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WATTS

06 - 2004

Year 69

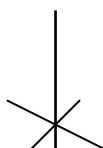
Monthly newsletter of the Pretoria Amateur Radio Club
Maandelikse nuusbrieff van die Pretoria Amateur Radio Klub.



PARC, PO Box 73696 Lynnwood Ridge 0040, RSA



<http://www.qsl.net/zs6pta>



Bulletins : 145,725MHz 08:45 Sundays / Sondag
Relays : 1840, 3700, 7066, 10135, 14,200 MHz
depending on season

Swapshop: After bulletin 2m and 40m (also on-line)

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In this issue

- Editorial
- Club meeting minutes
- Member news
- Diary
- General / Technical
- The 160m band
- Page eight

in hierdie uitgawe

Redaksioneel
Klubvergadering notules
Ledenuus
Dagboek
Algemeen / Tegnies
Die 160m band
Bladsy agt

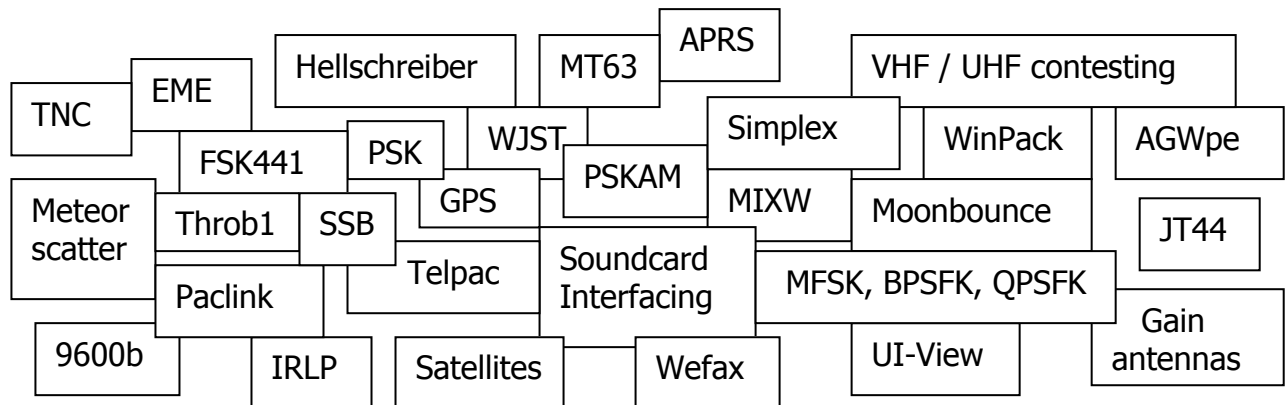
Next meeting

Date: 10-06-2004
Time: 19:30 for 20:00
PARC Clubhouse,
South Campus,
University of Pretoria.
SE cnr University and
Lynnwood roads.

Editorial

We are almost into our 70th year of existence which is a pretty good achievement. Highlights of our rich history have recently been published in this newsletter for interest to our younger members and bring back memories to our veterans. What highlights were worth recording over the last ten years? Even worse: will there in future be any activities that are newsworthy or a first for Amateur Radio in South Africa? I hope so.

Amateur Radio as we knew it is getting stale and unattractive unless we are ready to mix it with new technology and be extrovert in applying and propagating it. There is always a place for RF only - but beware, it can become one of the technically unimportant links in a chain of communication. Admittedly: as opposed to commercial and official communications the simplest modes can always win the day when nothing else will function. It will increasingly be only Amateurs that can revert back to these simple modes at an instant while commercial and official systems will neither have the option or trained people for it. Do not reject the old-world skills but expand into new technology. Get rid of that old crystal radio and treat yourself to one that is all-mode, has DTMF and is digitally compatible. Hook it to a personal computer and a whole new world will open up.



Redaksioneel

Ons is amper in ons 70e bestaansjaar wat nogal 'n goeie prestasie is. Hoogtepunte uit ons ryk geskiedenis was onlangs in hierdie nuusbrief gepubliseer vir belangstelling aan ons jonger lede en om herrinneringe terug te bring aan ons veterane. Wat se hoogtepunte was die moeite werd om aan te teken van die laaste tien jaar? Nog erger: sal daar in die toekoms nog enige nuuswaardige aktiwiteite of eerstes in Amateur Radio in Suid Afrika wees? Ek hoop so.

