NORTH SHORE AMATEUR RADIO CLUB MONTHLY BULLETIN

PRESIDENT	RICHARD BUTTON	VE3 RJB	416-725-7150
SECRETARY	ANDY KALNINS	VE3 LCZ	416-668-0805
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LIST AND LABELS	PAUL DALE	VE3 LHZ	416-434-6741
INSTRUCTION COORD.	RICK GIBSON	VE3 ASH	416-434-2886
AUDITOR	HARRY WESTWOOD	VE3 QG	416-683-5104
EDITORS	EDWIN H. TAYLOR	VE3 FRM	416-985-3790
	BARBARA ANN TAYLOR		

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CLUB STATION..... VE3 NSR
CLUB REPEATER..... VE3 OSH.. 147.720 MHZ IN ...147.120 MHZ OUT

CLUB REPEATER..... VE3 NAA...448 MCS IN ....443MCS OUT

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2-METER NET CONVENES EVERY THURSDAY AT 19:30 LOCAL TIME ON THE CLUB REPEATER (OSH). AS PART OF THE NET CODE PRACTICE IS PROVIDED BY BERNIE (ATI) BEGINNING AT 20:30 LOCAL.

10 METER NET _ A GROUP OF LOCAL HAMS MEET SUNDAY ON 28.200 MHZ USING CW FROM 09:00 TO 10:00 LOCAL THEN SWITCH TO SSB PHONE UNTIL EXHAUSTED OR XYLS CALL DINNER.

JOIN NOW !!!!

6

FULL MEMBERSHIP - $15.00 Cdn. (10.50US) includes full voting privileges and monthly news bulletin for one calendar year (January to December, July and August excepted)

ASSOCIATE MEMBERSHIP - $10.00 Cdn.(7.00 US) includes bullentin only and a hearty welcome to any meetings you can get to either in person, over the land line, or on the air.

2ND FAMILY MEMBER - $5.00 Cdn. (3.50 Us) full voting privileges but no monthly bulletin (assumed living in the same house)

TO JOIN SEND CHEQUE OR MONEY ORDER TO THE REGISTRAR AT HIS HOME:
298 Dover Street, Oshawa Ontario L1G 6G6 (Preferrably)
OR N.S.A.R.C. , The Club Box # 171 Oshawa, Ontario L1H 7L1.

Name:---------- Call----------

Street & Number---------- Apt:----------

Postal or Zip Code---------- Telephone----------

Membership - Full------- Assoc---------- Fam-------- Fee----------

Donations for repeater fund (if you desire) Amount----------

JAN/90.

Be the first kid on the block to own.... by Mike Sherba, 3DKW

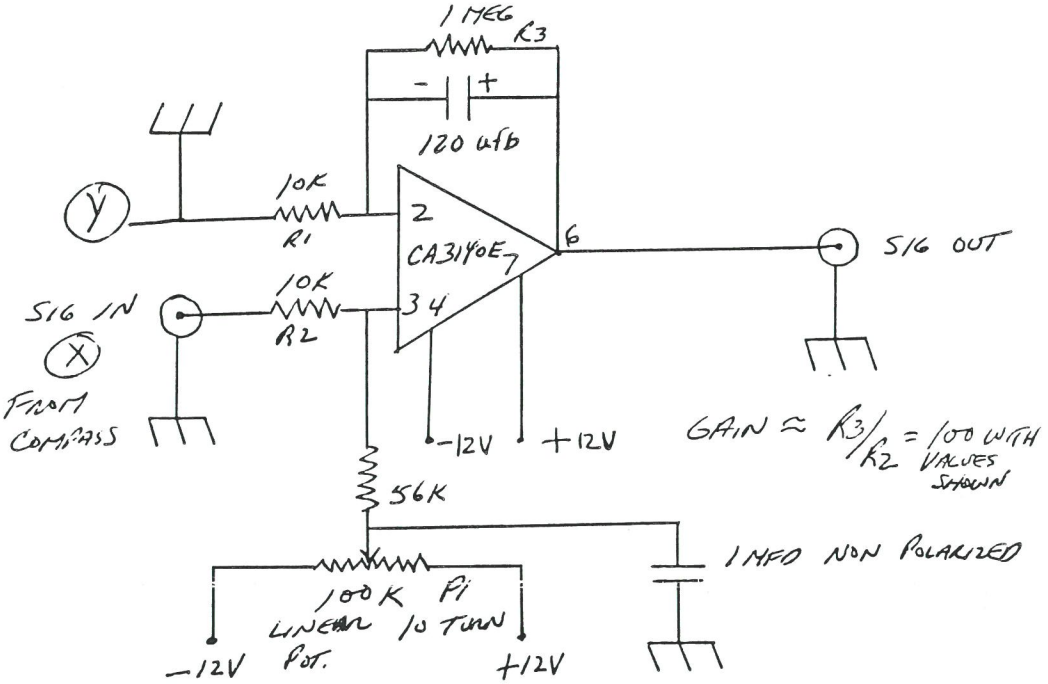
...A SOLAR FLARE & UFO DETECTOR...

