



Kamloops Amateur Radio Club

REPEATER REPORT

January 5, 2013

UPDATE: VE7RLO temporary repair

VE7RLO repeater Mt. Lolo

2

- On January 5, 2013 Myles (VE7FSR) used a borrowed snowmobile to haul repair parts, tools and test gear up to the repeater site.
- The plan was to try and get the repeater and microwave links back in operation for the winter, without the use of a tower.
- Four key tasks were identified: a VHF antenna for the repeater; a UHF antenna for the UHF hub and remote receivers; a UHF link antenna to Silver Star; and, re-establish the microwave links between Lolo and Greenstone.

- The UHF hub antenna was the easiest – an old 2-bay UHF folded dipole antenna was still on the wood pole out front of the building, and its hardline still fed inside. All it needed was a patch cable between the hardline and the duplexer and the UHF hub and UHF remote receivers would be back in business!
- The 2-bay VHF folded dipole antenna (un-damaged!) that was at the base of the collapsed tower was removed and used for the VHF repeater. This 2-bay antenna has been temporarily mounted to the wood pole out front using three 3500 lb ratchet straps!

- The Silver Star link UHF yagi antenna and hardline were removed from the collapsed tower, as was the CAT5 cable and 2.4GHz NanoStation (used to link to Mercury Speed's tower for internet).
- An old piece of scrap pipe that came off the chain-link fence was dug out of the snow and affixed to the base of the collapsed tower with zip ties and electrical tape (I couldn't find any pipe clamps or u-bolts under the snow). This will be the new "mast" for the NanoStation and Silver Star link antenna, which was aligned using a compass and bearing taken from Google Earth.

- The 5GHz dish, mounting brackets and pipe were removed from the collapsed tower, and using ratchet straps (again!) it was mounted to the tall pole to the north of the repeater building.
- The UHF and VHF antennas were swept with an Anritsu SiteMaster and all VSWR measurements were 1.5:1 or less. The repeater was put back on the air and tested (thanks to VE7VGO).
- The 2.4GHz and 5GHz antennas were aligned and the links to Mercury Speed and Greenstone Mountain were successfully re-established. VE7RLO was fully operational by sunset!



September 30, 2012

December 29, 2012



January 2, 2013



January 5, 2013 – VE7FSR, an old snowmobile, and a kid's toboggan arrive at the summit.

What was it like up there?

Winds were gusting to 40-50km/h and it was snowing. A great day to do repeater work!



VE7FSR

January 5, 2013

January 5, 2013

Work bench set up for the repairs.

(no booze, it's just a plastic bag
used to keep my tools dry!)



