Volume No. 1, Issue No. 1

POWER

Radio Times

Newsletter of the Medicine Hat Amateur Radio Club

OCTOBER 1993

From the Editor

In This Issue:

Departments

Next Regular Club Meeting

October 14th, 1993 at 7:00 pm
In the Old Airport Terminal

Topic: VHF and up operations
Presenters: PJB, SAH, JLL (or FRM)

Non-members are welcome!

Welcome to our Inaugural Issue!

This is Lawrence (VE6LKC) welcoming you all to our first issue of the Medicine Hat Amateur Radio Club Newsletter. This is a vert sparse issue, but hopefully in the months to come I will receive many contributions for inclusion in future issues.

Perhaps the first item of business under the club newsletter is a "Name the Newsletter Contest". I am sure some of you feel you have a better or more suitable (tasteful and clean) name for our newsletter. So, I will be accepting any suggestions for names. There isn't any prize for coming up with a name, except maybe a small credit in this column.

The next item of business as editor would probably be to let you know of all the wonderful ways of getting a hold of me.

My home address is:

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T1A 1N7

My work address is:

Lawrence Chen
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529-2162 (work)

Landline Fax: 529-5102 (home)
529-2516 (work)
Landline BBS: 526-6957
529-1610
526-5035

I also check out the Packet BBS (VE6FRM) fairly regularly.

Did I forget anything? Oh yes...I usually try to make the coffee klatches, its the only day of the week that I have breakfast.

Probably the last item of business is the future delivery of this newsletter. Mailing out the issue every month to members (and perhaps other interested parties? UCC?) would cost a small fortune. So, donations of stamps or establishing alternate delivery would be appreciated.

Finally, this is an appeal to anybody who wants to write or contribute a regular column. Send me something! Please!

73 de Lawrence (VE6LKC)

(I will also accept interesting pieces of clipart)

MASTHEAD

Editorial Staff
Lawrence Chen, VE6LKC - Editor

Contributing Staff
Fred McFall, VE6FRM - *Packet Racket*

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MHARC

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Minutes of the Club

Regular meeting: Sept. 12, 1993

The meeting was called to order by Stu (VE6SAH) at 7:10 pm with 12 members in attendance.

Minutes of the June meeting were read by PJ (VE6PJB).
* Moved and seconded by Bob (VE6RBR) and Charlie (VE6JCP) that the minutes be adopted as read.
* Carried.

Reports:
Towers:
There has been little action taken on the new tower location since the August Technical Advisory Committee (TAC) meeting.

* At present the tower at Piet's (VE6CAR) location is not ready to be erected due to a lack of concrete.

* The new tower location south of Elkwater is still in negotiations with the landowner.

We hope to have results on both of these as soon as possible.

Special Projects:
- PJ (VE6PJB) is to look into operating procedures training for our club.
- A new operator course (HAM) is to begin October 4, 1993, pending instructors and students. This course will be a slightly elongated training course, based upon the Regina manuals. There will be no answer banks available to the students.

Disaster Services:
The Medicine Hat Regional Hospital will not be capable of calling out memebers in time of an emergency. Gerry Ketner, Stu Hickey and PJ Butts are to setup and maintain a proper callout procedure for the future.

Budgetary:
Our club is still in good standing at the bank. Stu (VE6SAH) has approached the Rotary club, and they have stated that if we wish funding from their organization, we must present them with a budget and time frame for our projects.

Unified Communications Committee:
Bob (VE6RBR) commented that the UCC was in a state of limbo at present due to a lack of co-operation from some of the other clubs which were supposed to participate.

Special Projects Committee:
Milt (VE6MLD) reported that there is to be a mall display on Sept. 18, 1993, in the Medicine Hat mall. Volunteers to man the display are required.

Upcoming events include JOTA which will require operators, and a possibility of a Christmas party (possibly joint with the UCC).

Milt has requested that all members supply him with their spouse's names for the completion of the spousal roster. This list will allow us to look less foolish when we call any of our own members and their spouse answers the phone.

Jim (VE6JEM) mentioned that we need a phoning committee, and programs for the club on a regular basis. The attendance of this meeting is proof that without a phoning committee, there will only be a very small turnout!

