

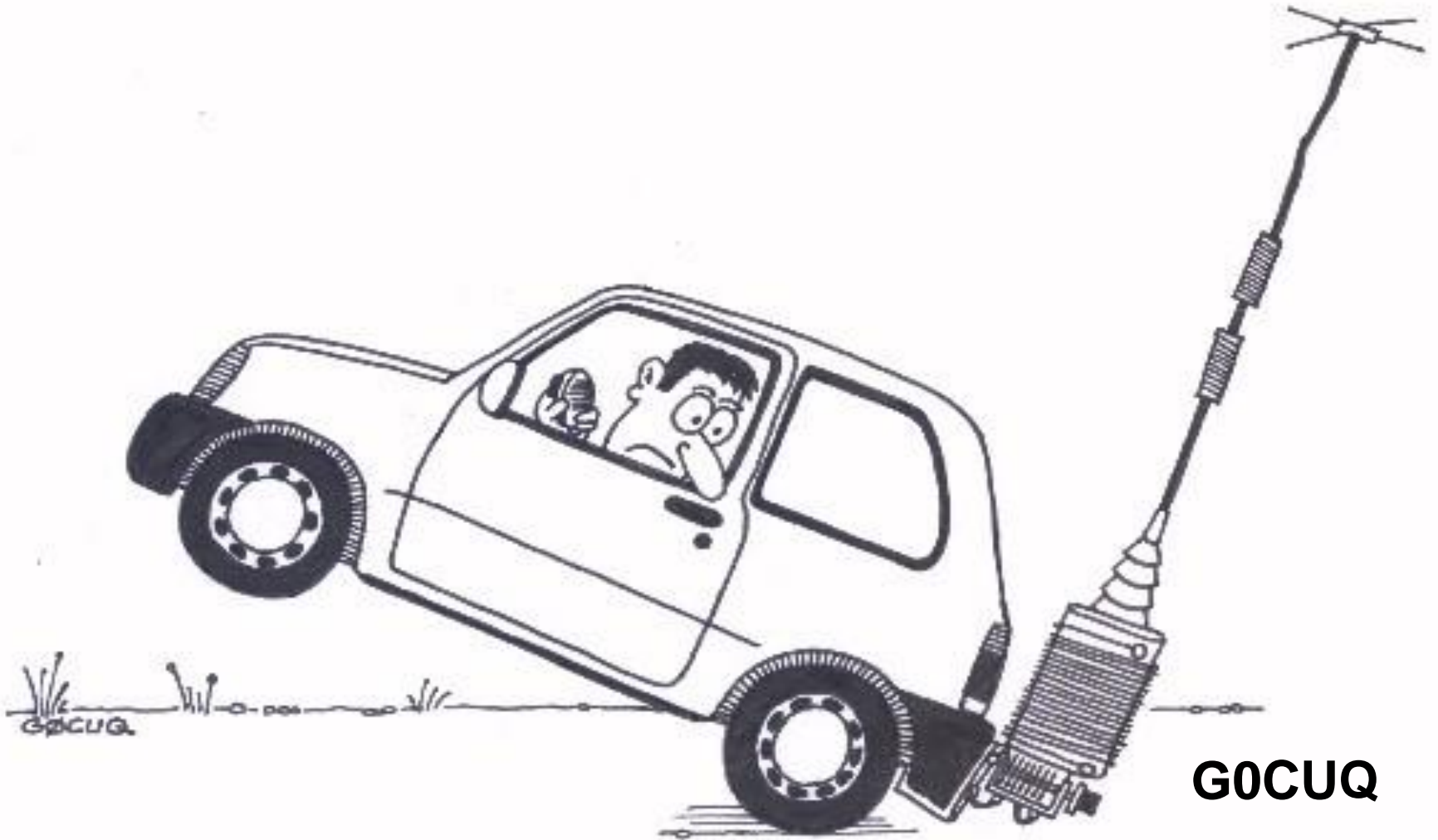
The Rover!

VHF Mobile/Portable Contesting

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West Carleton Amateur Radio Club
<http://wcarc.on.ca>

Whoops!



Contesting: The Sport !

