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BULLETIN ISSUED BY THE NORTHERN ZONES OF THE
WIRELESS INSTITUTE OF AUSTRALIA TASMANIAN DIVISION

P.O. BOX 10 10,
LAUNCESTON,
TAS. 7250.

JULY
VOL. 1 NO. 3

REGISTERED AT G.P.O. HOBART
for transmission by post as
a Periodical. CATEGORY B.

PRICE 5¢.

PAGE 1

"The Ham fraternity is the greatest in the world".

I once heard this said by a W operator to a VK7 prior to his departure on a world trip. Doubtless the VK7 had this proven before he arrived home. From experience I endorse this remark. Hams are a friendly lot. They bar neither colour, creed, nationality nor sex. They work Democrat or Communist alike; it's the common interest that counts.

A Ham in trouble draws help like ants around a honeypot.

The only place where there seems to be any difficulty is on the home front. Possibly this is due to the fact that to be involved in the working of a governing group, one must leave the shack and the operating bench and meet and talk man to man. In the meeting room there are no restrictions on subject, point of view or choice of language. People react in a different way under different circumstances.

The Wireless Institute is something that we cannot do without, even if sometimes we think we could. Only by presenting a representative and united front to the powers that be can we exist and enjoy the privileges which we take for granted. If anyone doubts the wisdom of this statement, try a half hour discussion with our worthy federal councillor, 7EJ, on the subject. You will find it most informative.

So, if the Institute is necessary, state Divisions naturally follow, and Divisions do not run themselves. Few people realise the time and effort involved in running a Division. It is unfortunate that the governing body has to be remote from many of its members, and this is overcome by a compromise, the ZONES. Herein lie some of our difficulties.

Let's be honest about it. There are times when the Zones feel neglected, at other times Division feels that Zones could be more co-operative. The Division appeals to Zones for information and nothing happens. A Zone or a member contributes or asks for something and is overlooked. These are difficulties which should be aired and ironed out in a friendly manner.

Part of the trouble appears to be lack of support. Twisting the words of a famous statesman let us say "Never was so much done in such a short time by so few".

It behoves all members, I repeat, all members, to try to take an active part in the Institute. We can all do something no matter how small. It all helps. You will get very little out of any organisation unless you put something into it. I speak from experience.

So why not take the coat off, pull up the socks and next time there is something on, embarrass the Chairman with a mass offer by everybody present. Don't leave it to the chap next door. Try it for twelve months and you could be agreeably surprised.

VK7MX.

The Northern Zone meeting was held on June 11th to a capacity gathering of members. New faces at the meeting included visitors TONY 7AX and HAROLD 7MZ from the North West and BRIAN 7RR from Hobart. Members were told that the publicity campaign to stimulate interest in the W. I. A. was proving very successful. Also the equipment store turnover for the Month was excellent (thanks to KEVIN 7ZAH). The president opened an appeal for Australis and donations of \$12.00 were received, but we still need more. What about it.

The evening concluded with two very interesting colour films on the manufacture of ICs and experimental work with Lasers.

The next meeting will be Friday, 9th July. As Council will be paying us a visit, let's all turn up and make their visit one to remember. Also, we are re-instituting supper: the idea being that you bring a plate!

CONGRATULATIONS to BOB7ZRF and XYL MARGARET on the arrival of a Baby girl. Bob now qualifies for membership to the "Nappy and Diaper changing Union".

HAVE you seen any U.F.O.s with the markings VH7-DK or VH7-ZMH. Well they are radio controlled and belong to DEN and MIKE so please fellows no trans-missions on 11 meters.

TROUBLE

Did you think you were the only one to have trouble. D.C.A.'s navigational beacon is almost impossible to keep on the air, it keeps going off! Doesn't it Peter?

Saw LINDSAY 7ZLD pushing his car, he tells me the battery keeps going flat, seems he's forgotten there is a switch on the 1674. But if it's on that much how come we don't hear you mate?