Amateur Radio soos ons dit geken het is besig om te muf en onaantreklik te word tensy ons reg is om dit te meng met nuwe tegnologie en uitwaarts te wees met die toepassing en verspreiding daarvan. Daar is altyd 'n plek vir RF alleen – maar pasop, dit kan 'n tegniese-onbelangrike skakel in 'n kommunikasie kettang word. Toegegee: teenoor kommersiële en offisiële stelsels kan die eenvoudigste modusse seëvier as niks anders kan funksioneer nie. Dit sal al hoe meer slegs Amateurs wees wat onmiddellik kan terugval op hierdie eenvoudige modusse terwyl kommersiële en offisiële stelsels nie die opsie of die personeel daarvoor het nie. Moenie die ou-wereld vaardighede afstoot nie maar brei ook uit na nuwe tegnologieë. Raak ontslae van die ou kristal stel en trakteer jousef op een wat alle-modusse en DTMF het, en digitaal-versoenbaar is. Haak 'n persoonlike rekenaar aan hom en 'n heeltelmal nuwe wêreld sal oopgaan.

Total Rally 7-8 Mei

Ons Klub het weer hulle kommunikasie behartig



Pierre en Johan inspekteer antennas ingestem by die QRA van Hans KR. Nog fotos op bladsy 7.

Het jy geld? || Got money?

New Yaesu FTDX9000 HF+50MHz ±\$11.000

200W(400W ext PSU) Leaflet/specs at:

www.vxstd.com/en/news/image/FTDX9000.pdf



Minutes of the monthly club meeting of the Pretoria Amateur Radio Club held at the South Campus of the University of Pretoria on 13 May 2004

- Welcome:** Hans ZS6KR declared the meeting open and welcomed all who attended.
- Attendance:** The meeting was attended by 27 members and 3 visitors ZS6PVW, ZS6MVW, ZR6WK. Apologies from ZR6OLM, ZR6AHT, ZR6JHB, ZR6ESP, ZR6HAP
- Personal Matters/Lief en leed:** Hans ZS6KR has an extremely ill mother.
Stan ZS6AAO still bedridden and in poor health.
- Minutes of previous meeting:** The minutes of the previous meeting as published in Watts were approved. Proposed by Willie ZR6WGR and seconded by Pine ZS6OB.
- Matters arising from previous minutes:** None.
- Club Activities:**
- DF Hunt:** Richard ZR6CK – Next DF hunt to be announced on future bulletins. The previous hunt was successful and enjoyable. Vlasta kindly supplied a tart to eat and all participants finished off at the DROS restaurant.
- Fleamarket:** Our MEGA FLEAMARKET will be held 26 June 2004 at our premises. All clubs will be invited and other activities can be hosted to make it a memorable day for Amateur Radio.
- Rallies:** Andre ZS6BRC reported on the recent Total Rally. The event was not without mishaps for many competitors. Some of our club members also suffered damage to their vehicles in the course of their duties. Maintaining communications needed considerable ingenuity and adaptation at times. Even the internet was used when other means were not successful.
- Social:** To be announced.
- Finances:** Richard ZR6CK reported on our current account – Subs payments soon to strengthen funds.
- Ham Dairy:** A few international contests were noted.
Members with PARC Trophies are requested to please return them at the next June meeting. Members were also reminded that PARC subs are due by June 30. (also SARL by 1 July)
- General/Algemeen:** Hans ZS6KR briefly explained his suggestions to ICASA regarding amendments to Notice 477
Andre ZS6BRC thanked Hans for his initiative to suggest changes to page 8 B3(1c) regarding emergency / sports-event communications. He asked Hans to contact the SARL and ask that they should consider this as a serious matter and use their influence in this regard.
- Pine ZS6OB and Hal ZS6WB informed members of the PEARS VHF/UHF/microwave Contest that will take place on the first weekend in July where digital operation is now the norm. Possibly some hands-on demos with WSJT software can be arranged to familiarize novices to these modes. Hal also puts out a VHF newsletter. Request by email to zs6wb@telkomsa.net
- Options on the format of future technical presentations by Joe ZR6SA were decided to be best if done in three parts at club meetings. Hans ZS6KR will inform Joe of the first opportunity. A ZS8MI presentation by Pieter ZR6PSR and Ludwig ZS6WLC will probably take place in June.
- Presentation:** Johan ZR6ANF gave an interesting talk on VoIP (Voice over Internet Protocol) Though there are 7 systems in existence, four are primarily in use of which only WIRES and IRLP are RF-RF systems. 1400 nodes now exist worldwide. The technicalities of getting the digital data to its destination at acceptable speed were explained. User procedures are simple. Any one can participate on our UHF repeater 438,825MHz -7,6MHz offset, no tone. Monitor the frequency and learn how it is done. DX from your armchair with a hand-held.
- Next meeting:** The next meeting is scheduled for 10 June 2004.
- Closing:** The meeting closed at 21h30. Thanks to Molly ZR6MOL for serving tea, coffee and a bite to eat.

