WATTS

07 - 2007
Year 77+7m

Monthly newsletter of the Pretoria Amateur Radio Club
Maandelikse nuusbrief van die Pretoria Amateur Radio Klub.

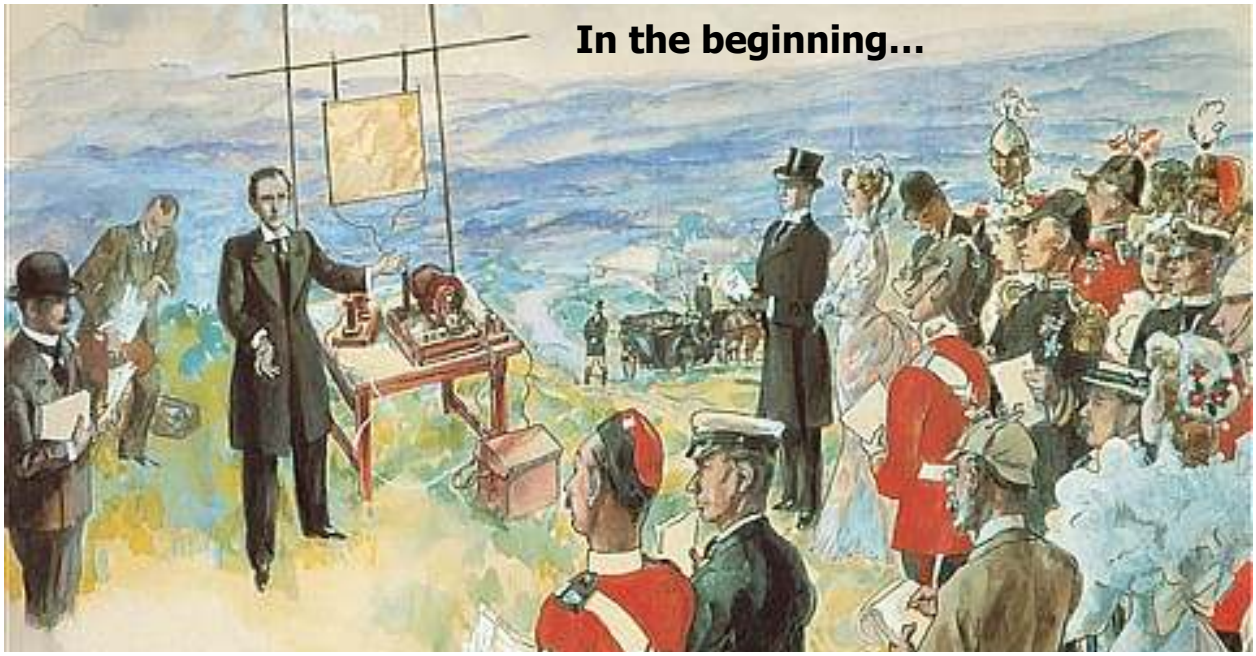
PARC, PO Box 73696 Lynnwood Ridge 0040, RSA

web http://www.zs6pta.org.za mail:zs6pta@zs6pta.org.za

Bulletins :145,725MHz 08:45 Sundays / Sondae
Relays : 1840, 3700, 7066, 10135, 14235 kHz, 51,4 and 438,825 MHz
Activated frequencies are announced prior to bulletins
Swapshop:Live on-air after bulletin 2m and 40m
Bulletin repeats | herhalings : Mondays 19:45 on 145,725 MHz

ZR6FD logo

Drukwerk printing ZS6BAQ
Papier / paper Errol ZR6VDR Bill ZS6KO



This sketch depicts Guglielmo Marconi giving one of a series of demonstrations of his invention of wireless telegraphy on Salisbury Plain. The site chosen was at a place known as The Bungalow on Three Mile Hill and the tests took place during three days from the 2nd September 1896. They were watched by Captain Jackson R.N. on behalf of the Navy and Major Carr of the Army and by representatives from the Post Office. At this demonstration Marconi showed good results at a range of one and three-quarter miles.