JOE 7ZGJ has had his share too, he connected the battery to his 2M. FM carphone the wrong way round and these little FET fellows didn't like it!

AND how's this for trouble:

Seems this chap had an electronic implant controlling his bladder outflow, triggered by a handheld Radio unit. Unfortunately it was triggered by a nearby Police car Radio - the occupants of which promptly arrested him for soiling the pavement!!

REG 7KK in the news again. Neighbour who is hard of hearing listening to his transmissions on 2M AM with her hearing aid. Don't go to SSB Reg. she may ask you to install a B.F.O. in the darned thing and that's a heck of a job!

NEW GEAR

PETER 7PD now the proud owner of a FL 1000 Linear. More QRM!
BILL 7AK using a 40ft. aluminium fishing pole as a vertical on 40M.
CHRIS 7JX had a team of men pushing a new tower up for him. I wonder what will go on top, HF or VHF?
ROBIN HARWOOD now listening on 2 and 6 meters with his new VK3 converters.

HEARD MALCOLM 7ZMS portable on Mr. George working somebody on Ch.B. Good thing hope to hear more of you Malcolm.

BILL 7AK working on OE8 on 40M no doubt on the vertical.

DEN 7DK working fellow Taswegian DOUG 7AZ Portable Willis Island, new country DEN?

JOHN 7JV working JIM ZM7AG on Tokelaus - that was definitely a new one!

That's it fellows use them, and keep them and keep TASSIE on the Map!

NORTH WESTERN ZONE

Our June meeting on the first was well attended including 7JV and 7ZAH from the North. Great to have them with us. A number of important Zone matters were dealt with embracing membership, fees, etc. and conclusions reached which it is believed will benefit the Zone. A comprehensive lot of equipment received from H.Q. was displayed and some taken up. Following the meeting a lecture was given by 7MX on construction of vertically polarised antennas for home and mobile use.

As our store is now in possession of cheap fibre glass rods, no doubt there will be some 5/8 loaded whips in use shortly.

Two meter net activity is still thriving in the area, this being ideal for across town communication. Long technical discussions are often heard and some interesting mail reading is to be had.

One thing overheard was some work on 6 metre equipment going on between 7LH and 7ZGR.

Stations likely to be heard are 7MZ, 7LH, 7AX, 7ZBE, 7ZRG and 7MX and occasionally mobile visitors.

7PD was contacted recently passing through and judging by the rapid fade out of his signal he was in a hurry.

There's one thing about the FM net, it doesn't take 400 watts PEP to talk across town.

7LH has a weird and wonderful array up the stick and it's working very well.

7MZ staggered off towards Port Sorell the other day with a load of cards for 7KB. F.B. Ian, you are certainly keeping us on the map!

Prior to our meeting 7AX was proudly displaying some weird patterns on a TV screen. They appeared to be coming from a black box on the bench.

A word of warning to visitors, don't spill ash on Tony's pile carpet, it's hard to pick up!

Saw Brian 7ZBE with a most interesting visiting card the other day. He's up to something for sure!

Harold 7MZ is still experimenting with the X beam on 14 M/H2.

Ken 7KH recently attended a Japanese party of some sort in the midlands. Apparently there was some strange talk and traditional Japanese food. Ken came home full of it. Ah so Ken.

NEXT meeting JULY 6th and ALL WELCOME.

A prominent member of the North West Zone is in possession of THE SPOON. It has been decided to extend its field of activities to the Northern Zone. Spies are active - so be warned.

COMING EVENTS

- | | |
|--------------------|--|
| JULY 6th | NORTH WEST Meeting - Lakin's Hall, Ulverstone - lecture by BRIAN 7ZBE on db. |
| JULY 9th | NORTHERN ZONE Meeting - Council visit and talk by 7PF on Equipment required for A.C.B. - A.E.B. Rooms, 51 York Street, Launceston. |
| JULY 10th | Council Meeting at Fire Brigade H.Q., Devonport - start 10.30 a.m. |
| JULY 1st - 31st | Winter V.H.F. Contest VK8AH - Details April A.R. |
| JULY 3rd & 4th | ZL Memorial Contest 80M only (good practise for R.D.) |
| AUGUST 14th & 15th | R.D. Contest. (Remember your log is required if we are to win the trophy). |

THERE IS a VK7 Round-up every Wednesday 7.30 p.m. on 3670 KHZ. How about joining in.