Birthdays Verjaarsdae

Junie



June

Anniversaries Herdenkings

05 Loue ZR6LVW
06 Callie ZS2CWP
06 Simon ZS6AST
06 Herman ZS6SN
07 Chantel, dogter van 'JB' ZR6YV
08 Ronel, sw van Pieter ZR6PSR
11 Nadia, daughter of Frank ZS6GE
14 Hilary ZR6HAP, daughter of Richard ZR6CK and Molly ZR6MOL
14 Attie ZS6REY
15 Claire, sw of Robert ZS6ARC
17 Lynette ZR6LHT, dogter van Pieter ZR6AHT
19 Colin, son of Stan ZS6AAO
20 Malcolm ZR6OLM, son of Roy ZS6XN

07 May and Wally ZS5WP
19 Sue ZS6SUE and Don ZS6CRT
24 Marieta en Roy ZS6MI

22 Richard ZR6CK
26 Pieter ZR6PSR
27 Emil ZS6EGB
27 Jac ZS6QA
27 Selma, sw of Joe ZS6TB

Nuwe Lede Welkom aan ZS6JES Jess Clark
ZS6MVW Magda van Wyk

Sympathy Mike ZS6AFG lost his father in late April
Hans ZS6KR lost his mother on 14 May.

Sick Parade
Stan ZS6AAO is still unwell and bedridden



Krukkelys

PARC Diary | Dagboek

Jun 05-06 IARU Region I1 CW Field Day
11-13 PEARS VHF/UHF/Microwave Contest
16 SARL Kid's Day
17 Sasol Rally (Sabie-Nelspruit area)
19-20 All Asian CW DX Contest
25 Schools close - inland provinces
26 PARC fleamarket
26-27 ARRL Field Day
His Majesty of Spain SSB Contest
Marconi Memorial HF Contest
27 SARL President's Net
30 Schools close - coastal provinces
30 PARC subscriptions due

Jul 01 SARL Subscriptions due
03 DARC digital contest
10-11 IARU HF World Championship
10 Regional Rally East Rand

Please renew your membership before the end of June.

New members who joined as from 1 April will be considered as being paid-up till June 2005

**Our current membership status is 147
Let's keep it the same!**

**FNB Account 546 000 426 73
FNB Branch Lynnwood 25 20 45**

Members with trophies received at our AGM last year must please return them to Johan ZR6JHB - thank you.

Lede wat laasjaar trofeë by ons AJV ontvang het, moet hulle asb. weer terugbesorg aan Johan ZR6JHB - dankie

Snippets | Brokkies

- Joe ZS6TB lost a gate motor due to affirmative shopping.
- Hans ZS6KR had his sliding gate bent by a reversing vehicle
- Hal ZS6BW is offering a WJST workshop on June 10 at 0830
- Ivan OK1LL received his call sign ZS6CCW from ICASA

Win a raffle ticket for a trip to VK land for an all-expenses paid visit to the World Rally Championship (WRC) to be held ±11-15 November.