In this issue

In hierdie uitgawe

Next Meeting
7 July 2007
Time: 13:30 for 14:00
PARC Clubhouse
South Campus
University of Pretoria
SE cnr University and
Lynnwood roads.

PARC Management team / Bestuurspan Aug 2006- Aug 2007:

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	Doreen de Bruyn	ZR6DDB		012-803-7385	

Minutes of the monthly club meeting of the Pretoria Amateur Radio Club held at the South Campus of the University of Pretoria on 1 June 2007

Welcome: The Chairman welcomed all present, who braved the Loftus traffic to get to the meeting.

Present: As per club register.

Apologies: Johan ZS6JHB, Ivan ZS6AUT, Craig ZS6RH, Roy ZS6MI, Pieter ZS6PVW. Magda ZS6MVW and Lizette ZS6LZT.

Minutes: The minutes of the previous meeting were published in Watts and taken as read. Proposed by Chris ZS6BGH and seconded by Bill ZS6KO.

QSL Cards: Chris ZS6BGH said that he could collect cards from the buro and bring them to the club. A list will be required for the buiro to assemble the stack.

Rallies: An e-mail was received from Johan ZS6JHB. He thanked all those that helped on the Zulu rally, being Andre ZS6BRC, Roy ZS6XN, Pierre ZS6PJH, Graham ZR6GJR, Frank, ZS6GE, Pat ZR6AVC, Johann ZS6EL and Duncan ZS6DGR. The mobile repeater was used and manned by Hans ZR6HVG. A donation of R500 was received for the use of the repeater.

Hamnet: Chris ZS6LOG resigned as deputy director of Hamnet due to other commitments.

Fox Hunts: These will be on hold until September.

Social: The bring and braai afgter this meeting was cancelled due to the rugby.

Projects: Roy ZS6XN was not present. He is working on a few projects.

Flea Market: The PARC winter flea market will be held on Saturday 30 June at the south campus of the University starting at 09:00. Magda ZS6MVW and family will be doing the usual eats and Richard ZS6UK will be doing the cool drinks.

Ham Diary: The ham diary from the SARL web pages was presented. It was noted that this stll shows the wrong date for the PARC meetings.

Next Meeting: The next meeting will be on July 7 starting at 14:00. Bill ZS6KO will be talking on QRP.

Editorial

Last month's plea for newsletter material has not had much result. It is so easy to use modern technology to transfer information. Come on guys, send some pictures and info so that current readers and posterity can know what the PARC is all about.

Redaksioneel

Verlede maand se pleidooi het vir nuusbrief materiaal het nie veel opgelewer nie. Dit is tog so maklik om moderne tegnologie te gebruik om informasie oor te dra. Kom kêrels, stuur so ` n paar fotos en informasie sodat die nageslag kan weet wat die PARK behels.

Birthdays July Verjaarsdae

05 Lynette, daughter of Mary and Bill ZS6KO
06 Helen ZS6-2507, daughter of Retha and Roy ZS6XN
11 Peter ZR6FD
13 Pieter ZR6AHT
17 Lynn, lv van Andre ZS6BRC
17 Pine ZS6OB
19 Sarina, lv van Willie ZR6WGR
20 Roy ZS6XN
21 Elmarie, lv van Johan ZS6JPL
22 Rozanne, dogter van Sylvia en Tjerk ZS6P
24 Brittany, daughter of Diana and Louis ZS6LVW
25 Justin ZS6-262, son of Rika and Errol ZR6VDR
26 Frank ZS6GE
27 Rachel ZR6RDB
27 Julie, sw of Paul ZS6BMF

Anniversaries Julie Herdenkings

06 Julie and Paul ZS6BMF (44)
15 Ellen and Joe ZS6AIC ( )
23 Alta and Johnny ZS6BAJ (30)
23 Pamela and Harry ZS6HRD (53)
23 Lorraine and Stan ZS6SDZ (54)
28 Pat ZR6AVC and Frank ZS6GE (23)