- Amateur Radio is a HUGE hobby
- Contesting is only one part
- Some entrants are very serious, some just for fun!
- Great opportunity to work DX and try out station!
- Competition encourages innovation!

Contesting: VHF and Up!

● Contest Types

- Multi-band weekend contest
- Single band sprints of 4 hours
- Large contests have 1000's of entries!

● Contest Basics

- $\text{Score} = \text{QSO} \times \text{Multipliers}$
- Contest Exchanges
- Etiquette (Listen first!)
- Running the bands!

Grid Locators Explained

- Position on Earth based on Lat/Long
- Earth divided into 324 large areas called fields that are 10 degree Lat and 20 degrees Long in size
- Each Field is divided into 100 “grid locators” that represent 1 degree by 2 degree
- Ottawa area east of Carp is in “FN25”
- West of Carp is in “FN15”

Grid Locators - Fields

AR	BR	CR	DR	ER	FR	GR	HR	IR	JR	KR	LR	MR	NR	OR	PR	QR	RR
(c) E181C AQ	BQ	CQ	DQ	EQ	FQ	GQ	HQ	IQ	JQ	KQ	LQ	MQ	NQ	OQ	PQ	QQ	RQ
AP	BP	CP	DP	EP	FP	GP	HP	IP	JP	KP	LP	MP	NP	OP	PP	QP	RP
AO	BO	CO	DO	EO	FO	GO	HO	IO	JO	KO	LO	MO	NO	OO	PO	QO	RO
AN	BN	CN	DN	EN	FN	GN	HN	IN	JN	KN	LN	MN	NN	ON	PN	QN	RN
AM	BM	CM	DM	EM	FM	GM	HM	IM	JM	KM	LM	MM	NM	OM	PM	QM	RM
AL	BL	CL	DL	EL	FL	GL	HL	IL	JL	KL	LL	ML	NL	OL	PL	QL	RL
AK	BK	CK	DK	EK	FK	GK	HK	IK	JK	KK	LK	MK	NK	OK	PK	QK	RK
AJ	BJ	CJ	DJ	EJ	FJ	GJ	HJ	IJ	JJ	KJ	LJ	MJ	NJ	OJ	PJ	QJ	RJ
AI	BI	CI	DI	EI	FI	GI	HI	II	JI	KI	LI	MI	NI	OI	PI	QI	RI
AH	BH	CH	DH	EH	FH	GH	HH	IH	JH	KH	LH	MH	NH	OH	PH	QH	RH
AG	BG	CG	DG	EG	FG	GG	HG	IG	JG	KG	LG	MG	NG	OG	PG	QG	RG
AF	BF	CF	DF	EF	FF	GF	HF	IF	JF	KF	LF	MF	NF	OF	PF	QF	RF
AE	BE	CE	DE	EE	FE	GE	HE	IE	JE	KE	LE	ME	NE	OE	PE	QE	RE
AD	BD	CD	DD	ED	FD	GD	HD	ID	JD	KD	LD	MD	ND	OD	PD	QD	RD
AC	BC	CC	DC	EC	FC	GC	HC	IC	JC	KC	LC	MC	NC	OC	PC	QC	RC
AB	BB	CB	DB	EB	FB	GB	HB	IB	JB	KB	LB	MB	NB	OB	PB	QB	RB
AA	BA	CA	DA	EA	FA	GA	HA	IA	JA	KA	LA	MA	NA	OA	PA	QA	RA

Grid Locators - Local



Bands, Antennas, Modes

● Bands

- 50Mhz thru light!
- Simplex only!

● Antenna Selection

- Horizontal polarization for SSB/CW
- Vertical polarization for FM

● Modes

- Best DX using SSB/CW or digital modes
- FM for “local” contacts & liaison channel

Contest Scoring

- Score: Total QSO points x Multipliers
- QSO Points per QSO:
 - 50/144: 1 point
 - 222/432: 2 points
 - 903/1296: 4 points
 - 2.3GHz & up: 8 points
- Multipliers
 - Total of unique grid locators worked per band
- Use software or log sheets