MT. GAMBIER CONVENTION

Five VK7's would rate the 12th and 13th June as a weekend well spent. Pilot STEVE 7SR, Co-pilot DAVE 7ZDV, JOHN 7JV, KEVIN 7ZAH and REG 7KK dropped in on the 7th South East Radio Group "Do" during the month. It seems remarkable that the 7 local hams (and their XYL'S) can put on such a good turn attended by 65 Hams and others from Adelaide to Melbourne and beyond. Rather a different show than we are used to. Most participants stayed in local Motels (imagine 25 crammed into a single Motel Room swapping "exploits" until the wee small hours).

For a mere \$5.00 registration fee, meals (an understatement) were thrown in at the convention centre, a Hall on the outskirts of town. Cabaret entertainment occupied one evening. Sunday was filled by a definite programme of scrambles, sniffer fox and transmitter hunts - 6 in all.

I guarantee the locals must have thought the Martians had arrived judging by the ridiculous antennae some people insist on loading on to their cars. They take it seriously too. One VK3 had his callsign printed in 1 ft. high letters on the side of his car and his super hunting antennae makes 3AVW the awe of the foxes throughout VK3 and 5.

You need to be on the ball. The sniffer TX was in, what appeared to be a contestants' pocket. The 2M TX was buried in the fifth row of pine trees in a plantation, switched on and off by remote control. These events yielded about 15 prizes, so many in fact that even KEN 3ZNJ and DARRYL 3 AQR managed to get one.

The major gain from such a weekend, of course, is the fellowship and exchange of ideas one obtains with those who are otherwise just names and callsigns.

The only remaining question is - why can't we run a show like this in VK7.

REG 7KK

FOR SALE

Eico 753 3 Band Tranceiver, (80, 40 and 20) with matching power supply 751. \$180.00. This unit can be heard every Sunday morning, as it is used for the 7WI Broadcast on 80M. Full details from TOM MOORE, 7PM, 23 McGuinness Cres. LENA VALLEY. TAS. 7009.

CODAR AT5 miniature (approx. 9"x5"x4") AM/CW transmitter 12 watt 160/80 modified for 40M.

240V AC power supply C.U.

12V DC P.S. and Remote C.U.

SWR Meter, dummy load A.T.U., R.F. power meter - The lot - \$80.00.

TYPE 4RF joynatch ATU with RF power meter 160/10M - \$5.00.

8 Elen. 2M beam - \$3.00.

4 Elen 4M beam - \$2.00.

FULL DETAILS From: BOB TROTT 7MT, 186 Punchbowl Road, Launceston. Ph. 441392.

* *****

ZONE FEES

These are now due. North and North West Zone members - remember your zone provides many of the facilities available in Hobart - help it by sending your dollar. Complete the form below if you're unfinancial.

TO:

Northern Zone, W.I.A. Tas.,
P.O. Box 1010,
LAUNCESTON.

TO:

North West Zone W.I.A. Tas.,
P.O. Box 12,
EAST DEVONPORT.

NAME.....

CALL.....

ADDRESS.....

.....

PROJECT MOONRAY

MOONRAY'S primary purpose is to serve as a free-access UHF repeater for world-wide line-of-sight amateur communication and experimentation within the Internationally allocated 70 cm (432MHz) band. A secondary function will be its capability to serve as an emergency back-up voice communication link for our Astronauts in the event of an unlikely (but possible) breakdown or failure of their regular communications system. MOONRAY can also be used as a landing-site relocation beacon for homing-in on the site at some later date. If the laser experiment is successful, location accuracy will be better than two feet.