Sick Parade | Krukkelys

Andre ZS6GCA spent some time in hospital with double pneumonia and an appendix removal to boot.
Tobie ZS6ZX se seun het sy hartprobleem te bowe gekom danksy tegnologie.
Bertha, lv van Hans ZS6KR was weer twee weke in die hospitaal met ernstige longprobleme.
Helen, daughter of Retha and Roy ZS6XN is recoving well after her back operation
Mary sw of Bill ZS6KO is also recovering well after her back operation and getiing rid of her crutches one by one

Diary | Dagboek (UTC times)

July	**07**	**PARC Club meeting**
	08	DARC Digital Contest 1100-1700
	14-15	IARU HF Championships 1200-1200
	16	Schools open
	21-22	CQWW VHF Contest 1800-2100
	22	Boland 40m Contest
	22	Deadline for ZU exam applications
	28-29	RSGB IOTA Contest 1200-1200
Aug	01	100th anniversary of Scout Movement
	04	Eu HF Championship 1200-2359
	05	**SARL HF Phone Contest 1300-1630**

PARC SUBS / LEDEGELD 30-06-2007

Please remit your subs in time to our treasurer or by transfer to:

Betaal asb. u ledegeld betyds aan ons tesourier of per oorplasing aan:

Bank : FNB
Branch : 25 20 45
Account : 546 000 426 73
Your call sign must appear as statement text!

Ordinary members/ gewone lede R70
Spouses, pensioners R50

Snippets | Brokkies

- **Ons klub en Total Rallies gaan hierdie jaar al 50 jaar saam.**

  Vrydag-Saterdag 22-23 Junie was die 50e tydren in Mpumalanga en 15 mobiele- plus 12 veldstasies was in bedryf. Daar was ook deelname van die OTL Klub. Dit is ook die eerste keer dat selfs drie ZU operateurs deelgeneem het. Baie geluk en voorspoed vir die manne en vroue wat so toegewyd is.

- Johnny ZR6BAJ is moving to the Cape. He recently completed his station **>>>**
- KG47AC was activated from June 7 on VHF/UHF by several ZS hams including our member Hal ZS6WB as A25HL.
- HAMNET bulletins will in future be read on our 2m repeater just before the re-transmission of our Sunday morning bulletins at 19:45
- Our foxhunts will be resumed in September when the WX is more favourable.
- WATTS may also be downloaded from:
  http://groups.google.com/group/PretoriaARC
  Scroll down till you see FILES and you will find all issues from Jan 2007.

Your news could have filled this space..?

SHACK PIC

Glimpse of Stan ZS6SDZ receiver line-up.
Over 30 boat anchors grace his shack, all restored and fully working.

Stan ZS6SDZ has been restoring old receivers for many years.

These will in future have to be accommo-dated elsewhere in a good home for posterity to marvel at and operate.

-Make your own CTCSS encoder-
Single chip design
(Norcomm 1998)

SUPPLY VOLTAGE ..... 5VDC TO 15VDC

OPERATING CURRENT ..... 2.0mA @ 5VDC*

FREQUENCY RANGE ..... 67Hz TO 254Hz

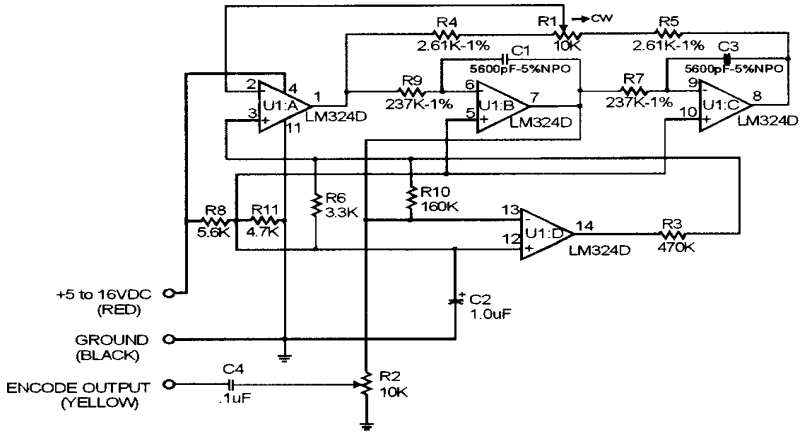
OPERATING TEMPERATURE ...-30° C TO +80 C

.....