Entry Types

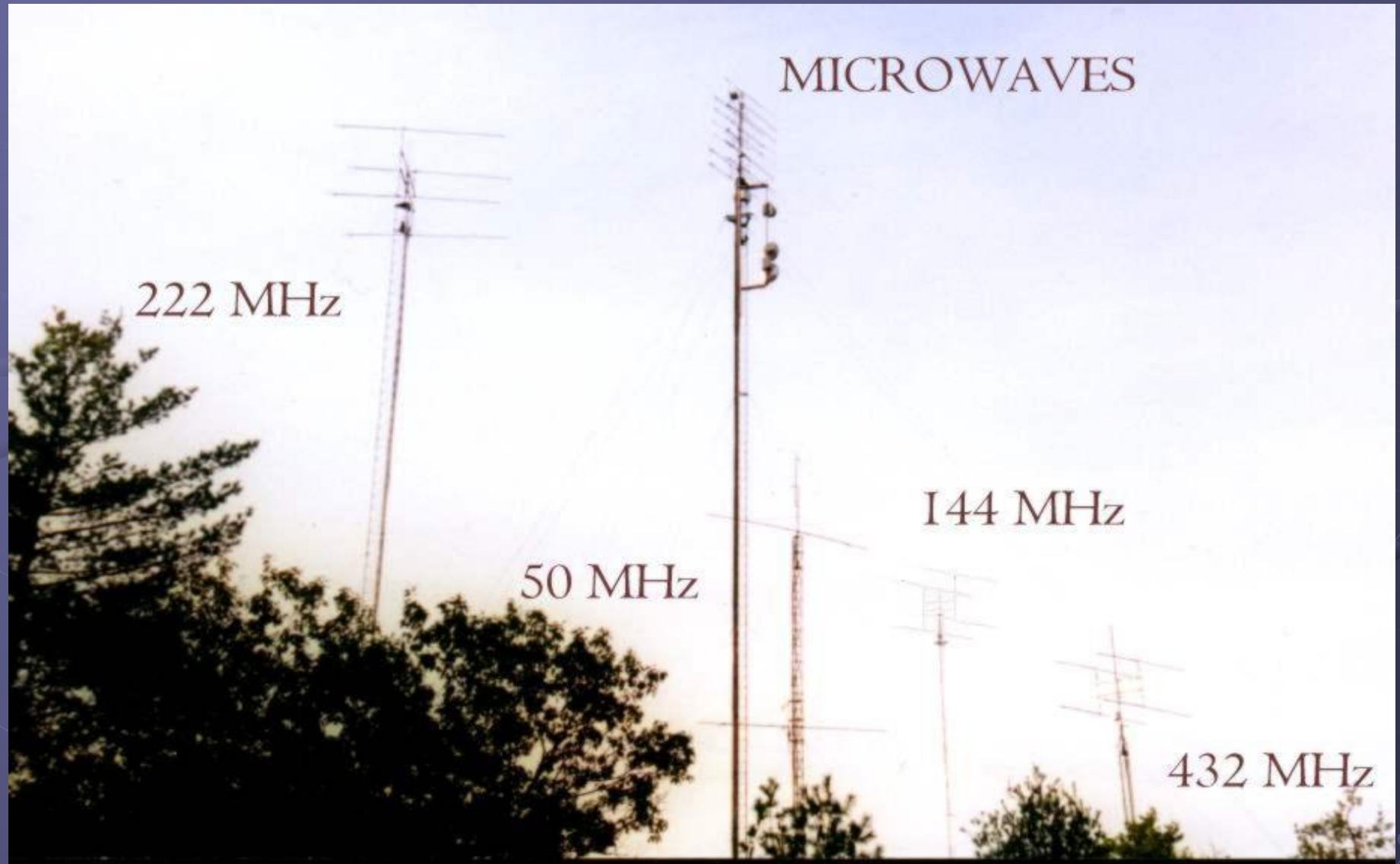
● Fixed entries

- Mix of modest home stations and BIG GUNS!
- Big Gun stations can include HUGE arrays, kilowatts of power and permanent mountaintop “shacks”

● Mobile entry: The Rover!

- Mobile/portable station that operates from at least 2 grids
- Take advantage of terrain (Hilltopping!)