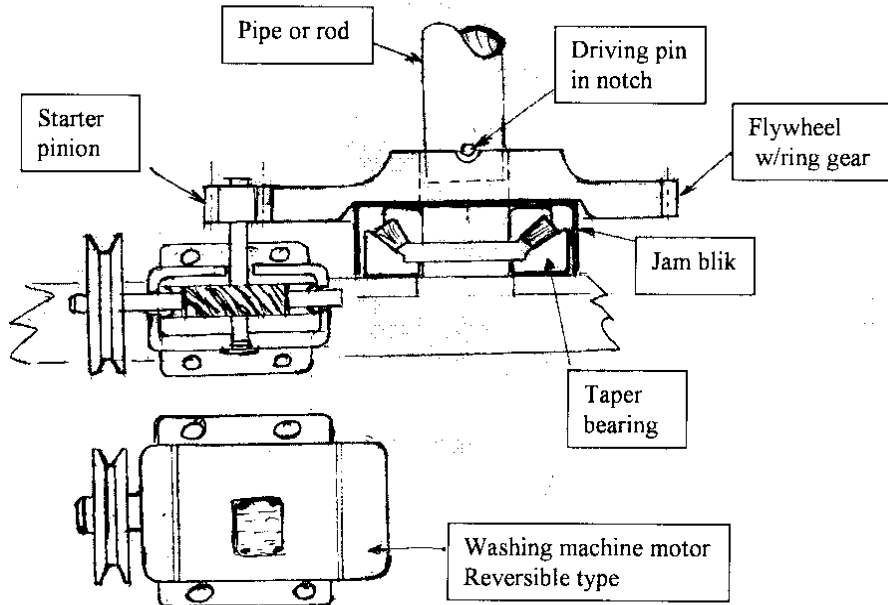
At our next meeting this R100 raffle ticket will be raffled at R5 a shot.

A Home Brew Rotator

Peter ZR6FD

I am looking forward to using my FT101 and beam when ZR's get the go-ahead to operate on HF. In my case, am not laying out any extra cash for a rotator and have devised one from garage- and scrap parts to come up with a cheap and usable solution (contraption?) The only manufactured part was a driving pinion to get a specific speed as will be explained later.

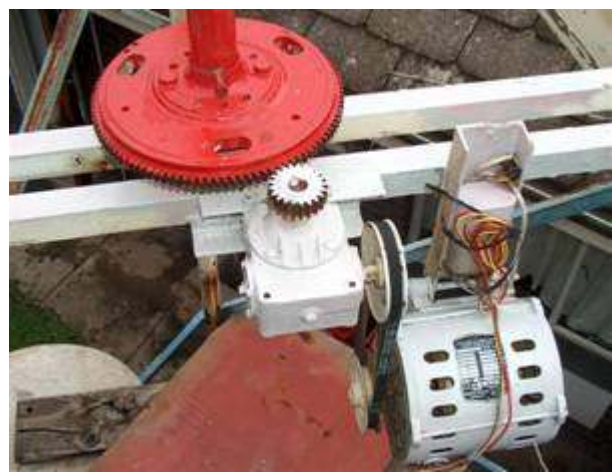
The train of motion and required parts are shown in the sketch below. The actual mounting arrangement is clear enough from some of the photos.



Working backwards, the most rotation is done by a vehicle flywheel and ring gear assembly and the starter pinion, The latter was the only manufactured item with more teeth to give a rotational speed of 360°/ 1 min.

The pulley is driven by a right- angle reduction drive which in turn is driven by a reversible washing machine motor via a belt.