OUTPUT LEVEL ADJUSTABLE TO 650mVRMS (

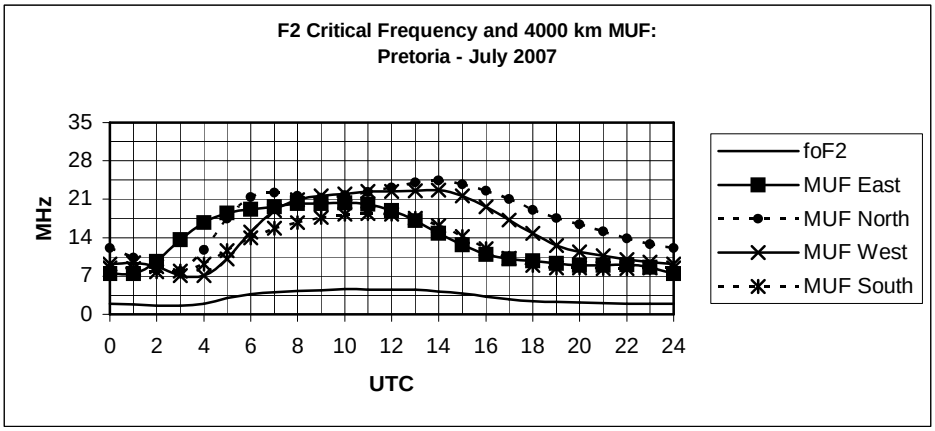
OUTPUT DISTORTION LESS THAN 1.5% THD

SCHEMATIC LAYOUT



Long Term HF Propagation Prediction for July 2007 (courtesy Vince ZS6BTY)

DX Operating
The graph shows the 4000 km maximum useable frequency (MUF) to the East, North, West and South from Pretoria for the first hop using the F2 layer.
Local Operating
The F2 critical frequency (foF2) is the maximum frequency that will reflect when you transmit straight up. E-layer reflection is not shown.



With acknowledgememnt to QST, March 2007

The Considerate Operator's Frequency Guide

A guide to where on the HF bands various modes and activities are generally found. All frequencies are in MHz.

The following frequencies are generally recognized for certain modes or activities (all frequencies are in MHz).

Nothing in the rules recognizes a net's, group's or any individual's special privilege to any specific frequency. Section 97.101(b) of the Rules states that "Each station licensee and each control operator must cooperate in selecting transmitting channels and in making the most effective use of the amateur service frequencies. No frequency will be assigned for the exclusive use of any station." No one "owns" a frequency.

It's good practice — and plain old common sense — for any operator, regardless of mode, to check to see if the frequency is in use prior to engaging operating. If you are there first, other operators should make an effort to protect you from interference to the extent possible, given that 100% interference-free operation is an unrealistic expectation in today's congested bands.

Frequencies	Modes/Activities
1.800-2.000	CW
1.800-1.810	Digital
1.810	QRP CW calling frequency
1.843-2.000	SSB, SSTV and other wideband modes
1.910	SSB QRP
1.995-2.000	Experimental
1.999-2.000	Beacons
3.500-3.510	CW DX window
3.560	QRP CW calling frequency
3.570-3.600	RTTY/Data
3.585-3.600	Automatically controlled data stations
3.590	RTTY/Data DX
3.790-3.800	DX window
3.845	SSTV
3.885	AM calling frequency
3.985	QRP SSB calling frequency
7.030	QRP CW calling frequency
7.040	RTTY/Data DX
7.080-7.125	RTTY/Data
7.100-1.105	Automatically controlled data stations
7.171	SSTV
7.285	QRP SSB calling frequency
7.290	AM calling frequency
10.130-10.140	RTTY/Data
10.140-10.150	Automatically controlled data stations
14.060	QRP SSB calling frequency
14.070-14.095	RTTY/Data
14.095-14.0995	Automatically controlled data stations
14.100	IBP/NCDXF beacons