K1WHS – Big Gun



VA3KA – Local

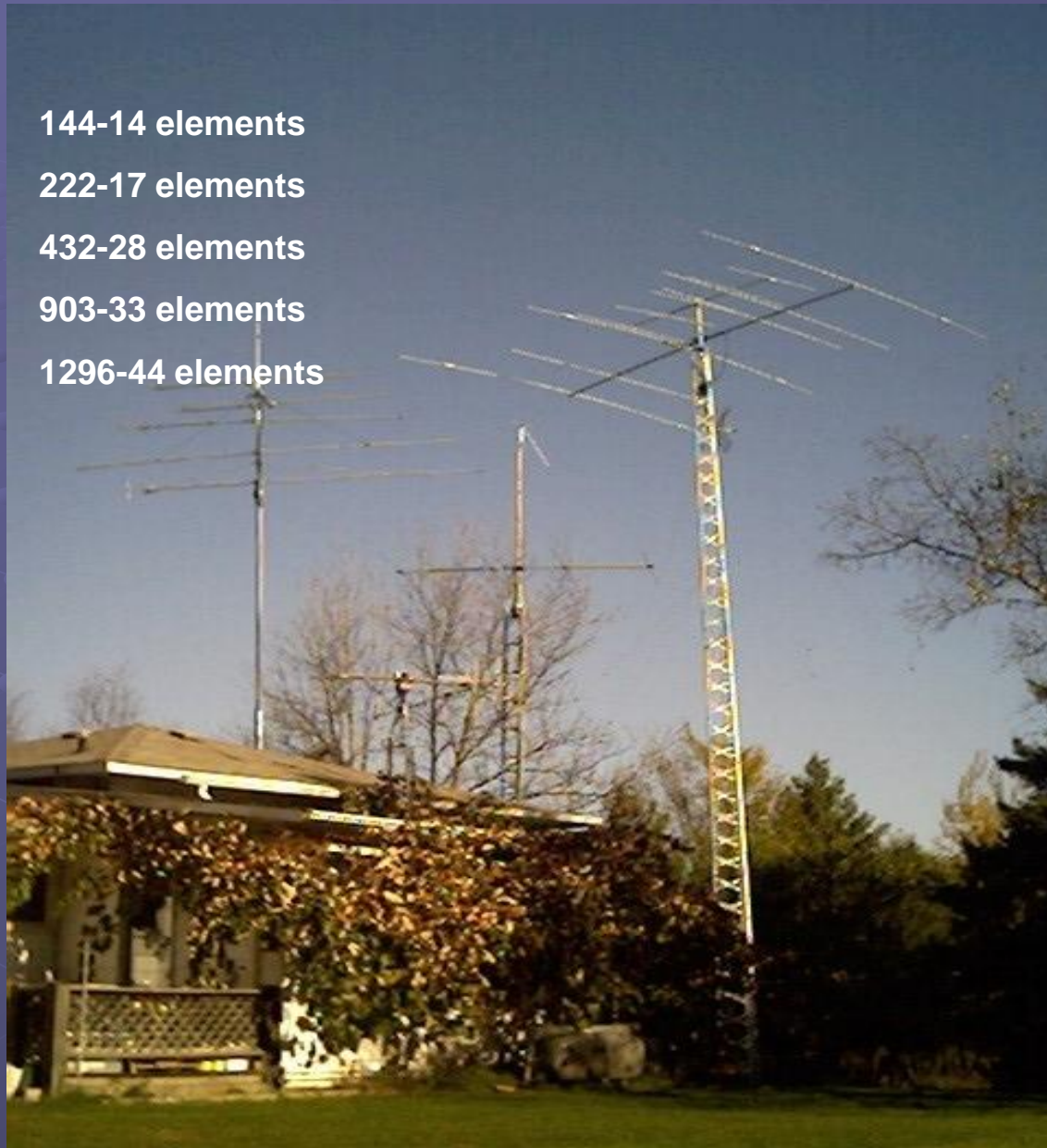
144-14 elements

222-17 elements

432-28 elements

903-33 elements

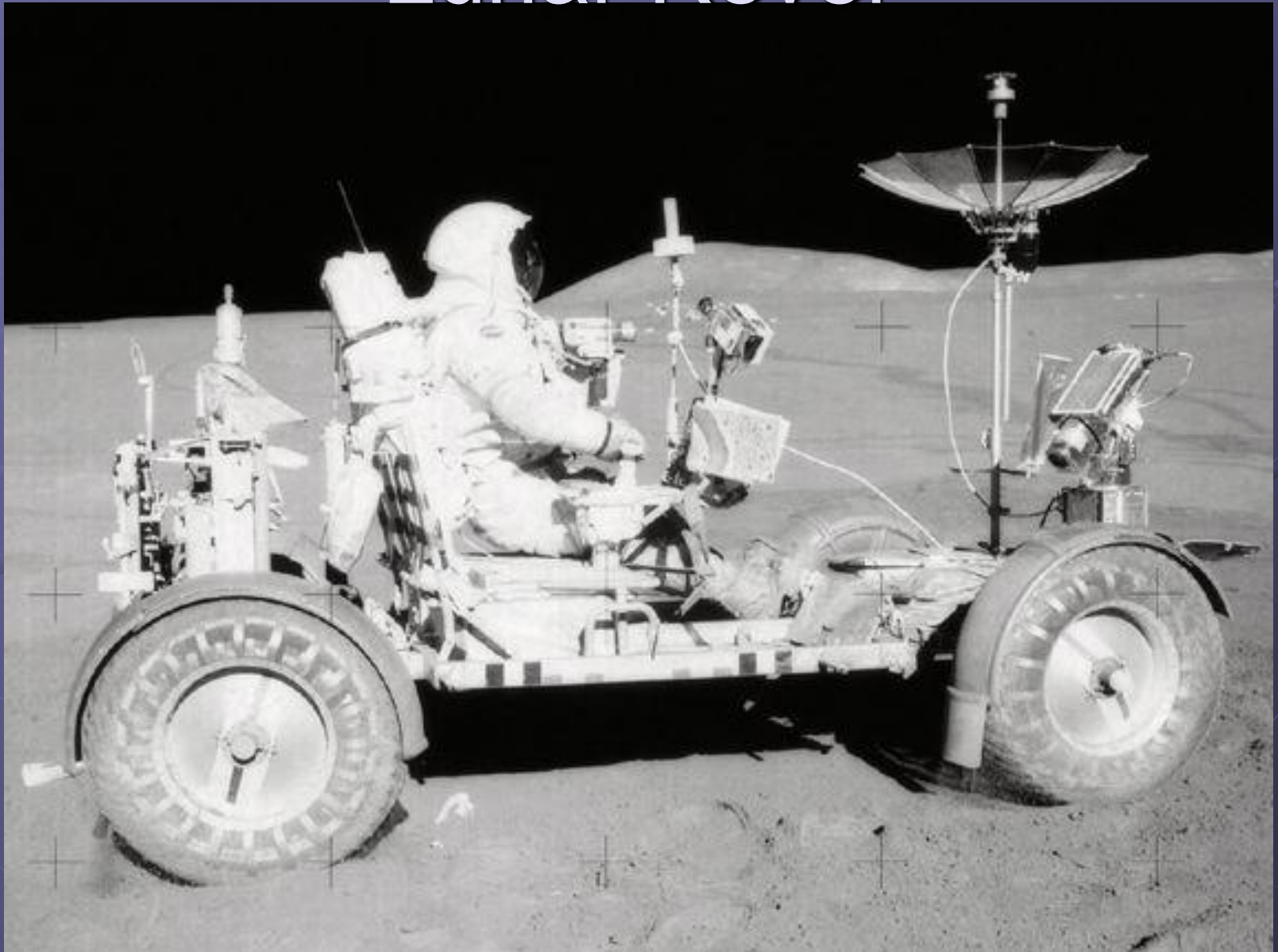
1296-44 elements



N1JFU Hilltopping!



Lunar Rover



Why a Rover?

- Limited setup at home due to city dwelling and tower restrictions
- Harder to work “DX” without towers and large beams for each band
- Ottawa close to intersection of 4 grids
- Local “rare” grids
- Advantage of mountain topping
- Roving is FUN!