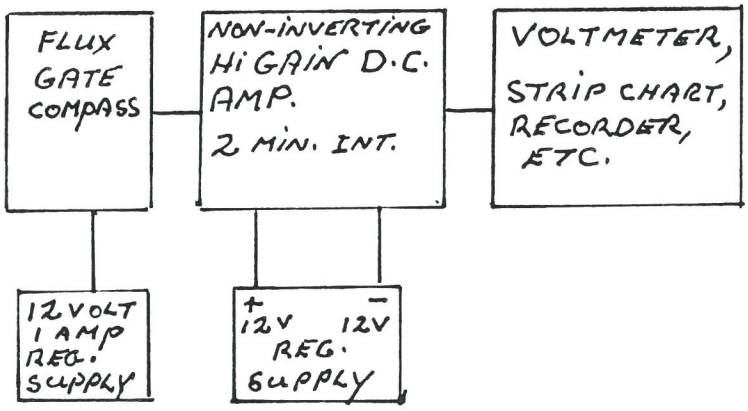
It has been reported that when an extra terrestrial flying machine moves through the earths atmosphere, large warping occurs in the earths's magnetic lines of force. When a solar flare is recorded, the earths magnetic field is disturbed to a very large degree. Example: the March Solar flare which caused Hydro Quebec a good deal of problems and created havoc on the short wave bands.

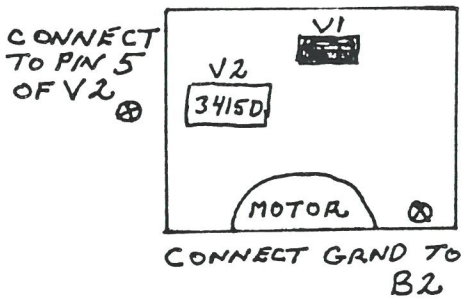
An interesting device can be assembled for checking the variations in the earths magnetic field. Using a Radio Shack flux gate compass, a non-inverting D.C. amplifier with a long time constant, (easily home brewed at very low cost) and a read out device, eg. voltmeter, strip chart recorder, computer with proper interface. Variations in the earths magnetic field may now be monitored and recorded.

Credits -- The Radio Observer, Florida & Gerry Rolle, California.

Non inverting D.C. amp with long time constant,
IT = 2 minutes.
Use well regulated power supplies.
To adjust P1 place sensing head of electronic compass north. Adjust P1 on D.C. amp for zero volts (hopefully there is no magnetic storm in progress)
(Voltmeter on signal out)
Connect voltmeter to signal out or strip chart recorder and move a ferrous material (magnetic) and note change in output.