Frequencies	Modes/Activities
14.1005-14.112	Automatically controlled data stations
14.230	SSTV
14.285	QRP SSB calling frequency
14.286	AM calling frequency
18.100-18.105	RTTY /Data
18.105-18.110	Automatically controlled data stations
18.110	IBP/NCDXF beacons
21.060	QRP CW calling frequency
21.070-21.110	RTTY/Data
21.090-21.100	Automatically controlled data stations
21.150	IBP/NCDXF beacons
21.340	SSTV
21.385	QRP SSB calling frequency
24.920-24.925	RTTY/Data
24.925-24.930	Automatically controlled data stations
24.930	IBP/NCDXF beacons
28.060	QRP CW calling frequency
28.070-28.120	RTTY/Data
28.120-28.189	Automatically controlled data stations
28.190-28.225	Beacons
28.200	IBP/NCDXF beacons
28.385	QRP SSB calling frequency
28.680	SSTV
29.000-29.200	AM
29.300-29.510	Satellite downlinks
29.520-29.580	Repeater inputs
29.600	FM simplex
29.620-29.680	Repeater outputs

From "Out of Thin Air" - A 1981 PW publication

VHF/UHF FOLDED COLINEAR AERIAL ARRAY

Fred JUDD G2BCX

This aerial is a two-element colinear design for vertically polarised (omni-directional) radiation. It may be constructed for use on either the 2m or 70cm amateur bands and is a development of the very successful "Slim Jim", published in April 1978.

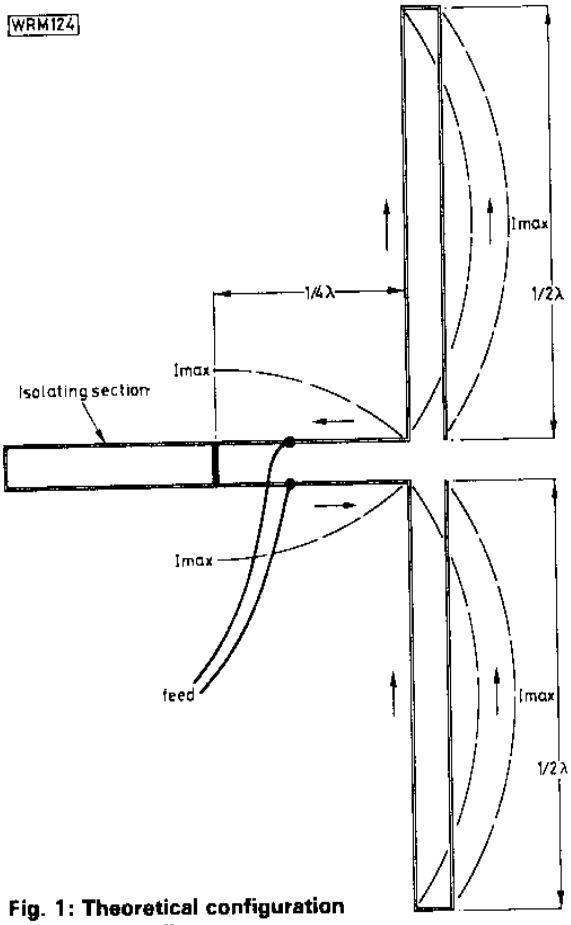


Fig. 1: Theoretical configuration of the colinear array

Two folded half-wave elements driven in phase from a quarter-wave stub constitute the active parts of the device, originally built for use on the Norwich 70cm repeater. The requirement called for a pair of aerials with at least 3dB gain which could be mounted on a mast without undue effect on their omni-directional properties—i.e. with minimal distortion of the otherwise circular radiation pattern.

The theoretical configuration is shown in Fig. 1. Experimentation indicated that the minimum tolerable distance from a metal mast producing the least effect on radiation was 0·625λ. Accordingly, a long stub section is employed which also serves as a supporting mount for the aerial.

The folded radiating elements are voltage driven from a quarter-wave section of the whole stub, the current distribution being indicated by the arrows. The increase in gain over a conventional two-element colinear (gain normally around 1·8dB) is obtained by the use of the folded elements, which contribute an additional 1·6dB. This aerial therefore has a total gain of 3dB over a dipole. Note the break between the return sections, necessary to create a standing wave.

