

2011

# TOTAL NORTH



Ready for  
2011

## NEW BODIES AT TNC

New hires for Total North boost engineering and technical horsepower. Ready to Roll for Major Projects 2011

## VICTORIA GOLD CHOOSES TOTAL NORTH

Victoria Gold's project will feature Multi Dish satellite system(s) for voice and data, office and camp use

## KA SATELLITE UPDATE

Small dish systems maybe prone to more problems for coming season

# CAMIPS 2010



## Ka Satellite Systems --Why can't I get through this year? Worked Perfectly last year....

The long and short of this story is more users, the same amount of bandwidth equals a little less for everyone.

The small dish KA satellite systems which are perfectly suited to smaller exploration camps are having a bit of a tougher time these days; especially during peak times in the summer. The way the Ka satellite system works is there are a number of spot beams which provide coverage to a regional area. The beams are designed around providing service to a certain number of users... a shared service. So, as the number of users goes up everyone's service goes down. In other areas the beams are filled and no new customers are placed on the system. The shared nature of the service is also why if anyone tries to use the system excessively (ie bit torrent, file sharing, etc.) then the central service "Faps" the offending user, throttling back the service to a snail's pace for a period of time. There are no hard and fast rules on when a user gets "Fapped" as it is a function of how many users are on the system at any

given time. Also publishing the rules would inevitably lead to attempts to circumvent the system.

We have developed a number of tools to make the best use of the Ka systems including specialized routing and voice services and we have installed monitoring software which will allow us to look at a remote systems health. We can tell if a system has been fapped and we saw a lot of this last season. Honestly don't expect to see a whole lot of improvement for the 2011 season.

We have used two dish systems separating voice from data helps but.... we still are at the mercy of the shared service. For our clients who have reached a threshold where voice is vital to the operation we recommend using a hybrid approach where the voice is carried on a Ku or C band system and the Ka's are used for more public or widespread use; ie the bunkhouses.



## TOTAL NORTH ADDS ENGINEERING AND TECHNICAL HORSEPOWER, GEARED UP AND READY FOR 2011 SEASON

### Total North welcomes Brian, Sean, Julian and Fearon to the team.

Brian is a legend in the Satellite Communications World. With over 30 years of experience in Satellite and Internet communications, Brian has seen it all. Brian worked with us on the Yukon Zinc System and helped design the Cisco Voip system for Alexco. In addition to bringing Total North staff up to speed on our RF modeling software Brian is also our resident guru for all things satellite and anytime we need a complicated or tricky network design. It is great having Brian available to share his wealth of knowledge and his unique world view.

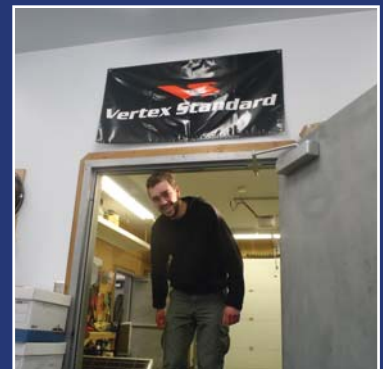
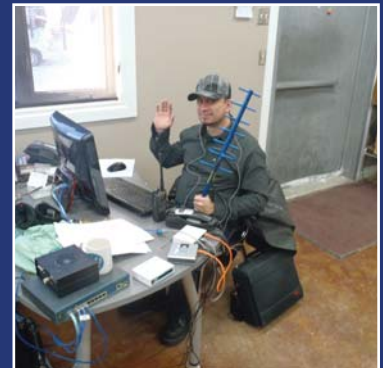
Sean graduated with a Masters in Electrical Engineering from the University of Calgary in June of 2010. Prior to the University of Calgary Sean worked in China after obtaining his undergraduate degree in Electrical Engineering. Sean joined Total North in August 2010, and hit the deck running. After warming up on the Alexco Project, (including some bear watch duty) Sean took on the City of Whitehorse Dispatch System—a design build for automating

the City of Whitehorse Fire Dispatch including integrating telephone, radio and computer aided dispatch – a challenging project with mission critical standards. Sean winds down by winding up... his hobby is watch repair.

Julian comes to us from France where he completed a Masters in Computing. Julian's career in France included working with a wide variety of systems and clients including AirBus. At Total North Julian splits his time between client activities and a refit of Total North's internal systems. Julian is currently working on building a new FTP server which will allow us to share service information with our clients as well as automating our network monitoring and control system.

Fearon is a native son returned home to the Yukon. With a not so busy work environment in Victoria, Fearon joined Total North in September of 2010 bringing his IT networking and trouble shooting skills to assist us with the increasing demand for more sophisticated client voice and data networks. Shortly after joining Total North Fearon received his CCNA certification which we promptly put to use at Alexco for their voice and data network. A self confessed Geek Fearon is currently reviewing hardware options to make our satellite voice and data systems more efficient for 2011.