Old, 2-bay UHF folded dipole



Re-purposed
2-bay VHF
folded dipole

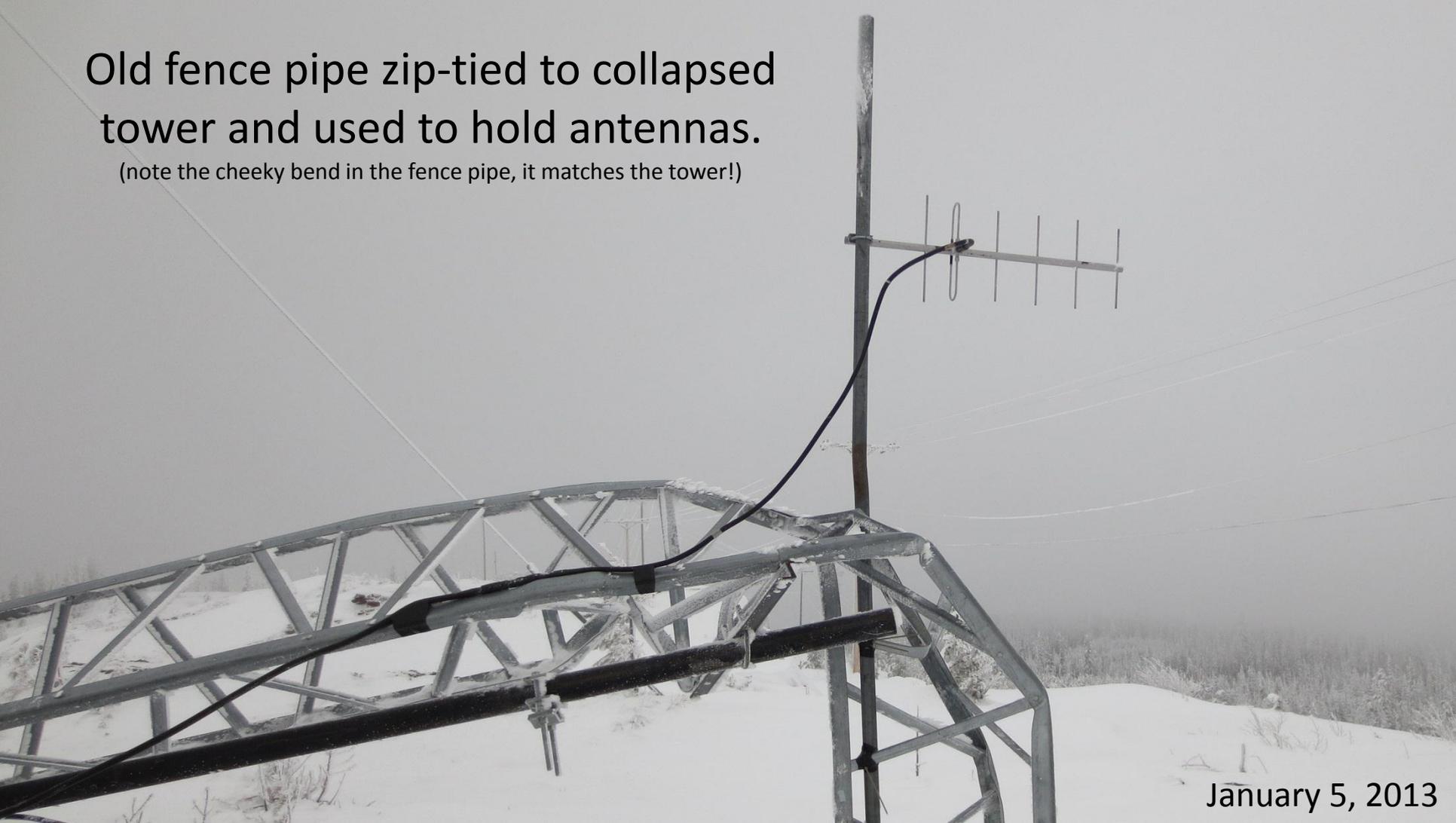


Voila!
A new
repeater
antenna
array for
VE7RLO!