Construction

The diagram of Fig. 2 should provide enough information to enable this aerial to be constructed for either 70cm or 2m, detailed dimensions being given in Table 1. For u.h.f. the aerial will self-support but for v.h.f. some form of boom at right-angles to the mast may be necessary to take the weight of the stub and elements—which are, of course appreciably longer than their u.h.f. counterparts. This could be constructed from wood, and reach at least as far as the quarter-wave section shorting bar. An alternative would be the use of larger diameter tubing for the elements and stubs, say 12·7mm ($\frac{1}{2}$in).

Connections to the feed point must be protected from rain and the prototype used an oblong plastic box with tight fitting lid for this purpose. The insulator linking the two folded element sections should be of high quality material, such as ptfe, which is drilled to fit over the ends.

A piece of aluminium about 10mm square may be used for the quarter-wave shorting bar, drilled to take the stub lines and tapped for the 4BA screws which lock the bar to the lines. Element dimensions are given for both versions, the velocity factor having been taken into account.

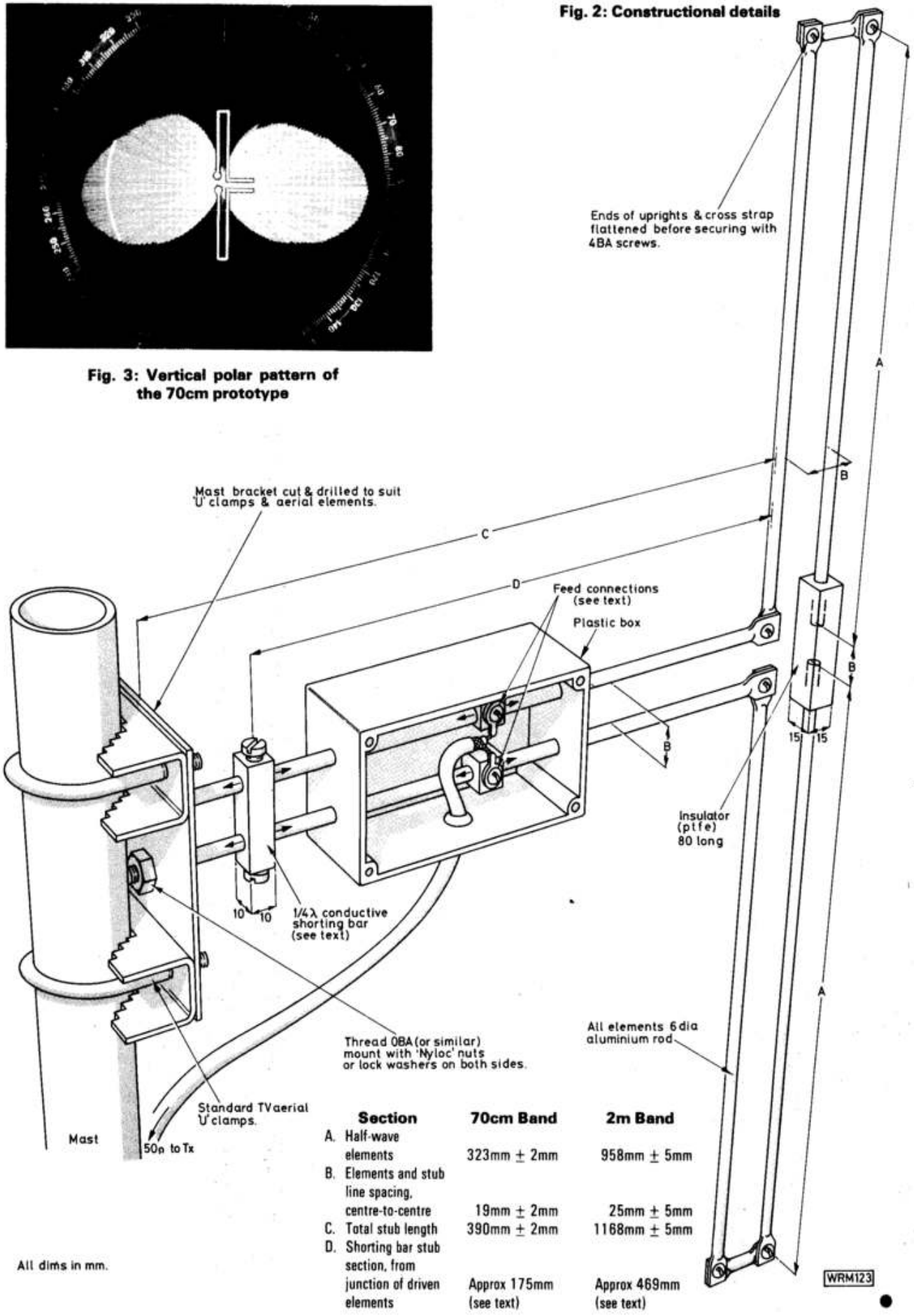
Adjustment

When the aerial has been completed it should be set up in fairly clear surroundings, approximately 2 metres above ground, with the full length of feeder cable attached. Adjust the feed tapping points and quarter-wave point (shorting bar) for maximum power and v.s.w.r. All v.h.f. aerials operate most efficiently