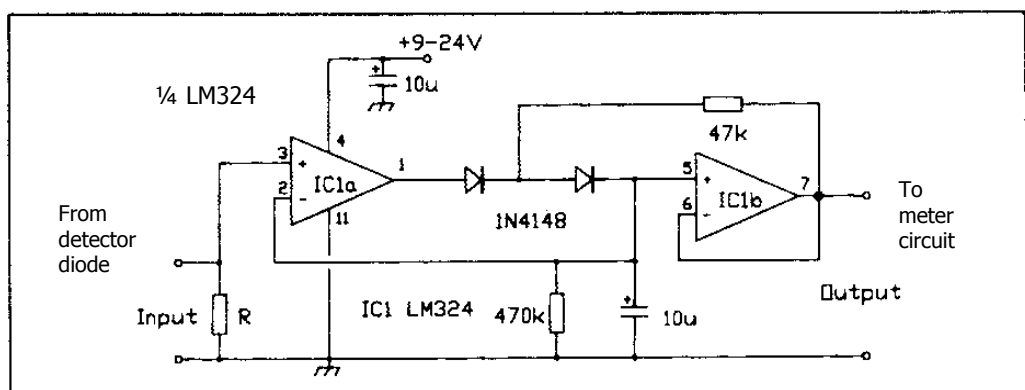
Positional feedback is visual in the sense that the second-hand of a wall clock will show exactly how many degrees have been turned CW or CCW.



Add some PEP to your HF wattmeter

Insert this unity gain rectifier between the detector diode and meter circuit.

The decay time is ± 5 sec, allowing full meter response.





**Brief
Glimpses
7-8 / 05
'n
vlugtige
kykie**



← Johann en Johan in rooi hemde



↑ Die winner uit 56 inskrywings was Nr.1 met S.Damseaux / R.Paisley

U 2m radio- en herhaler spesifikasies

Ons 2m herhaler is ontwerp volgens kommersieële spesifikasies soos ICASA dit vereis vanweë Suid Afrika se onderskrywing van Gebied I se reëls betreffende spektrum toekenning en benutting wat al jare gelede van krag was vir ons lokale Kommerisieële Sektor.

Die Amateur Sektor moes onlangs ook hier aan voldoen. Die gevolg was dat alhoewel die keurdatum ongeveer Junie laasjaar was, feitlik alle herhalers in die land net op uitset verstel is, maar nie op op inset herbou is nie vanwee koste, komponente beskikbaarheid, kundigheid of 'n houding van "los dit so". So ook die meeste amateurs se ouer toerusting wat wel miskien 12,5kHz kanaal-spasieering kan doen op uitset en verstel kan word op 2,5kHz deviasie, maar ook nog steeds 'n 25kHz oop inset het. (Hou dus die feite in gedagte wanneer u 'n radio aankoop)

Deur om frekwensies tussen-in die 25kHz segmente toe te ken op verskeie nuwe herhalers, het situasies ontstaan waar die nuwe frekwensies kan binnedring by ou gevestigde herhalers met inset bandwydte op ou standaard en dus jou eie radio. Laasgenoemde is minder van 'n probleem want jou kans om 'n direkte sein te kry is kleiner.

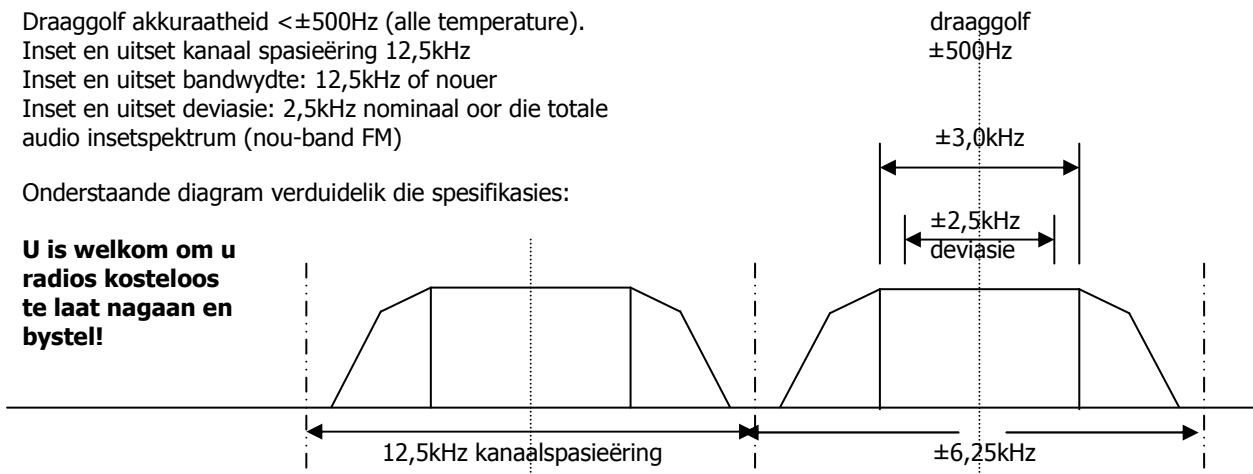
Die herhaler is ook streng op oor-deviasie en enigiets net bo 3kHz word summier geblokkeer, vandaar opgebroke seine wat gehoor kan word van mense wat nog 5kHz devieer. Herhalers wat net op uitset gestel is, sal dit nie doen nie maar betaal die prys van 'n groter opening vir sturings op die inset.