OPEN Forum:
Jim (VE6JEM) opened this new section with the airing of his views about the lack of attendance of the meeting and the fact that there must be some special events scheduled for the meetings in order to ensure the life of the club.

PJ (VE6PJB) suggested that possibly the coffee klatches could be classed as the informative section of our meetings.

Stu (VE6SAH) said that monthly meetings at present are the same old re-hash of the same old-stuff, and he strongly supported quarterly meetings, however, he is willing to meet on a monthly basis if the meetings were to be informative rather than business based.

Bob (VE6RBR) asked what happened to the phoning committee, and the fact that he was not phoned and that if he and the rest of the membership had been phoned, he felt the attendance would be much greater.

Jim (VE6JEM), Charlie (VE6JCP), and Stu (VE6SAH) discussed a notice of motion about holding quarterly meetings. The conclusion was that this n otice of motion should be dismissed.

The club is to inform our ARLA regs (JLL and GLF) of the changes for the ARLA handbook.

The general group discussed and liked the possibility of a newsletter.

Jim (VE6JEM) was asked to be the official welcoming committee for the club's new members or guests.

Stu and Milt are to get together to develop an "image on paper" (logo) for the club.

Membership cards are required, and Stu mentioned that he has access to a laminating machine.

NOTICE OF MOTIONS:

1) It is announced to the general club that there will be a motion made at the next general meeting. This motion will be made to amend Article 2 Section 1G of our bylaws, in order to empower the executive to pay bills, send correspondence, and conduct the regular business of the club. The wording shall be such that the executive shall disperse the club funds for normal operating expenses.

2) It is announced to the general club that there will be motion made at the next general meeting of the club. This motion will be made to modify the bylaws by the addition of Article 4, section D to read: Members of the club that donate in excess of $1000 in cash or kind will receive a lifetime voting membership. This will take effect from October 1993, non-retroactively.

Bob (VE6RBR) moved that the meeting be adjourned, at 8:20pm.

Minutes of the ARLA Provincial Packet Radio Meeting

The meeting was held at the Dawe Community Centre in Red Deer, Ab. on Saturday August 28, 1993. Persons attending the meeting were:

VE6RHS	Ray Semenoff	
	Edmonton	Node Op, VE6HM
VE6AAN	Pat Byers	
	Lacombe	VE6RDR
VE6APS	Al Sather	
	Lacombe	VE6RDR
VE6BOS	John Stinson	
	Edmonton	ARLA Packet Coordinator
VE5FN	Bill Till	
	Lloydminster	New BBS Sysop
VE6FOR	Michel Fortier	
	Cold Lake	Sysop, VE6RCH
VE6TDW	Terry Wagner	
	Camrose	Node Op, VE6MIQ
VE6FRM	Fred McFall	
	Medicine Hat	Sysop, VE6FRM
VE6CWS	Dale Porter	
	Duchess	Node Op, VE6DEP
VE6CIA	Garry Jacobs	
	Red Deer	
VE6TE	Robert Walin	
	Clive	ARLA Director
VE6DE	Alan Davidson	
	Calgary	Sysop, VE6YYC

The meeting was called to order by VE6BOS at 12:40.

VE6RHS is appointed as secretary for the duration of the meeting.

All members present introduce themselves and give a brief update on packet activity in their areas.

VE6TDW briefly reviews his notes from the previous meeting. Since no minutes are available for the previous meeting, VE6BOS states that accurate minutes MUST be kept.

VE6DE moves that one BBS per geographic centre be used as a distributing BBS. VE6CIA seconds the motion. Motion passed unanimously.

VE6FRM moves that any future distributing BBS systems or upgrades to existing distributing BBS systems be compatible with the existing network. VE6CIA seconds the motion. Motion passed unanimously.

A discussion takes place on filtering @WW messages. It is agreed that sysops are already doing a good job of filtering these messages and will continue to do so.

A status report is given on the Calgary-Carbon-Red Deer path. Presently, the site will be limited to one packet channel only, that channel will probably be VHF.

A brief report is given on 4800 baud experiments by the Calgary group.