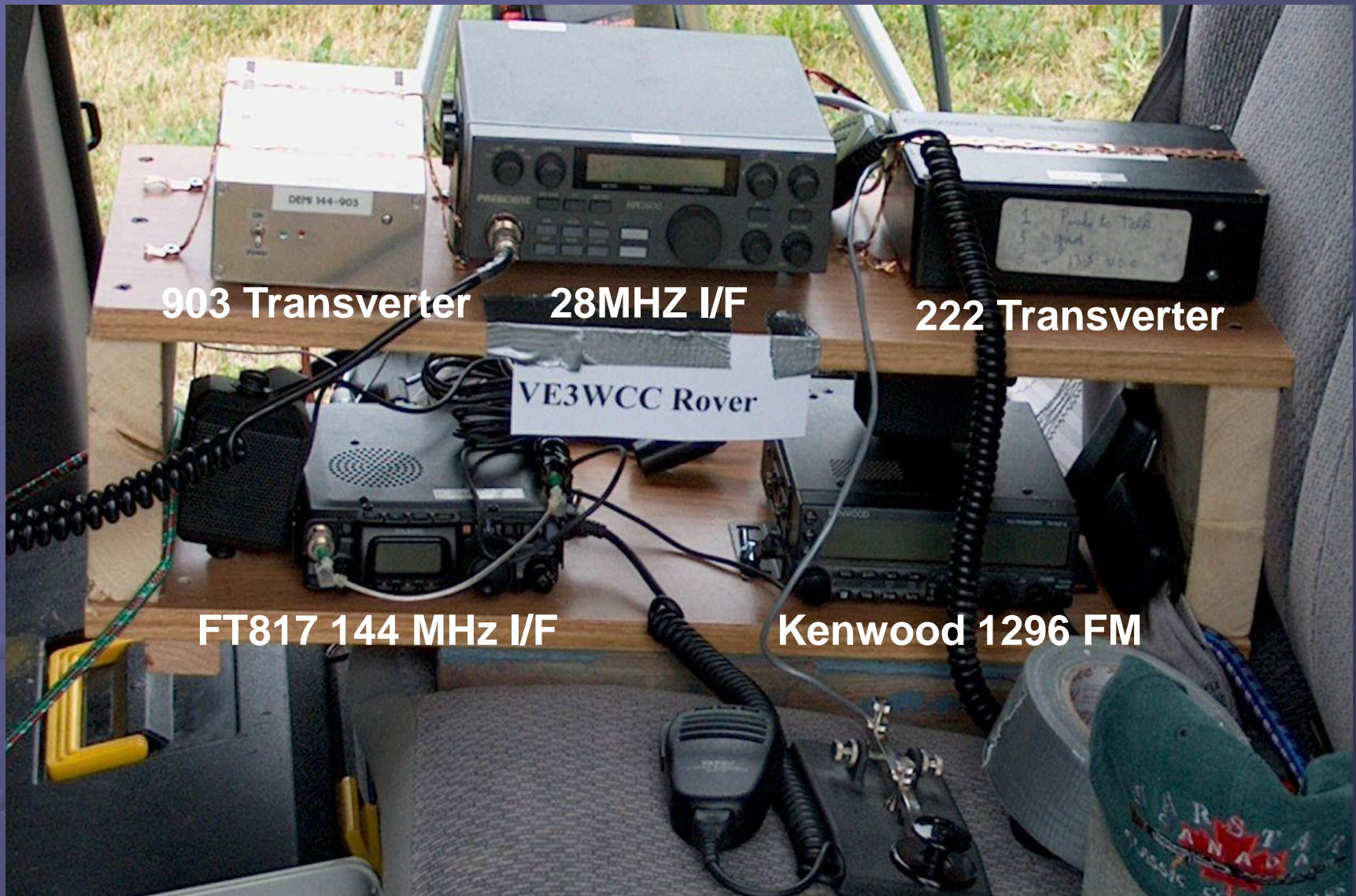
VE3WCC/R

- Sponsored by WCARC
- First attempt at “semi serious” roving
- Goal: Activate 6 local grids on lower 6 VHF bands (50 MHz thru 1296 MHz)
- Station: Yaesu FT857 for 50/144/432, Transverters for 222/903 and FM mobile rig for 1296
- Mobile Antennas
 - Loops for 50Mhz and 144Mhz
 - Vertical for 144/440 FM

VA3NFA at the Mic



So What's In the back of your Van, Mister?