MOONRAY 1 will contain a highly sensitive low-noise receiver, a signal processor, an identifier, a timer-cycler-sequencer, six to eight channels of telemetry, and a laser receiver with optics. Power will be supplied by an isotope-fueled thermoelectric generator having a half-life of 87 years. Thermal controls, antenna, pointing system and all auxilliary and ancillary devices will be self-contained. The final configuration of the flight hardware package will be in the form of a louvered metal cylinder about six inches in diameter and ten inches long. Three retractable (or folding) legs will be used for support and levelling purposes. A special pointing mechanism will be provided to insure accurate line-of-sight to earth when the antenna is being pointed. The up-link frequency will be 439.9 MHz and the down-link 430.1 MHz. A 10 KHz passband on both links will accept all modes of modulation and/or transmission. Recommended modes (by order of preference) are:

CW, FSK, MCW, AFSK, NBFM, SSB & AM

MOONRAY'S call sign will be the identifier SS in Morse code (... ..) transmitted every ten minutes along with a telemetry sequence. Translator (repeater) operation will be on a 24-hour per day continuous-duty basis with only one minute interruptions each ten minute period.

Amateur ground-stations should have high-gain, (15 db. minimum) antennas capable of tracking the moon; low-noise (3db. maximum) 430.1 MHz crystal-controlled converters and stable, tunable IF's (a good communications receiver). Transmitter power estimated adequate for CW use about 50 watts output on 439.9 MHz. More power will be needed for other modes of operation, progressing from 100 watts for FSK to a Kw for slow-scan TV.

VK7MK CLUB STATION OF KINGS MEADOWS HIGH SCHOOL

This station has now been in operation for 12 months. In that time contact has been made with 34 countries of which 22 have been confirmed. Contacts have been made on 15, 20 and 40 meters S.S.B. using an FTDX100, home brew linear and 20 and 40 meter dipoles. The station has had some very interesting QSO's with other school club stations, some of them being:

	VK3BBY	SHEPPARTON SOUTH TECH.
	VK3BHT	BOX HILL BOYS TECH.
VIA	VK3AUH	CASTLEMAIN TECH
	VK3BDB	GEELONG GRAMMAR SCHOOL
VIA	VK7ZX	LAUNCESTON MATRIC.
	VK3API	MELBOURNE PMG TRAINING SCHOOL
	VK3ATM	MELBOURNE UNIVERSITY
	ZM2AKP	ST. PATRICKS COLL. (WELLINGTON)
	VK2AXK	WAVERLY COLL.
	VK1DH	DEAKIN HIGH

The club operates Tuesday to Friday 12.30 - 13.00 E.S.T. and Wednesday 15.30 - 16.00 Operation is mainly on 40 meters although we are likely to be found on 20 or 15 meters if the band is open. The club now also has a 2 meter F.M. unit on Ch. B. on which some local contacts have been made.

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Operators during the past year have been PETER HODGE, PETE SZOKA, RODNEY MILNER and GRAEME REARDON all under the "EAGLE EYE" of REG VK7KK.

Club members are also engaged in constructing various projects, some of them are: crystal sets, one transistor and reflex sets, sirens and low voltage regulated and variable power supplies. These projects are

part of the qualifications in Y.R.C.S. of which this club is a member and some of the members have already gained their certificates.

The Club may be contacted by any station wishing to make a sched. with any of its members for the above time at:

P.O. BOX 49,
SOUTH LAUNCESTON. 7250.

LEN VK7BQ desires me to convey his sincere thanks and appreciation for all the good wishes received from Launceston, Hobart, N.W. Coast and Victoria on the occasion of his birthday. Len says it is very heartening to hear from so many remembrances of early days of Radio.

TO THE EDITOR:

Dear Sir,

As a newcomer to W.I.A., having previously been a member of R.S.G.B., I have recently received the last two copies of C. R. M. and notice you have been seeking comments. As yet I have not attended any local meetings, something I hope to remedy in the near future, and think it fills the gap for someone in my position who knows few local amateurs, yet likes to keep up with events and personalities.