when high up and clear of rooftops or other obstacles, such as tall trees. This is particularly true in the case of colinears with zero-angle radiation. Sizeable trees in full leaf can attenuate v.h.f. and u.h.f. signals by as much as 20dB when placed in the path of radiation, even in dry weather. Brickwork can reduce signals by 10dB or more.

The vertical angle polar pattern of Fig. 3 was taken from the Author's display unit and clearly shows the radiation characteristics of the u.h.f. prototype.

Fig. 3: Vertical polar pattern of the 70cm prototype

Fig. 2: Constructional details



Section	70cm Band	2m Band
A. Half-wave elements	323mm ± 2mm	958mm ± 5mm
B. Elements and stub line spacing, centre-to-centre	19mm ± 2mm	25mm ± 5mm
C. Total stub length	390mm ± 2mm	1168mm ± 5mm
D. Shorting bar stub section, from junction of driven elements	Approx 175mm (see text)	Approx 469mm (see text)

All dims in mm.

Some more famous last words

"Airplanes are interesting toys but of no military value" -- Marechal Ferdinand Foch, Professor of Strategy, Ecole Superieure de Guerre, France.

"I don't know what use any one could find for a machine that would make copies of documents It certainly would not be a feasible business by iteself" -- the head of IBM, refusing to back the idea, forcing the inventor to found Xerox.

"There is no reason why anyone should want a computer in their home" –Ken Olson, president, chairman and founder of Digital Corp., 1977

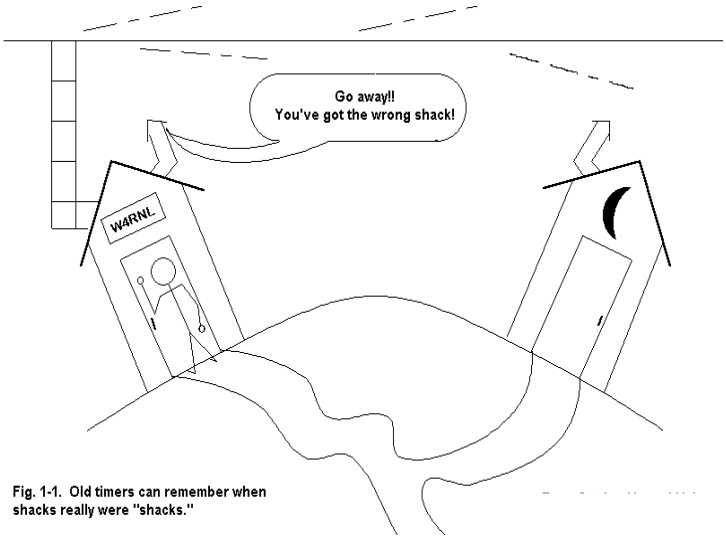


Fig. 1-1. Old timers can remember when shacks really were "shacks."