

Product Review: **Motion Infinity Bluetooth Helmet Audio System**

In 2019 MichCanska researched upgrading its communications between riders. With groups of riders ranging from 8 to 35 in our annual adventures, having clear reliable communication of safety related incidents/factors between riders and keeping the group together is high on our priority list. In the past, we have used Collett Chatter box and 2way FRS communicators/radios since 2010 with limited success.

The average age of MichCanSka members is in the upper 60's with members ranging from 14 – 92 years old with extensive and lifelong experience riding snowmobiles. MichCanSka in 2020 celebrated its 11th year as an International Extreme snowmobile club, with adventures covering 10 US states and 8 Canadian provinces/territories & 6 countries and raising over \$400K for it Diabetes charities.

Our key criteria for an effective communication solution are:

- 1) Simple to use (wide range of technical knowledge / ability)
- 2) Rechargeable Battery with capacity of at least 8 hours in intercom/talk mode
- 3) Range from 1st to last snowmobile in group
- 4) Self-contained installation on Helmet
- 5) Durable & Waterproof
- 6) Clear, noise free, full duplex intercom with units imbedded in group

Optional: advanced features like Bluetooth connection to smartphones and music



Case study: 2020 MichCanSka Adventure Maine / New Brunswick

Our use case is focused solely on safety and keeping the group together, the majority of the riders don't want a solution used for chatter or social, riding along experiencing the outdoors and scenery safely is the key objective. The key safety concerns for our group of riders are:

- a) Direct, immediate notification of inbound threats or obstacles:
 - i. Incoming traffic
 - ii. Unexpected / difficult transitions (road crossings w/ blind hill/corner, difficult corners or wild life, etc... in the trail)
- b) Keeping the group together, and accounted for:
 - i. Navigator / trail boss along with the riders are responsible for keeping the group together. Everyone is responsible for the rider behind them. This includes posting at trail transitions and keeping up. The group takes breaks every 45 mins to an hour.
 - ii. Since this Club attempts challenging adventures in new and unfamiliar areas, navigation historically has been a challenge requiring groups being lead by a navigator (with GPS & maps) to stay together to reach destinations each day and minimize searching for lost riders

This 8 day adventure through northern Maine and New Brunswick started on Sunday, March 1st and completed on Sunday, March 8th. With between 7 – 9 riders participating each day, we started day 1 with 3 units and finished day 8 with 5 of 8 riders equipped. Our focus was on Safety and not the optional features of music and / or phone at this time.













Configuration / Installation

We ensured all units were upgraded to the latest firmware version 1.36 and configurations synced (see pic), we left the Noise Cancellation at default. All helmet installations of the headset were performed by the same person using the supplied instructions and after they initially tested the units on a couple of their helmets.

Observation:

Pro's

- ✓ Overall with practice users we were able to keep the units synced up in Intercom mode
- ✓ Voice quality was very good
- ✓ Very little or minimal noise on intercom with 5 units using default "Noise Cancellation" settings
- ✓ Range was end to end with 8 riders with 5 units embedded, although worked with 3, 5 worked much better
- ✓ "Unit disconnected from Intercom" and "reconnect" notifications were useful for group leader to know to slow down or stop to reconnect group.
- ✓ Helped Keep the group together, especially in new and unfamiliar areas

	CONFIGURATION	
	USAFE / S.O.S.	OFF ON
	GESTURE SENSOR	OFF ON
	EQUALIZER	OFF ON
	VOICE PROMPT	OFF ON
	VOICE COMMAND	OFF ON
	AUTO VOLUME	OFF ON
	VOICE ANSWER	OFF ON
	BASS BOOST	OFF ON
	ADJUST NOISE CANCELLATION PROFILE	
	RIDER PASSENGER ECHO CANCELLER	OFF ON
	MUSIC OVERLAY	OFF ON

Challenges

- Voices in your head when stopped was distracting at times. This required muting or deactivating intercom when taking a break or refueling, relying on each rider to remember to mute was not practical, we used the press volume down (2 seconds) to disconnect the intercom and volume up to re-establish
- Intermittently, about every day and a half, one or more units would not re-sync with the rest of units without resetting and turning off all the units, re-initializing and re-syncing, usually at a break or lunch
- Having at least one person in the group who understands how to use and resolve issues was key.