A coffee break was taken, and the meeting reconvened at 14:57.

VE6DE moves that ARLA chairs meetings to facilitate packet radio coordination in Alberta. VE6FRM seconds the motion. Motion passed unanimously.

VE6DE moves that ARLA frequency coordinators should be involved in suggesting and recording frequencies for packet radio in Alberta. VE6TDW seconds the motion. Motion is passed unanimously.

VE6FOR moves that ARLA coordinate and produce a provincial packet radio map. VE6APS seconds the motion. Motion passed unanimously.

VE6DE moves that ARLA should have a role in distributing packet radio educational information in Alberta. VE6FOR seconds the motion. Motion passed unanimously.

VE6DE moves that any new nodes installed, or any nodes being upgraded contain an IP Router. Motion is seconded by VE6FRM. Motion passed unanimously.

VE6FRM moves that we proceed towards a provincial packet radio backbone on a separate frequency, to be coordinated through the ARLA frequency and packet coordinators. Representatives from each location will present a feasibility study and frequency suggestions for their respective areas at the next meeting. Motion is seconded by VE6FOR. Motion passed unanimously.

VE6RHS gives a brief report on the Edmonton packet radio scene.

Reports from VE6RJK indicate that a path to Ft. McMurray is in the works. The VE6JET BBS seems to be working fine.

VE5FN reports that he'll be asking lots of dumb questions while setting up a BBS.

VE6TDW reports that VE6MIQ is all set up for UHF operations. VE6TDW also reports that he is looking at sites for a path toward Saskatchewan. Sites between Camrose and Red Deer are being investigated too.

VE6DE discusses the use of various UHF frequencies for packet radio. Much discussion ensues.

VE6FRM reports that he wants a reliable path to Calgary real bad!

VE6FOR asks how to get TheNet X-1H software. VE6RHS will provide.

The next meeting is set for Saturday November 6, 1993 at 12:00 in Red Deer.

VE6FRM moves that the meeting be adjourned. VE5FN seconds the motion.

Meeting is adjourned at 17:00.

Packet Racket

Or Should I say "*Paquet raquet*" or some other derivitive of those words. Packet Radio is not for everyone. The noise is totally unintelligeble to anything other than a computer, its long high pitched whistles are a waste of time for the audio clan, and on HF they always seem to be where we want to be for DX hunting! So what is all of this noise about?

Well it seems to be a fairly efficient way of DX on the VHF airways. For example, even though we do not have a voice link to IPARN it was possible for VE6GLF in Ontario to communicate home at any hour of the day! True it is not "real time" but considering that the person that you are talking to does not even have to be there at the time, it has its advantages. We are experiencing some trouble in some of our long distance connections, but we are still limping along. The messages that Gerry (VE6GLF) sent from Ontario took about 4 hours to get here. Not bad for a broke system, eh?

The true DX guys of our club that are trying for keyboard to keyboard contact to the far reaches of the world are experiencing problems. We have a lousy link to Calgary's BOJ conference node. VE6CWS and the rest of the world are attempting to clean up your problem as soon as possible, and at the same time I still think back to JEM's comment: "It is as exciting as watching paint dry"

Packet has its place.

We proved that it is not the universal answer to everyones prayers, this summer at the stampede. The packet team thought that they fell on their faces!, but even with the dismal failure as far as we are concerned, the Cable-10 people thought that it worked great! Better Luck next year Team!

The minutes of the Red Deer ARLA packet meeting are included in this newsletter, and I hope that they will clear up most of the concerns of the members as to what good this system is, and why we should even continue on the line we are presuing! If you have any questions, holler... 147.060 is a good answer ground, or even 145.110 (for most of the packeteers).

More Next Month, if you want it..... until then BRRRAAAAAAP!