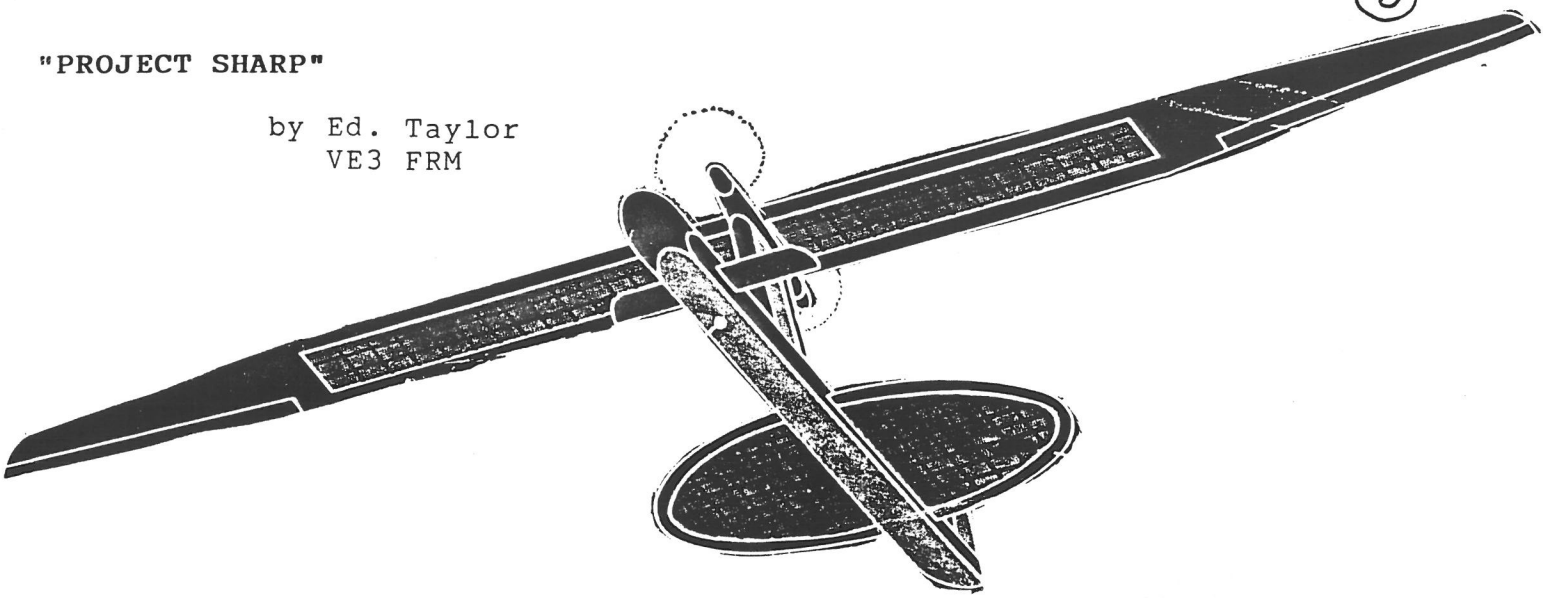




REAR VIEW OF FRONT OF PCB IN RADIO SHACK FLUX GATE COMPASS.

"PROJECT SHARP"

by Ed. Taylor
VE3 FRM



The Communications Research Centre positioned in a wood at Shirley's Bay just off the beaten track between Kanata and Bells Corners outside of Ottawa, always intrigued me. The well equipped labs manned by knowledgeable young graduates muddling in mystical experiments arouse my inquisitive instincts. Hundreds of junior Einsteins bent on discovering and developing tomorrows wonders. Whenever I enter this place, I stop as if on the crest of a hill overlooking a panoramic view of nature and inhale the elixir of creativity that permeates there. Millions of our tax dollars are spent here, but Oh, how sweet is this expenditure! The returns far outweigh the investment! If every taxpayer could peer over the shoulder of these geniuses at work, they would cry for more!

It was a warm colourful October day when I locked up the car at CRC's security gate. I flashed my pass, signed the guards book and began to walk the long path toward Building One. The freshly fallen leaves crushed beneath my feet and their sound harken memories of school days. Within my vision I could see several people standing on the lawns with heads drawn back peering straight up into the cloudless autumn sky. There was a tiny object up there, hovering like a hawk with its' wings outstretched in search of prey. What now! I wondered. There was always something afoot here at CRC. Focusing my eyes it became clear that the object was a small flying machine tracing a very tight circle in the blue firmament. There was no sound and its' altitude I would guess to have been about 2000 feet. I questioned the elder of the gentlemen standing nearest me and he proudly introduced me to "PROJECT SHARP".

SHARP translates into Stationary High Altitude Relay Platform, a reasearchers dream coming true. A worlds first! Designed and built in Canada! It is a light pilotless glider with electric motors powered by micro-waves beamed from a ground station below. "What is it for?" I asked, with head back and mouth agape.

When SHARP becomes full scale it will be a very useful tool. A low flying communications satellite of sorts. It will direct TV broadcasts to isolated regions, expand the horizons of mobile telephones and broadband data services. Atmospheric and geographic monitoring, radar surveillance, remote sensing and improved weather watch will all become a cost effective reality. "What will a full scale SHARP look like", I inquired rubbing the kink in my neck and looking away to the brown and golden forest, resting my tired eyes.