## NEW HIRES



Sean loves authentic tea, is learning to cook, and hunts bears with his axe

Fearon in the middle is a gadget guy, promise he doesn't sleep with the Yagi

Julien gave up a career as a professional skyscraper to join Total North

# TOTAL NORTH



Radio World headed for Digital with Motorola Mototrbo leading the pack.


Total North attended Motorola’s Road Show held in Las Vegas this past November. Motorola is splitting into two companies; one focused on the cellphone world, the other company focused on wireless network solutions including radio, point to point linking systems and networking infrastructure. On the radio end the Mototrbo line of digital radios are pretty exciting. The new digital radios offer GPS, email, text messaging and a whole host of features and services unique to the digital world. The downside is price, a digital radio costs roughly double that of a conventional two way radio.

At Total North we have played with the radios and will be undertaking a pilot project with the City of Whitehorse Transit System.

The radios GPS feature will allow users to know where a bus is at and when they can expect a bus to arrive at their stop. The radio will also offer a host of dispatch features including emergency call, text messaging etc.



For the exploration side of things we see business as usual; the advanced features of the digital radio are probably not worth the additional expense, but if a project is headed for advanced exploration or mine development digital radio is definitely worth a look. For 2011 season we are offering an early bird discount. Any radios purchased before March 31, will be eligible for up to a 20% discount. Call Spencer for Details.

DIGITAL ADDS NEW FEATURES	GPS	TEXT MESSAGING	PRIVACY	WEB INTERFACE
	<b>Built in GPS</b> Locate everyone on the property	<b>Powerful Text options</b> Display screen offers text and features like caller Id, sms	<b>More secure than analog</b> Digital makes sure that your communications are secure	<b>Email plus IP protocols</b> let you use the radio on the web.

## VICTORIA GOLD CHOOSES MULTI DISH SYSTEM FOR NEW CAMP



Top: Joe Muff Installs a Strata dish at Quartz Lake

Middle: Gord Duncan adds a little gain to the antenna for Northern Free Gold

Bottom: The boys install a year round radio repeater for Yukon Zinc

For 2011 and there isn't any revolutionary product that will change the satellite internet services currently on offer.... With no new satellites launched services have to be delivered from those currently in place. What we have done at Total North is to mix and match satellite services to create a hybrid systems which will best match the multiple requirements at a camp. A good example of this approach is the system we are building for Victoria Gold.

Total North's history dates back to the early days with Strata Gold where we supplied the exploration camps with satellite voice and internet services. (We still we have the old '88 Ford we tried to drown in one of the river crossings).

The Vic Gold system is comprised of a multi dish system with the Ku and its built in QoS abilities for the voice portion of the network and the Cband with it's unlimited throughput to deal with corporate data. Of the the handy Ka's will come into play to provide employee internet. The system will also provide payphone access for the employees. The system will include a rack mounted head end and structured cabling for the complete office experience.

### Total North currently trying new I Sat Phone... Jury still out.

Inmarsat has entered the handheld satellite phone market with it's I Sat Phone offering. The service is based on a little different concept than either the Iridium or Global Star Phones which use a constellation of satellites to provide service. The I Sat Phone uses a geostationary single satellite to provide service..the same concept as the old MSAT phones only with a handheld device.

How well does it work? Don't know yet but we will have an idea by the time the season is here. Early indications are the phone will probably be best suited to situations where contact is limited to emergency or fairly low level requirements. We don't expect the phone to replace the Iridium, rather the phone will be a complement or option for emergency contact.

Globalstar is still on the path to replace its satellite constellation; the industry seems to be taking a wait and see approach to exactly what will be delivered when.

So, for the 2011 season it looks like the Iridium will be the handheld phone of choice for most operations. We will keep everyone posted on the I Phone as we try it out.

# TOTAL NORTH

# Program running for 2011? If you need to communicate.... give us a call



**Radios Specials**  
for early season  
purchase. Up to  
20% off  
Motorola and  
Icom if purchased by  
March 31, 2011.

**RF design  
services**-- with our  
new software we can  
map out radio coverage,  
locate the best spot to  
put a repeater, or see  
how many hops needed  
to connect to the outside  
world.

**Managed  
Network  
Services.** New  
routers let us monitor  
Satellite systems offsite  
-- Total North has tested  
a number of different  
router solutions and  
found products which  
will monitor and control  
system use. Satellite  
bandwidth is a premium  
and by monitoring the  
system we can help

**Total North**  
127 Copper Road  
Whitehorse, Yukon  
Y1A 2Z7

Tel. 867-668-5175

**Gord Duncan**  
President  
[gduncan@totalnorth.ca](mailto:gduncan@totalnorth.ca)

**Dan Johnson**  
Vice President  
[djohnson@totalnorth.ca](mailto:djohnson@totalnorth.ca)

**Sean Fang**  
Systems Engineer  
[sfang@totalnorth.ca](mailto:sfang@totalnorth.ca)

**Spencer Bergen**  
RF Manager  
[sbergen@totalnorth.ca](mailto:sbergen@totalnorth.ca)

**Karin Steele**  
Office Manager  
[ksteele@totalnorth.ca](mailto:ksteele@totalnorth.ca)



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