Best 73. Fred VE6FRM

USENET ANTENNAS

Article 187 of alt.radio.pirate:
Newsgroups: alt.radio.pirate
From: Delta@sound.demon.co.uk (Steve K Brown)
Subject: Re: FM broadcasting
Organization: Sound & Vision BBS (UK) 0932 252323
Lines: 140
Date: Fri, 16 Jul 1993 15:40:10 +0000

2 Metre Slim-Jim antenna (JIM = J Intergrated Match)

```
                |    | --Spacing approx 1.24 - 1.5 inch

^                /\
|               /  \
|               |    |
|               |    |
|               |    | -----Elements .25 or 3/8in
|               |    |      alloy or copper
|               |    |
|               |    |
|               |====| Insulating support bridge
|               |    |
| Length        |    |
| 58.5 inches   |    |
|               |    |
|               |    |
|               |    |
|               |    | _____
|               |    # _____ Insulator Approx 1in long.
|               |    |                       {----
|               |    |                          ^
|               |    |                          | 19in
|               |    |                          |
|    Cover with +    X Feed point 3in from bottom.
|   plastic box |    |     ^                    |
|               |    |     |   + = centre conductor
|               |    |     |   X = shielding    |
v__             ------     v                    v
```

NOTE: All dimensions are for 2Metre Ham band.

DESCRIPTION:

This is a vertically polarised omnidirectional free space antenna for 2 metres, but will operate in the same way for other higher or lower bands by scaling the dimensions accordingly.

It has a radiation efficiency 50% better than a ground-plane antenna due to its low radiation angle, it is unobtrusive and has no ground-plane radials and therefore low wind resistance.

Why Slim Jim? Well this stems from its slender construction (it is less than 1.5 m (60 in) long for 2 M operation) and the use of a 'J' type matching stub (J integrated matching = JIM) that facilitates feeding the antenna at the base thus overcoming and problems of interaction between feeder and antenna. The feed impedance is 50 ohm.

Why is the Slim Jim so much more efficient than the popular 5/8 wave or other ground plane antennas, despite the latters claimed 3dB over a dipole? The polar diagram (NO! I aint gonna do that in ascii !! -Steve) provides the answer. The Slim Jim vertical angle of radiation is almost parallel to ground so maximum radiation is where it is needed, straight out and all round. (The diagram illustrates that the vertical angle from the SJ is 8 degrees, while the common 5/8th wave ground plane antenna is about 32 degrees -Steve) With all ground planes, including those with radials an entire wavelength long, the vertical angle radiation is tilted upwards at an angle of 30 degrees or more. This gives the Slim Jim a gain over a 5/8th wave of 6dB when measured parallel to the ground !!

OPERATION:

Basically it is an end-fed folded dipole operated vertically. The matching stub provides a low impedance feed point (50 ohm) at the base and couples to the antenna section at high impedance at one end. As with all folded dipoles, the currents in each leg are in phase, whereas in the matching stub they in phase opposition, so little or no radiation occurs from this. Corrrectly matched, the VSWR (Voltage Standing Wave Ration -Steve) will be much less than 1.5:1 and remains so across the band.

CONSTRUCTION:

The Slim Jim may be constructed from 6mm or 8mm (1.4 or 3/8 in) diameter alluminian tube (I used 1/2 inch copper water pipe -Steve), stiff galvanised wire or 300ohm ribbon feeder (didnt perform as well as copper tube -Steve). The spacing between the elements is not critical and neither is the overall length, provided it is within 1/4 in of the desired dimension. The feed connection can be protected against weather by a small plastics box. Insulation must be fitted between the return half of the folded radiator and the top of the matching stub (like hell did I do this! I just left an air gap as the construction [copper water pipe and soldered connectors] was so sturdy) *** The antenna **MUST** be insulated from the mast it is mounted on, I used a short length of wooden broom handle (:

TESTING:
Stand upright (on a railing or something, but clear of metal water tanks, drainpipes etc) and fit the coaxial cable to the antenna with some crocodile clips. Attach about 4/5 inches up from the bottom and check the VSWR. Adjust the croc clips up or down to get the best match (mine managed 1.2:1), mark where they are to go and remove the croc clips and solder the coax direct.

