operations Staff

They may or may not have scanners. Functions of ops vehicles will vary from year to year. Try to determine the names of the occupants of these vehicles, as they may be requested by name rather than by position. i.e. Is Normand Roberge driving in Ops 2 or Ops 4?

Ops-1 - Usually associated with Admin-2

Ops-2 - General Logistic support

Ops-3 - will service CP # 1, 4, 4A, 6, 6A, 8, 11

Ops-4 - will service CP # 2, 3, 5, 7, 9, 10, Gold Camp and Tourers Camp

Safety Van-x:

Safety Van for designated checkpoints - safety personnel and patrol/sweep skiers.

Safety vans may not have radio operators in them.

Safety Van-1 - will service CP

Safety Van-2 - will service CP

Safety Van-3 - will service CP

Safety Van-4 - will service CP

Reference Material

1. Radio Operators website ---- <http://radio.admin2.ca>
2. CSM website --- <http://www.csm-mcs.com>

Document Change History

1. Versions 1 to 7: 2001-2002, Development of document
2. Version 7.1: 2002, Public release – CSM 2002
3. Version 7.2: 2005, Presentation changes, obsolete info removed, reference to websites changed.