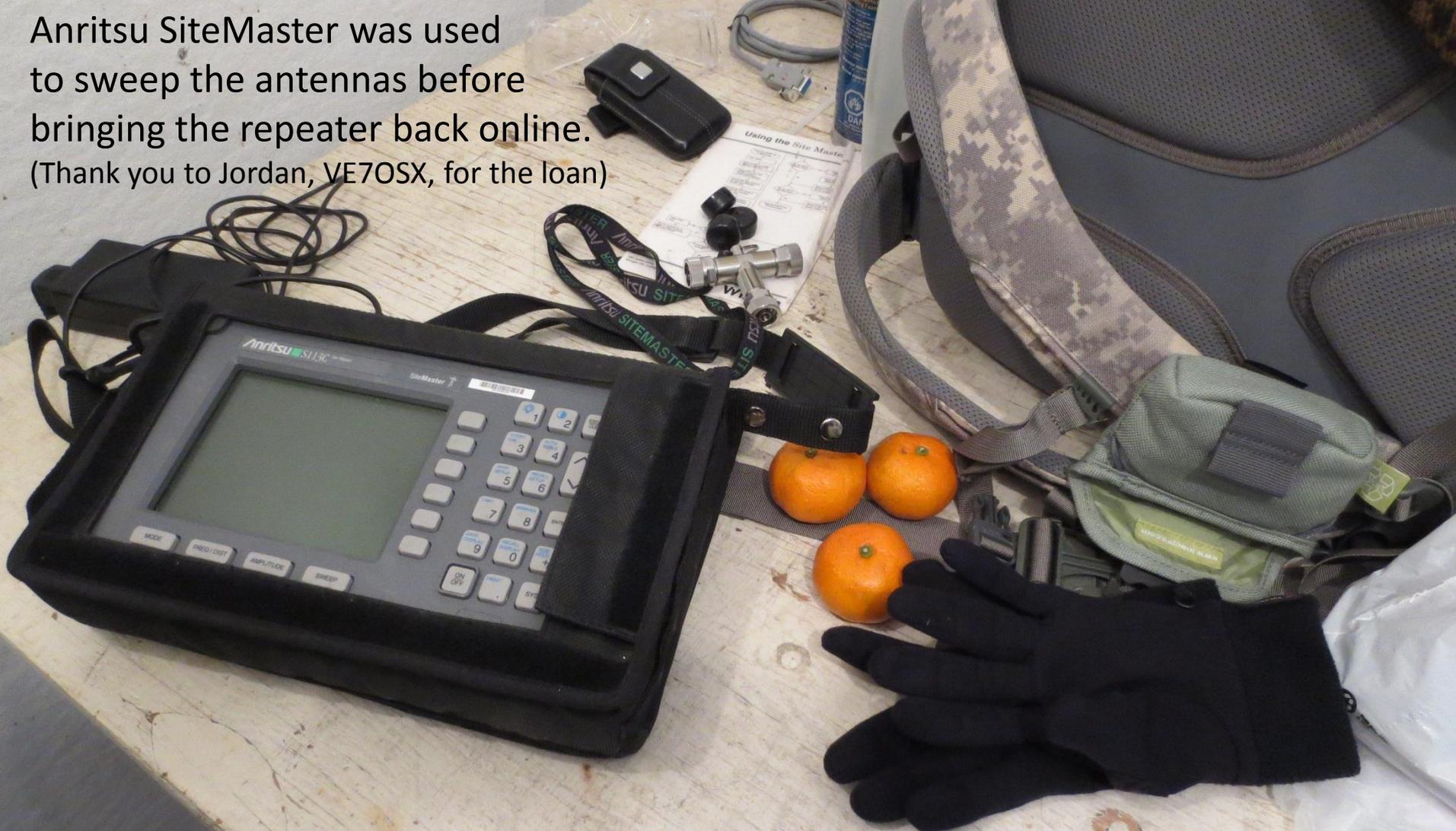
Old fence pipe zip-tied to collapsed
tower and used to hold antennas.

(note the cheeky bend in the fence pipe, it matches the tower!)



January 5, 2013

Anritsu SiteMaster was used to sweep the antennas before bringing the repeater back online.
(Thank you to Jordan, VE7OSX, for the loan)



January 5, 2013

VE7RLO 147.320 MHz



FORWARD
 100W
 100-250MHz
 REFLECTED

Thurline
 WATTMETER
 MODEL 500L
 SERIAL 7110
 IMPEDANCE 50 OHMS
 PLUG-IN ELEMENTS EXTENDING
 POWER AND FREQUENCY RANGE
 BIRD ELECTRONIC
 CORPORATION
 CLEVELAND, OHIO U.S.A.



LINK COMMUNICATIONS, INC.
 Repeater Control Systems

COR PL PTT DTMF
 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4
 VE7RLO RLC-4 Main Controller



LINK COMMUNICATIONS, INC.
 Repeater Control Systems

COR PL PTT DTMF
 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4
 VE7RLO RLC-4 Backup Controller