The real SHARP will have a wing span of 132 feet, comparable to that of a Boeing 707. Its' fuselage will be 80 feet long with a 33 foot diameter disc antenna. Minus its' payload the entire craft should tip the scales at 2200 lbs. It will be constructed of composite materials such as Kevlar, Carbon fibre, foam etc. Its' circling altitude will be about 13 miles and have a radio coverage of up to 620 miles in diameter, The underside of the aircraft, including the disk, will be covered with 460 square feet of rectannas. A rectanna is actually a little IC containing an etched diode and antenna formed from the copper substrate. Thirty kw will be required for these powerful motors and an additional twenty kw to power the 330 lbs. of payload. The power of course will be beamed up via micro wave from the ground, bringing to life Telsa's once elusive dream of transporting power by radio waves. The machine will return to earth every 6 months for maintenance.

SHARP can be built and maintained for one fifth the cost of a geo-stationary satellite.

Contented and enthralled with the gentlemen's explanation, I continued down the walk towards Building One, boyishly kicking a stone as I strolled along. Well, I thought, I may just be a Technical Sales Rep for ITT Cannon connectors and I never earned the doctorate in physics that I yearned for in my youth, but you can bet your sweet pattooty that when the Big SHARP flies, it'll have a lot of Cannon connectors on board.

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ANNUAL XMAS GET-TOGETHER

This festive meeting was held at our usual room in the Arts Resource Centre. the club did not serve drinks in order to protect attendees who may be driving home form the party. Linda Goslin and Velora Gibson set a splendid table with a myriad of horsd'oeuvres. Soda pop and punch were passed around with much merriment. The party was well attended with many bringing their spouse.

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REPEATER ACTIVITY

Harry 3QG and Eric #HMG were up on the hill several times last month. They were installing the new controller that has been written about in past news. Without their willing hand the club would not enjoy the benefits we have in VE3OSH. Harry & Eric were presented with a gift at the Xmas party, to demonstrate the memberships gratitude.

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NEXT MEETING

Starting time: 7:30 p.m. in the Green Room of the Arts Resource Centre. Greg, 3GJS will have a video produced by Ontario Hydro to discuss how Amateur radio can assist in case of a Nuclear accident. It should be very interesting.

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MISSING MEMBERS

The following members' newsletters have been returned due to changes in their address with no forwarding addresses given. Please notify Keith 3GDF if you can cast any light on their disappearance.

Lorne Novack, SWL, 13 Chaucer Avenue, #616, Oshawa, Ontario L1H 3H4
Albrec Meinshausen, 3HAB, 1800 Simcoe St. N, Oshawa, Ontario L1G 4X9
Metro A.R.C. 170 Glen Park Ave. Toronto, Ontario M6B 2C7

LENGTH OF 80 METER ANTENNA SYSTEM, 3500 KC TO 4000 KC

(DECIMAL TO FRACTION CONVERSION INFORMATION ON REVERSE SIDE)

KC	FT.	IN.	KC	FT.	IN.	KC	FT.	IN.	KC	FT.	IN.	KC	FT.	IN.
3500	133	8.57	3600	130	0.00	3700	126	5.83	3800	123	1.89	3900	120	0.00
3505	133	6.28	3605	129	9.83	3705	126	3.78	3805	122	11.95	3905	119	10.15
3510	133	3.99	3610	129	7.67	3710	126	1.74	3810	122	10.01	3910	119	8.31
3515	133	1.72	3615	129	5.52	3715	125	11.70	3815	122	8.08	3915	119	6.48
3520	132	11.45	3620	129	3.38	3720	125	9.67	3820	122	6.15	3920	119	4.65
3525	132	9.19	3625	129	1.24	3725	125	7.65	3825	122	4.23	3925	119	2.82
3530	132	6.93	3630	128	11.10	3730	125	5.62	3830	122	2.31	3930	119	1.00
3535	132	4.68	3635	128	8.97	3735	125	3.61	3835	122	0.40	3935	118	11.19
3540	132	2.43	3640	128	6.85	3740	125	1.60	3840	121	10.50	3940	118	9.38
3545	132	2.02	3645	128	4.74	3745	124	11.59	3845	121	8.59	3945	118	7.57
3550	131	9.97	3650	128	2.62	3750	124	9.60	3850	121	6.70	3950	118	5.77
3555	131	7.75	3655	128	0.52	3755	124	7.60	3855	121	4.80	3955	118	3.97
3560	131	5.52	3660	127	10.42	3760	124	5.61	3860	121	2.92	3960	118	2.18
3565	131	3.31	3665	127	8.33	3765	124	3.63	3865	121	1.03	3965	118	0.39
3570	131	1.10	3670	127	6.24	3770	124	1.65	3870	120	11.16	3970	117	10.60
3575	130	10.90	3675	127	4.16	3775	123	11.68	3875	120	9.28	3975	117	8.82
3580	130	8.71	3680	127	2.08	3780	123	9.71	3880	120	7.42	3980	117	7.05
3585	130	6.52	3685	127	0.00	3785	123	7.75	3885	120	5.55	3985	117	5.28
3590	130	4.34	3690	126	9.95	3790	123	5.79	3890	120	3.70	3990	117	3.51
3595	130	2.16	3695	126	7.89	3795	123	3.84	3895	120	1.84	3995	117	1.75
												4000	117	0.00