Yours faithfully,

BOB TROTT, VK7MT.

QUESTION: Is an amateur permitted to use two way apparatus on the citizen band under his current license, or is a special permit required. 7LH.

ANSWER: An Amateur License allows the operator the use of all amateur bands within the limits of his license.

In Australia the citizen band extends from 27.230 MHz up and operation within this band requires a separate license.

A point worth mentioning is that there is an amateur band from 26.960 MHz which you may use under the terms of your license. However, in some countries this band is used as a citizen band and an amateur may exchange messages only with other amateur stations he is not allowed to engage in QSO with citizen band operators.

7JV.

Dear O.M.,

Congratulations on the new Bulletin - although I usually listen to the Sunday broadcast, the written word can be referred to a second time. I enclose a small donation in appreciation.

Periodically, we read various articles on antenna for the licenced ham. Would it be possible to print a short para on the best general purpose antenna for the average receiver. I am using a Lafayette HA-225. If not, could you suggest the best handbook covering this subject.

73's BOB JACKSON.

THE CHOICE OF AN ANTENNA is usually a matter of personal preference and location. There are however, a number of important considerations. If you only listen on Amateur Bands your best bet is an antenna which is resonant on your favorite band or bands e.g. the G5RV (R.S.G.B. Handbook) which covers the 5 bands from 20M to 10M. Also the multi band dipole or trap dipole could produce good results. If you are interested in general coverage then I would suggest a long wire, as long as possible and as high as possible with one of the three feed systems to suit you.

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1. A single wire feed from the end of the aerial
2. A twin wire feed (e.g. TV Ribbon) either end or centre feed.
3. Either of the above but with an aerial tuning network between the feed and the receiver. In all cases a good earth is required. 7ZX

EQUIPMENT STORES

The Northern Zones equipment store sales are still well up. Equipment to the value of approximately \$100.00 is held in stock continuously. The items marked * are also available from the North West Zone, prices may vary slightly due to postage.

Northern Zone Contact: KEVIN HENRICKS, 8 Clarendon St. Youngtown.
PHONE - Home 469772 or Work 321208.

North-West Contact: HAROLD HANCOCK, 7M2, 6 Highview Cres. Devonport.
PHONE - Home 244784

* 2N3055	1.60	ea.
2N3563	0.60¢	"
* 2N3564	0.60¢	"
2N3565	0.60¢	"
SE1001	0.30¢	"
* 2N1637	0.15¢	"
2N406	0.15¢	"
2N408	0.15¢	"
MPF102 JFET	0.50¢	"
MPF121 MOSFET	0.90¢	"
3N140 MOSFET	1.90¢	"
* 2N5245T1588JFET	0.90¢	" (this price may go up to \$1.30 due to customs)
* 2N3819 JFET	0.70¢	"
MC1550G I.C. R.F. I.F. AMP.	\$1.30¢	ea.
LM370N I.C. Audio Squelch & A.G.C.	\$4.00	ea.
EM408 DIODE 100 P.I.V. 1amp.	0.50¢	"
10 MFD 65 VW Non Polarised Capacitors	10¢	"
9V Zener Diodes. 340 mw	0.40¢	"
470 PF Button Bypasses	0.50¢	"
0.7-6 PF Trimmers Ceramic	0.25¢	"
1.5-9 PF PTFE Trimmers	0.25¢	"
1.5-12 PF PTFE Trimmers	0.25¢	"
* NEOSID FORMERS	0.05¢	"
* SLUGS F29 and F16	0.04¢	"
* SINGLE CANS	0.07¢	"
* DOUBLE CANS	0.08¢	"
XTAL SOCKETS D type for P.C.B.	0.20¢	"
PACK OF 5 VALVES 1-6A K5 2-6AU6		
2-6BA6	1.00¢	"
B/Lee Coax Sockets for P.C.B.	0.20¢	"
RESISTORS 1/2W Individual Values	0.04¢	"
* Relays 4 Change over contacts		
12V Miniture	2.50¢	"
* Socket for Relay	0.45¢	"
B/Lee standard sockets	0.25¢	"
B/Lee Alum Plugs	0.30¢	"
* W.I.A. Car Transfer	0.15¢	"
* QSL Stickers. Sheet of 40	0.50¢	"
* Fibre Glass Blanks for Mini-whips		
and 5/8 2M whips	1.50¢	"
T.C.A. 1674 Circuits	0.50¢	"
Handbooks AWA MR-20B FM Carphone	0.50¢	"
* Call Books 1971	0.95¢	"
* Log Books and Air Dux Coils		
THE FOLLOWING ITEMS ARE STOCKED BY NORTH WEST ONLY:		
MR2P Meter 1MA	\$5.00¢	ea.
" " 50 Ua	4.20¢	"
XTAL MICROPHONES		