Article 1060 of rec.radio.amateur.misc:
Newsgroups: rec.radio.amateur.misc
From: edh@hpuerca.atl.hp.com (Ed Humphries)
Subject: Multiband Wire Antenna
Summary: Simple proven multiband wire antenna plan
Date: Wed, 14 Apr 1993 18:08:07 GMT
Organization: Hewlett-Packard NARC Atlanta
Keywords: wire antenna g5rv
Lines: 55

Multiband Wire Antennas
By Ed Humphries - N5RCK

The March 1991 issue of CQ Amateur Radio contained yet another discussion of multiband wire antennas. In his column "Radio FUNdamentals", Bill Orr, W6SAI writes about the original W9CXX multibander with its' complex copper tubing matching section. He then goes on to discuss the popular G5RV developed by R. Varney, which is widely built and commercially available. Orr points out the deficiencies of the G5RV: when built in the original design it delivers reasonable SWR on the 7, 14, and 24 MHz bands, but into a 75 ohm coax feedline that is awkward to load up on modern transceivers; when built with 50 ohm coax the SWR is poor on all bands, but it performs reasonably well when used with a "transmatch" antenna tuner.

The column skips over an intermediate antenna design discussed in the March 1986 issue of Ham Radio. Bill's column back then pointed out that W5ANB first proved you could successfully modify the G5RV, load it with 50 ohm coax and run without any antenna tuner. But the best design (so far HI) he discusses in both articles is the one by ZS6BKV. Brian Austin used computer modeling to help him design a 5 band tuner-less antenna. Orr's CQ column reprints the design using only the dimensions for a 300 ohm matching section (I presume TV flat lead qualifies). In his original column Orr also presented the figures for using 400 (handmade open-wire leads) or 450 ohm (ladder-line) as the matching section. Since 450 ohm ladder-line is somewhat stronger than the commonly available 300 ohm TV lead-in, I'm here giving both sets of figures so you can make your own choice.

```
<90' 3" for 450 ohm matching section or 92' 2" for 300 ohm>
o----------------------------oo----------------------------o
                             ||
        The ZS6BKV Antenna   ||
                             ||
                             || 40' for 450 ohm
                             ||
                             || 36' 9" for 300 ohm
                             ||
                             ||
```

At the end of the matching section Orr recommends a 1:1 balun; others would say that several loops of coax at the feedpoint will do as well to help keep rf off the feedline. The feedline to the transceiver is common 50 ohm coax; RG 58/U is fine for hf for most runs. This antenna should give low SWR on 7, 14, 18, and 24 MHz bands. At 28 MHz the SWR is really only good from 28.5 to 29.0. Tests showed the best SWR curves when the antenna was erected at about 42 feet above ground. When run as an inverted-V (90 degree) the resonant frequency came down 80 kHz for 14 MHz and 125 kHz for 24 and 28 MHz. The March '86 article printed SWR curves, and the March '91 article printed field patterns for all 5 covered bands.

Article 1061 of rec.radio.amateur.misc:
Newsgroups: rec.radio.amateur.misc
From: edh@hpuerca.atl.hp.com (Ed Humphries)
Subject: Copper Tube J-Pole
Summary: rugged, easily constructed copper tube J-pole
Date: Wed, 14 Apr 1993 18:13:37 GMT
Organization: Hewlett-Packard NARC Atlanta
Keywords: jpole copper pole
Lines: 59

The Copper Tube J-pole
by Ed Humphries - N5RCK

The following is a description of a J-Pole antenna made from copper pipe. You can use 1/2 inch to 1 inch pipe (wall thickness will affect stiffness/stability AND price, but not performance). Larger diameter pipe increases bandwidth, but 1/2 inch is fine for amateur frequencies. Start with a 10 foot (standard) length of pipe, 1 90 degree (right angle) fitting, 1 "tee" fitting, 2 end-caps, 2 hose clamps (worm-gear adjustable of the appropriate diameter), and your coax (end stripped, braid separated, center conducter stripped, and coax sealant to close opening in coax to keep water out). Use a tube cutter (for best/easiest results) and cut the 10 foot pipe according to the dimensions needed following the diagram below:

```
                          __
                            | <=endcap
                            |
                            |
                        5/8 |
                         or |
                        1/2 |
                       wave |
                            |
                            |
                            |
                         -- |   | <=endcap
                            |   | 1/4
                            |   | wave
                            |   |
    coax ctr conductor=>*   *<= coax shield
                            |   |
                     @ 5"-->|   |
                     tee =>  ---  <= elbow
                            |
                            | < "leftover" pipe
                            |
```

For best general purpose use, the 5/8th wave version should be used. The dimensions to cut are: 66 1/2 inches (5/8 + 1/4 matching section), 19 inches (other half of 1/4 matching section), 3/4 inch (joins the tee and the elbow), and the "leftover" 33 3/4 inchs that forms the base. Use standard plumbing solder methods to join main section to base using the tee. Use the 3/4 inch piece and the elbow to attach the 19 inch piece. Be careful to keep pieces parallel.