$\frac{468000}{\text{FREQUENCY}}$ = LENGTH IN FEET AND INCHES.

VE3HC

HAMMOND MANUFACTURING COMPANY LIMITED

GUELPH – ONTARIO – CANADA

LENGTH OF 40 METER ANTENNA SYSTEM, 7000 KC TO 7300 KC

KC	FT.	IN.	KC	FT.	IN.	KC	FT.	IN.
7000	66	10.20	7100	65	10.92	7200	65	0.00
7005	66	9.60	7105	65	10.32	7205	64	11.40
7010	66	9.12	7110	65	9.84	7210	64	10.80
7015	66	8.52	7115	65	9.24	7215	64	10.32
7020	66	7.92	7120	65	8.76	7220	64	9.72
7025	66	7.32	7125	65	8.16	7225	64	9.24
7030	66	6.84	7130	65	7.56	7230	64	8.76
7035	66	6.24	7135	65	7.08	7235	64	8.16
7040	66	5.64	7140	65	6.48	7240	64	7.68
7045	66	5.16	7145	65	6.00	7245	64	7.08
7050	66	4.56	7150	65	5.40	7250	64	6.60
7055	66	3.96	7155	65	4.80	7255	64	6.00
7060	66	3.36	7160	65	4.32	7260	64	5.52
7065	66	2.88	7165	65	3.72	7265	64	4.92
7070	66	2.28	7170	65	3.24	7270	64	4.44
7075	66	1.68	7175	65	2.64	7275	64	3.84
7080	66	1.20	7180	65	2.16	7280	64	3.36
7085	66	0.60	7185	65	1.56	7285	64	2.88
7090	66	0.00	7190	65	1.08	7290	64	2.28
7095	65	11.52	7195	65	0.48	7295	64	1.80
						7300	64	1.20

DECIMALS OF AN INCH	FRACTIONS OF AN INCH	DECIMALS OF AN INCH	FRACTIONS OF AN INCH
0.015	1/64	0.515	33/64
0.031	1/32	0.531	17/32
0.046	3/64	0.546	35/64
0.062	1/16	0.562	9/16
0.078	5/64	0.578	37/64
0.093	3/32	0.593	19/32
0.109	7/64	0.609	39/64
0.125	1/8	0.625	5/8
0.140	9/64	0.640	41/64
0.156	5/32	0.656	21/32
0.171	11/64	0.671	43/64
0.187	3/16	0.687	11/16
0.203	13/64	0.703	45/64
0.218	7/32	0.718	23/32
0.234	15/64	0.734	47/64
0.250	1/4	0.750	3/4
0.265	17/64	0.765	49/64
0.281	9/32	0.781	25/32
0.296	19/64	0.796	51/64
0.312	5/16	0.812	13/16
0.328	21/64	0.828	53/64
0.343	11/32	0.843	27/32
0.359	23/64	0.859	55/64
0.375	3/8	0.875	7/8
0.390	25/64	0.890	57/64
0.406	13/32	0.906	29/32
0.421	27/64	0.921	59/64
0.437	7/16	0.937	15/16
0.453	29/64	0.953	61/64
0.468	15/32	0.968	31/32
0.484	31/64	0.984	63/64
0.500	1/2	1.000	

$$\frac{468000}{\text{FREQUENCY}} = \text{LENGTH IN FEET AND INCHES.}$$

VE3HC

HAMMOND MANUFACTURING COMPANY LIMITED

GUELPH – ONTARIO – CANADA