may vary slightly due to postage.

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0.7-6 PF Trimmers Ceramic	0.25¢	"
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PACK OF 5 VALVES 1-6A K5 2-6AU6		
2-6BA6	1.00¢	"
B/Lee Coax Sockets for P.C.B.	0.20¢	"
RESISTORS 1/2W Individual Values	0.04¢	"
* Relays 4 Change over contacts		
12V Miniature	2.50¢	"
* Socket for Relay	0.45¢	"
B/Lee standard sockets	0.25¢	"
B/Lee Alum Plugs	0.30¢	"
* W.I.A. Car Transfer	0.15¢	"
* QSL Stickers. Sheet of 40	0.50¢	"
* Fibre Glass Blanks for Mini-whips		
and 5/8 2M whips	1.50¢	"
T.C.A. 1674 Circuits	0.50¢	"
Handbooks AWA MR-20B FM Carphone	0.50¢	"
* Call Books 1971	0.95¢	"
* Log Books and Air Dux Coils		

THE FOLLOWING ITEMS ARE STOCKED BY NORTH WEST ONLY:

MR2P Meter 1MA	\$5.00¢	ea.
" " 50 Ua	4.20¢	"
XTAL MICROPHONES	1.10¢	"
LARGE RANGE OF FORMERS, BASES SLUGS, CANS & CUP CORES		