This will give you a center frequency of 146 MHz. Attach the coax as shown using the hose clamps. Adjust the swr at 146 MHz by sliding the connections up or down as needed -- you should be able to reach very close to 1:1 (best to do this in approximately where you intend to use the antenna - the base can be attached directly to a mast by two hose clamps). Try not to be standing right by the antenna!

It has been noted that this design can lead to rf coupling onto the feedline. To avoid this, put a ferrite on the coax at the feedpoint, or use 3 turns (@1") of the coax taped together at the feedpoint.

Other center freq dimensions: (adjust 5/8 section accordingly). 144 =19.25 inches, 145 =19.12, 146 =19, 147 =18.86, 148 =18.73.

Article 1062 of rec.radio.amateur.misc:
Newsgroups: rec.radio.amateur.misc
From: edh@hpuerca.atl.hp.com (Ed Humphries)
Subject: TV Twin-lead J-pole
Summary: A Handy, easy to carry j-pole
Date: Wed, 14 Apr 1993 18:18:23 GMT
Organization: Hewlett-Packard NARC Atlanta
Keywords: twin-lead jpole
Lines: 68

A TV Twin-lead J-pole
by Ed Humphries - N5RCK

The following is a description of a J-Pole antenna made from 300 ohm TV twin-lead. They have quite a few advantages which include improved performance for 2-meter HTs, portability, and low cost.

```
             |   | do not short this end.
             |   | (when trimming for vswr, cut both sides)
             |   |
             |   |
             |   |
         3/4 |   |     Technically-speaking, this is a 1/2
        wave |   |     wave end-fed antenna with a 1/4 wave
             |   |     matching section.
             |   |
             |     1/4" gap
             |   |       (trim for vswr _below_ gap)
             |   | 1/4
             |   | wave
             |   |
coax ctr cnd=>*   *<= coax shield
       1 1/4"-|   |
             -*-  solder the twin leads together at bottom
```

For a center frequency of 146 MHz:
1. Start with @54" of TV twin lead (flat, NOT foam core)
2. Strip 1/2" of insulation at bottom and solder wires together.
3. Measure 1 1/4" from soldered wires and strip insulation on both sides. This is the solder point for a coax feedline.
4. Measure 16 3/4" from coax shield solder point and cut out 1/4" notch.
5. Measure 50 1/3" from coax center conductor solder point and trim off twin lead at that point.
6. Feed with a length of RG58U coax. Tape coax at feedpoint to the twin lead for strength and seal coax for weather protection.

To get the best possible match, in step three above simply MARK the "solder points" and measure from the mark for step 4 and 5. Now solder straight pins to your conductor and your shield. Insert the pins at the marked point and test for VSWR at the design frequency (146MHz). If necessary, probe up or down till you reach 1:1 (close as possible). Solder at the best points. To try this, you may want to start with the twin lead a little long and trim down to resonant length - note: you'll need to trim in a 3:1 ratio to maintain the 3/4 to 1/4 wave.

It has been noted that this design can lead to rf coupling onto the feedline. To avoid, put ferrite beads on the coax at the feedpoint, or use 3-5 turns of coax (1"-2") taped together at the feedpoint.

You may attach an alligator clip to the plastic on the top of the antenna in order to easily hang it. Alternately, punch a hole near the top and use a length of fishing line to hang.

This design appears on many BBSs, in club newsletters, and in books; the earliest reference that I know of is a Jan. 1984 D.A.R.C. antenna article by James Burks, KA5QYV. This antenna is relatively broad-banded and will be more than adequate if simply built as noted in steps above.