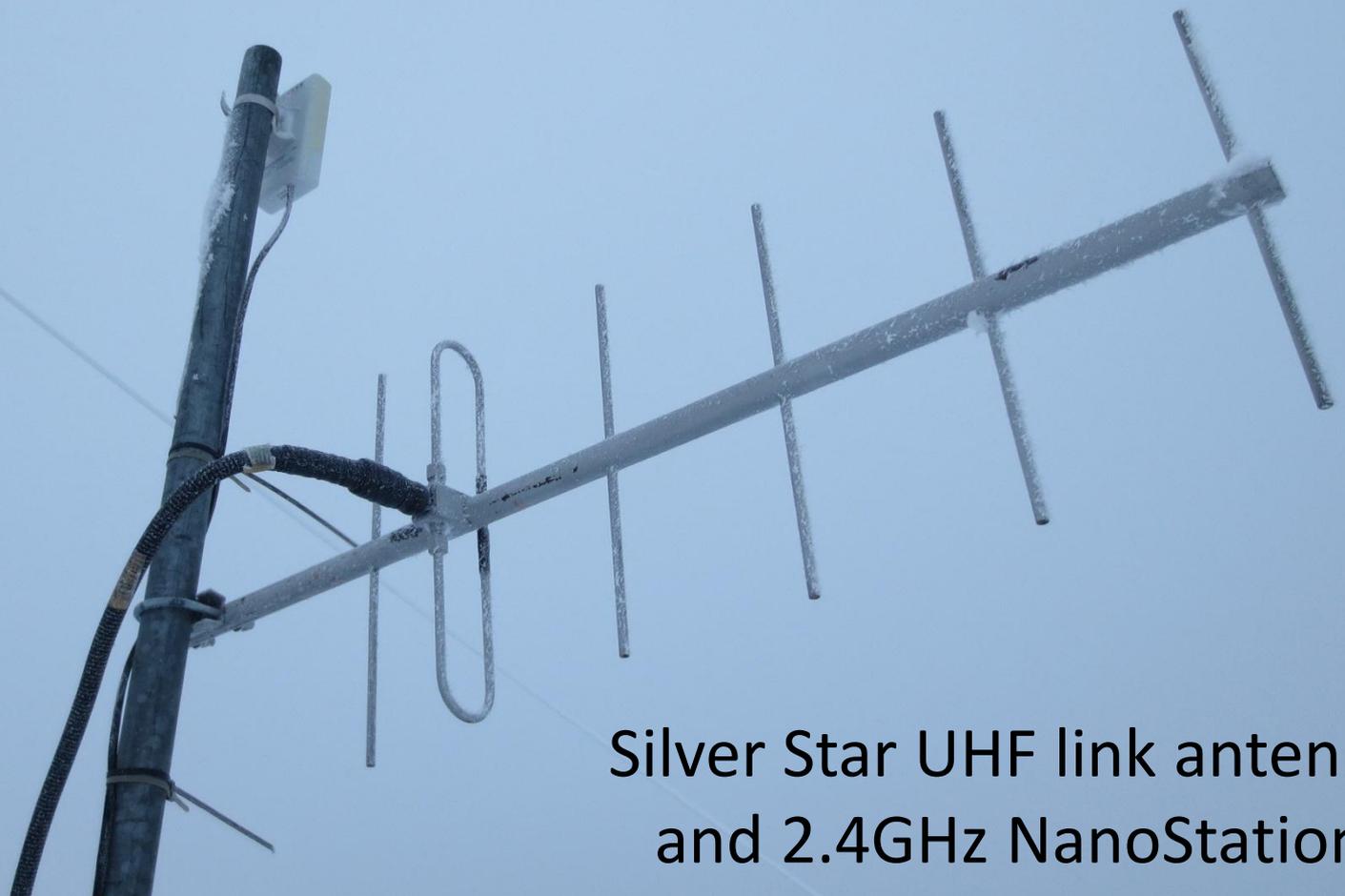
ON Power COR Menu Selection Data
 OFF
 Repeater Voting System RVS-8

4
 Current Voted
 Multifunction Display

FUSE
 03A
 OFF ON

VE7RLO back in action at 100 watts!

January 5, 2013



Silver Star UHF link antenna
and 2.4GHz NanoStation

5GHz 30 dBi Rocket Dish internet link to Greenstone Mountain



January 5, 2013

January 5, 2013



Almost had to dig out to go home!

Sun setting behind Greenstone Mountain.



January 5, 2013