Con's

- Headset cord plug was hard to insert into unit, especially in the cold and at least 2 units by the end of the 8 days had to wiggle to get both speakers / mic working.
- Flimsy helmet bracket, unit was easily detached and we were all careful and did not lose any units, except one of the riders who purchased last year had already lost and purchased another unit. Mine personally detached twice by accident.

Communications methods utilized:

“Red, Red, Red” – prepare to stop immediately, obstacle in trail

“Yellow” – CAUTION, Hard transition, bumps, rocks, logs or other minor obstacles not blocking, but could lead to loss of control, injury or damage to sled

“Green” – Only used when obstacle has been cleared or removed and no further caution needed

“Incoming” – Oncoming snowmobile traffic, this is one of the biggest risk, over the years we have had a lot of close calls due to **Stupid Trail Idiots Flying Fast** (STIFF's) or add “D” to front for “Drunk” racing to the next bar. The lead sled is responsible for driving conservatively in the narrow trails, especially in the blind curves or hills.

“Clear” - Last Sled “Sweep” has cleared and crossed a main road or railway or is moving, ensuring the group does not get to spread out.

“Not Ready or Hold” – Used by riders or Sweep to indicate they are not ready, when the lead sled starts to move after a stop or break.

“Blind Curve or Hill” – As a matter of experience we did not use communicators to let know riders if a road /rail road crossing was clear or traffic existed. This is one of the most dangerous risk of snowmobiling and we have experienced too many close calls over the years. It is stressed to each rider to take seriously each crossing and not rely solely on riders in front of them, yes we point out traffic to the riders directly behind us, and will deploy crossing guards in high volume areas, but using communicators runs the risk of complacency and bad decisions due to unpredictable distance to the crossing and ever changing situation. We did use the “Blind Curve or Hill” as a warning to take a crossing situation even more seriously.



Summary:

Overall the UClear Digital's Motion Infinity model fit our criteria, especially with their full duplex DynaMESH intercom technology, allowing unlimited amount of units (riders) to connect and extend the range from front to back of a group of riders. Communication was on the most part clear, and understandable, even at higher speeds. The ability for the group leader and/or sweep to communicate incoming traffic & hazards and problems at the back of the group allowed the group to ride safer and minimized delays and keep the group moving toward its destination each day with minimal confusion or delays.

Recommendations:

Riding snowmobiles around a field or across the continent is a dangerous, high risk activity. No one can argue that clear communication between riders for safety purposes is a bad thing. Having communicators does not guarantee safety; it is just one more measure, like wearing a helmet or having a safety flag. It's about continuing to de-risk this inherently dangerous activity and bringing everyone home safely.



The key obstacle is the perception or concern, of *"riders abusing this safety measure for social or friendly chatter purposes"*. This can be overcome, but it's **critical** everyone understands the rules and purpose. We proved this could be accomplished on our recent 8 day adventure, we had hours and even days of blissful riding with 5 riders connected with nothing but **"Incoming"** or **"Clear"** communicated.

UClear has done a good job of building a solution solving most of our safety needs with minimal issues. Based on UClear's commitment to provide more durable unit helmet mounts and improving their headset connection method & reliability, I strongly recommend making the UClear Digital's Motion Infinity model **mandatory** for ALL riders in MichCanSka organized adventures, headsets and mounts purchased by participants and units available for loan provided by the club if members don't want for their own personal use. MichCanSka has in its 11 year history been an innovator and continues to set the example for safety in undertaking challenging adventures for charity across this continent and around the world.

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