FYI, the 1/4 wave sections for other center frequencies are:
144 MHz =17 inches, 145 =16.88, 146 =16.75, 147 =16.65,
148 =16.54

I usually just go ahead and solder the coax in place and trim down to as close to 1:1 vswr as I can get. I use the MFJ vhf antenna analyzer and a frequency counter then afterwards test with a radio and in-line swr/power meter. When done, the antenna should also present 1:1.2-3 vswr in the center of 444MHz band as well (demonstrated on my dual-band meter and Alinco DJ-580).

Newsgroups: rec.radio.amateur.misc
From: bsieker@techfak.uni-bielefeld.de (Bernd Sieker)
Subject: HB9CV uuencoded GIF
Date: Wed, 9 Jun 1993 11:32:30 GMT
Organization: Universitaet Bielefeld, Technische Fakultaet.
Lines: 230

I got so many asking for the HB9CV design that I will post it publicly.

OK, here comes the uuencoded gif of the HB9CV design for the 2m amateur band (it is designed for the european center frequency 145 MHz, so for the U.S. center frequency 146 MHz it might have to be build slightly longer.

All lengths given are in mm.

The boom and elements should be made of 6-10mm aluminium.

The feeding line should be made of 2mm-wire and have 4mm distance to the boom and elements. it should not have conducting contact to the rest of the antenna except at the feeding points. The Capacitor C is used for trimming to best SWR. At the points A and B a coaxial 50-ohm wire can be directly soldered to the boom/element crossing and the feeding line.

The main beam direction is the direction of the shorter element (of course).

Wanted!
LARGE
or
small
Articles

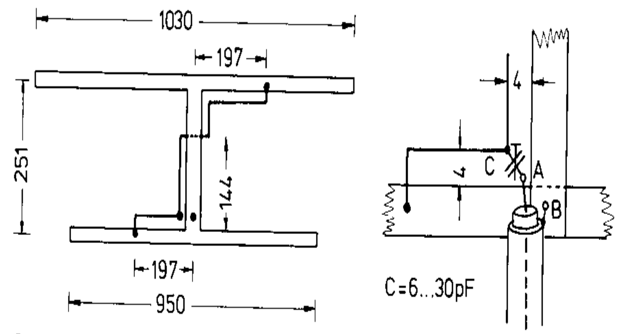

Bild 31-25: HB 9 CV-Antenne für 145 MHz

FCC BANS HAMS FROM USING DUCKIES!

In a surprise move today, the Federal Communications Commission banned the use of Rubber Duckies by Amateur Radio operators. Citing as their reason for the unusual ruling, FCC Chairman James Juello said, "We have recently found after a 2 year investigation, that the Amateur bands are getting further and further crowded by irresponsible operators who continue to violate the Communications Act and transmit with total disregard of Amateur procedures." Juello further stated that any Ham caught with a rubber duckie will have his license pulled.

Ed Hairless, spokesman for the American Radio Relay League, the Ham Radio organization in Newington, CT said, "The research by Psychologists and Forensic Psychiatrists hired by the league, have unanimously come to the conclusion that any Amateur that has a rubber duckie, or any other facsimile of a water fowl, floating in their bath tub is too immature to hold a license."

Reaction by hams to the ruling has been mixed. King Insain mentioned that when visiting the US he usually had a rubber swan since it takes too much time for the real swans he shares his royal swimming pool with to get through the customs department’s quarantine. Former Arizona senator and presidential candidate Barry Coldwater said, "Heck, I was hoping they’d forbid the antenna they also call ’Rubber Duckies’. It would have been a perfect excuse to use the rod antenna on my HT as an electric cattle prod on Democrats’ behinds."

How the FCC will enforce the the new rule is questionable, but Judd Slapback, the chief enforcement officer for the New York office says that they expect to be paying surprise visits to randomly selected hams on Saturday nights, usually in the early evening. "We’ll be accompanied by armed US Marshals and camcorders when we arrive, hoping to catch the violators in the tub with the illegal devices", continued Slapback.

Expecting backlash from enviornmentalists and the military, the FCC is reserving it’s decision on whether or not to extend the ban to toy Whales and Submarines.