903 Transverter

28MHZ I/F

222 Transverter

VE3WCC Rover

FT817 144 MHz I/F

Kenwood 1296 FM

VE3WCC/R Base Setup

- 3' tripod with 12' guyed mast
- 4 element Cushcraft beams for 144 and 222
- 8 elements homebrew beam for 432
- Looped yagi antenna for 903 and 1296
- *Antenna are horizontally polarized!*

Picture of Setup

1296 MHz 18 element Looper

903 MHz 11 element Looper

432 MHz 8 element Yagi

222 MHz 4 element Yagi

144 MHz 4 element Yagi

50 MHz loop

← VE3BSM

FN16



Between stops.. It all fits!



Latest Contest Results

- September ARRL VHF QSO Party!
- Activated 6 grids
 - FN14, FN15, FN16, FN24, FN25, FN26
- Drove about 450 Kms
- 172 QSO's and 47 Multipliers
- Claimed score: 12,643 points
- Best DX: Over 650Kms on 2m SSB

Map of Route



#1 FN16 Off of HWY 105

#2 FN26 Off of HWY 105

#3 FN25 Brule Lookout

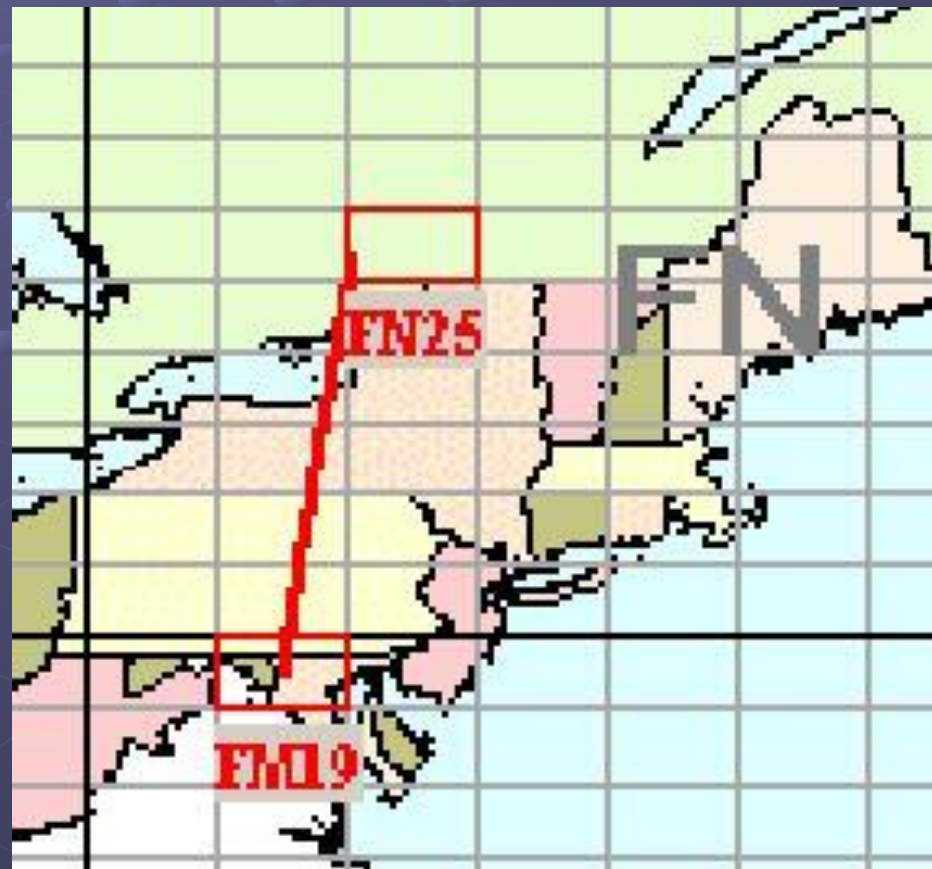
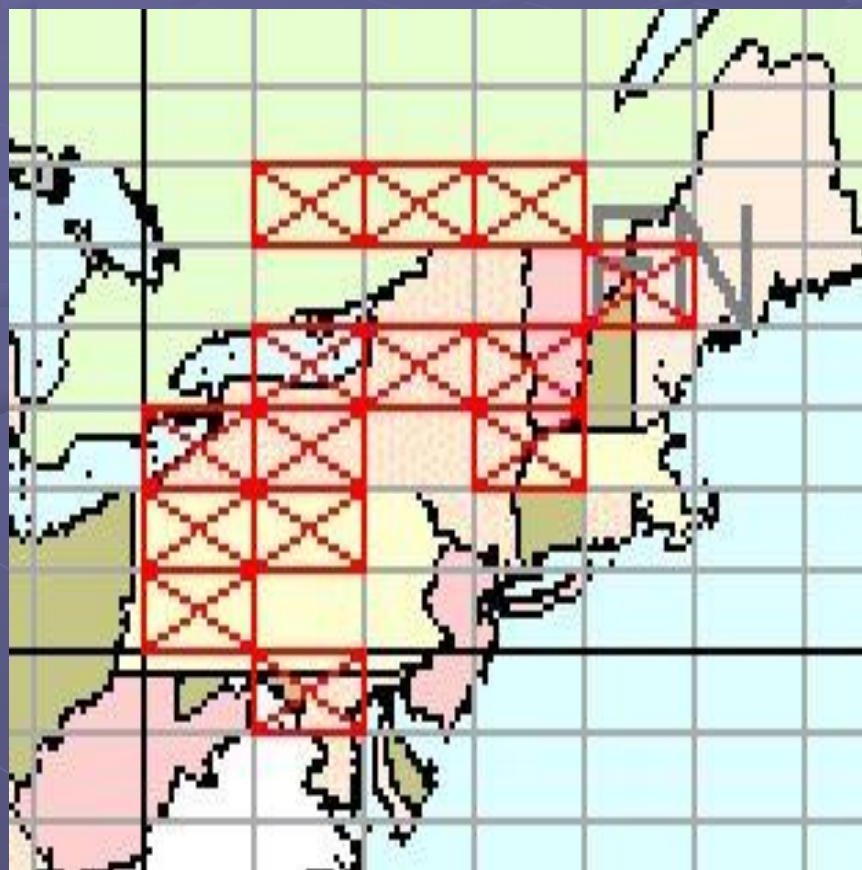
#4 FN15 Richmond Rd