HELICAL ANTENNA FOR 70 CM

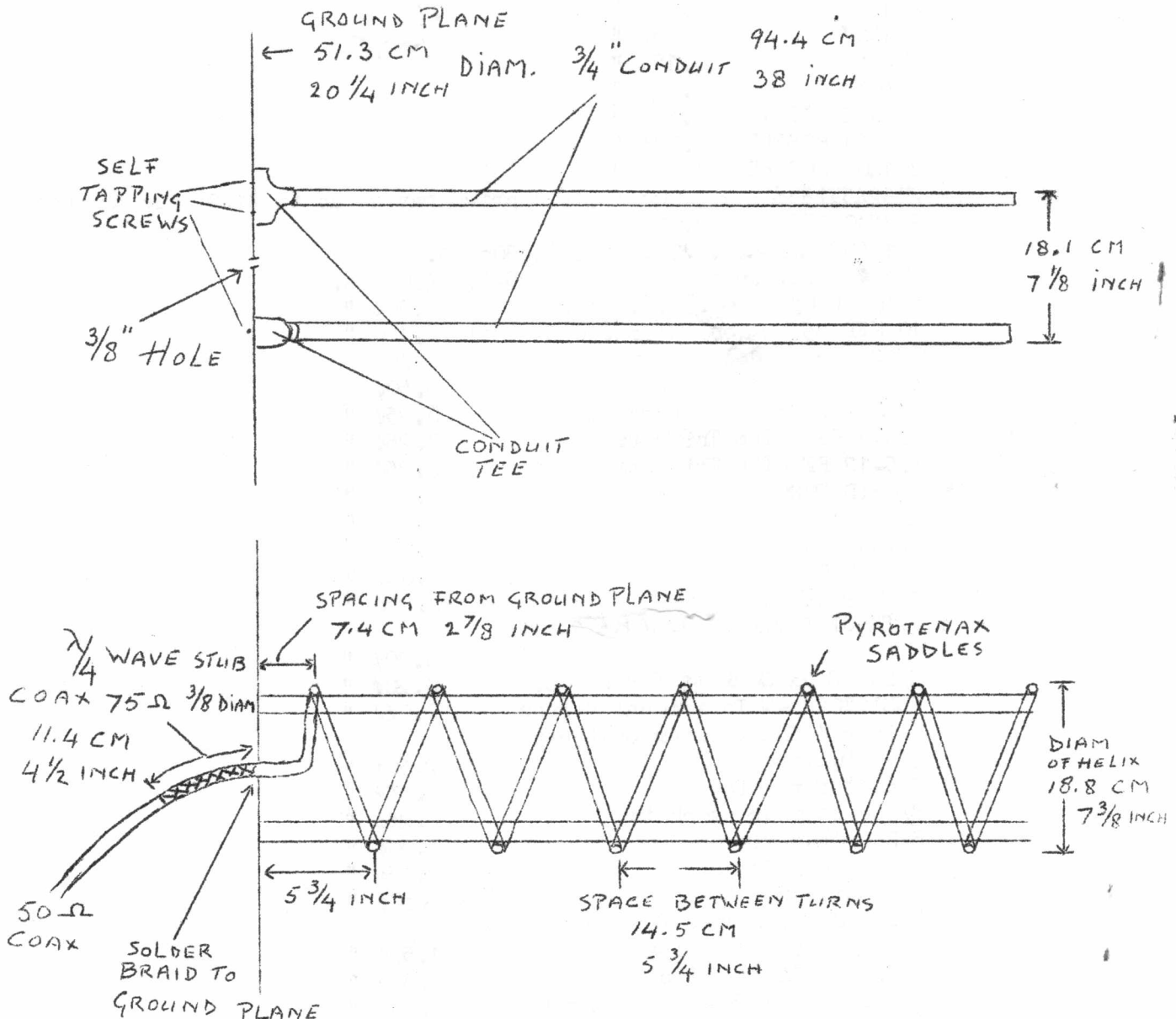
In the previous Q R M it stated the possibility of the launching of 3 Repeaters in the one space shot. As two of these Repeaters use the 70 CM Band, the problem arose as to what type of antenna to use for space communication.

With the following considerations it was decided to construct a 6 turn Helix.

- (a) Could be easily duplicated by other amateurs
- (b) Built from locally available components
- (c) No complicated matching devices
- (d) High gain 12-13 db with good beam width 50°
- (e) Circular polarization

The materials used to construct consisted of 6mm Pyrotenax cable for the helix; 22 gauge sheet metal for the ground Plane (galvanized iron); 3/4 inch PVC conduit and 2 tee fittings for the helix support; 6mm Pyrotenax saddles and cadmium plated self tapping screws.

The following dimensions were calculated for 432 MHz:



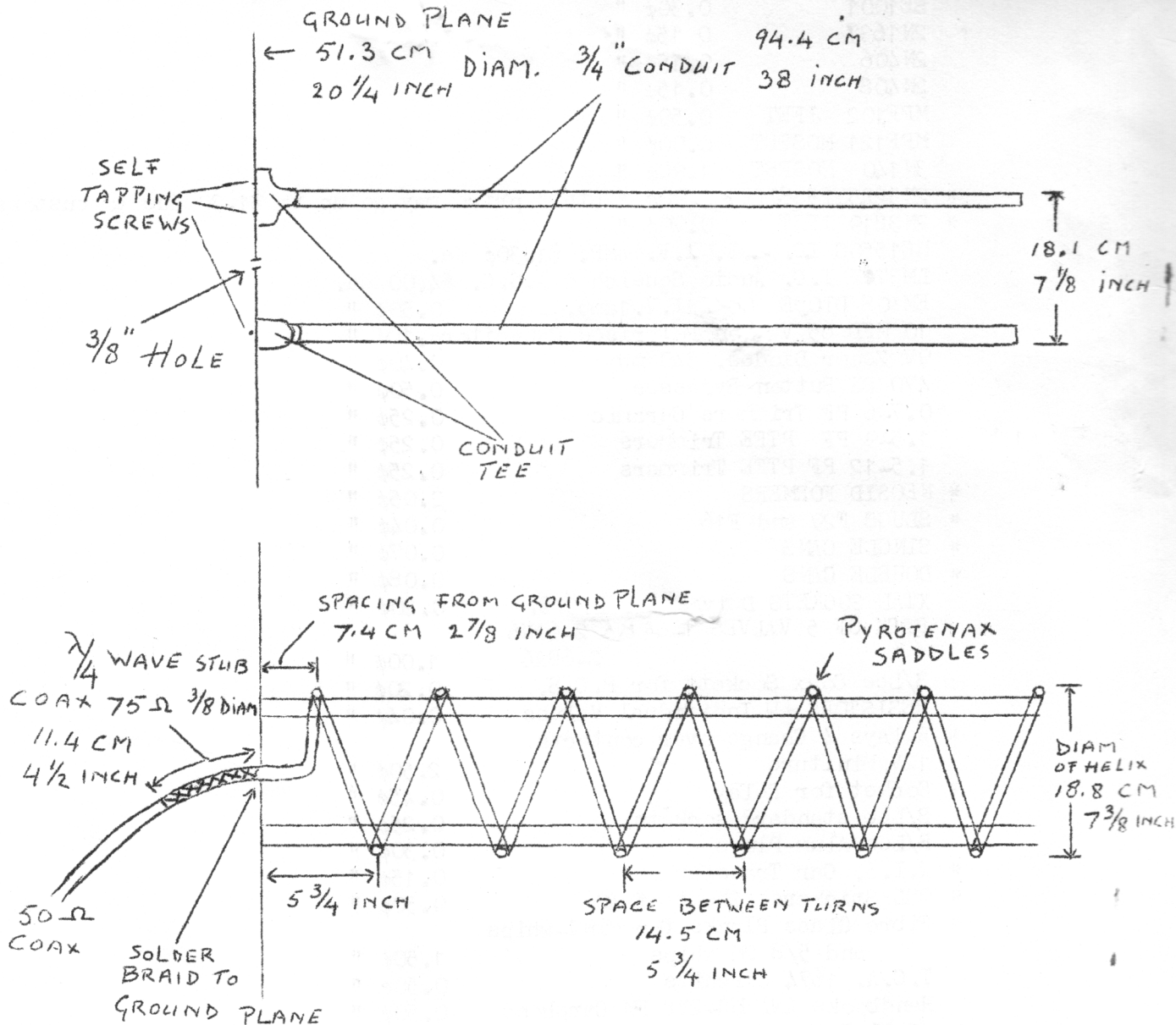
The Pyrotenax cable can be first wound on a 1 gallon paint tin, then transferred to the supports. The cable is held in place by the saddles and self tapping screws.

If a match to 75 ohm cable is required a 11.4 cm length of 75 ohm cable

- (d) High gain 12-13 db with good beam width 5°
 (e) Circular polarization

The materials used to construct consisted of 6mm Pyrotenax cable for the helix; 22 gauge sheet metal for the ground Plane (galvanized iron); 3/4 inch PVC conduit and 2 tee fittings for the helix support; 6mm Pyrotenax saddles and cadmium plated self tapping screws.

The following dimensions were calculated for 432 MHz:



The Pyrotenax cable can be first wound on a 1 gallon paint tin, then transferred to the supports. The cable is held in place by the saddles and self tapping screws.

If a match to 75 ohm cable is required a 11.4 cm length of 75 ohm cable 3/8 diam. ∴ remove the centre conductor and replace with a piece of 20 swg (o.036 diam.) copper wire.

COL 7KW