#5 FN14 Numogate

#6 FN24 Oxford Mills

Unique Grids Worked:14

Best DX: K3EAR ~650 Kms!



Try Roving!

● Minimal Station can be fun!

- VHF/UHF FM rig and whip will get you started and allow you to work local testers!
- 222 and 1296 Mhz in some HT's!
- Newer Multi-band multi-mode SSB rigs are ideal (Yaesu FT857, Icom 706, etc)

● Take Advantage of local topography

- Brule Lookout, 4 local grids, etc

● Start with 144 & 432 and build from there!

Roving Tips

● Safety First!

- Stop and Operate is safest!
- Do not go alone.. Take a “Rover buddy”

● Power

- Do not run your car battery dry! Bring a spare car battery/booster

● Plan your route and make scheds before contest starts

● Test your station BEFORE the contest

● Know where all the Tim Hortons locations are on your route!

View from Brule Lookout: WOW!



FN25

View from Numogate



FN14

VE3WCC/R Team!



Roving Opportunities

- Many contests throughout the year
 - Jan, June and September VHF Contests
 - Spring and Fall “Sprints”
- Weekly Ottawa Valley VHF+ SSB net
 - Tuesdays at 9pm Local 144.250 USB
 - Roll calls on 50,222,432,903,1296
 - Great way to test stations and antennas
 - Check-ins from Ottawa, Montreal, Granby, Hamilton, Orangeville

How to learn more?

● Online references

- ARRL Contest Rules and Soapbox
- RAC Contesting and VHF pages
- Roving Resources (Google: “contest rover ham”)

● Local assistance

- Contest Club Ontario
- WCARC club and others

Questions?

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Many thanks to: VA3KA, VE3XK, VE3CVG and others!