Ons moet aanvaar dat die wetgewing nooit weer terruggetrek sal word nie, en apparaat moet aan ons kant aangepas of gemoderniseer word. Waar dit op neerkom is dat vir herhalers en radios vir herhaler-gebruik die spesifikasies met tenminste 'n faktor twee vernou is en dat u toerusting behoorlik nagegaan en bygestel moet word om daaraan te voldoen:

Draaggolf akkuraatheid $< \pm 500\text{Hz}$ (alle temperature).
Inset en uitset kanaal spasieëring 12,5kHz
Inset en uitset bandwydte: 12,5kHz of nouer
Inset en uitset deviasie: 2,5kHz nominaal oor die totale audio insetspektrum (nou-band FM)

Onderstaande diagram verduidelik die spesifikasies:

U is welkom om u radios kosteloos te laat nagaan en bystel!



Top Band 160m

Leave it or love it

The gentleman's band

Extract from *The Lowband Lowdown -World Radio* March 2004 pp 48-49 by Tom W8JI
Additional contribution by Ed ZS6UT

160m is an unusual band, and finds a place deep in the souls of many amateurs. There are no mode-exclusive segments and maintains order through Gentlemen's Agreements and mutual respect of bandplans. It is probably the band where the most congeniality and Ham Spirit is found. The agreements and bandplans that bring order to 160m have been formed through open surveys in at least two areas of the world. Bandplans by the AWA and ARRL are examples where amateurs have determined how the band is divided and used:

| | | |
|------|---------------|---|
| USA: | 1800-1810 kHz | narrow digital modes |
| | 1810 | QRP calling frequency |
| | 1840 and up | SSB and AM, and wide modes |
| | | (no modulated related emissions below 1840) |

The ARRL plan also has an experimental area near 2MHz for low-power beacons and other experimental uses.

In South Africa we currently follow the IARU bandplan for Region I:
Current regulations allow ZS: 400W, ZR: 100W, ZU:20W

| | | |
|-----------------|-----------------------|---|
| RSA: | 1810-1838 kHz | CW only |
| | 1828-1835 | DX window (Gentleman's agreement) |
| | 1838-1840 | Digi-modes and CW excluding AX25 packet |
| | 1840-1850 | Phone and CW |
| Useful beacons: | 1817 kHz | by Roger ZS1J (soon to be moved to Napier) |
| | 1817,5 | W1AW - often heard when the band opens \pm 0300 UTC |
| | 1816,4 and 1818.4 kHz | from ZL but only a slim chance to hear them. |

Many years ago the band was plagued with QRM. Around the the 1960's a cheap popular "GPS" system was based around a WWII MIT system with groups of carefully synchronized transmitters that used very short duration fast rise pulses to allow signal arrival time comparisons at a receiver. The range was only several hundred miles. For ship- and aircraft guidance, a world-wide network of synchronized multi-kW LORAN "A" pulse TX's were active 24hrs a day on 160m. Typical BW was 30 kHz and TX's were centred on 1850, 1900 and 1950 kHz. Hundreds of these filled the band with a terrible hammering noise. Since CW and AM were easily distinguished from LORAN pulses, they were the only modes permitted - while SSB was banned - and power restricted to 100W daytime and 25W nighttime.

In the US, various states had different band segments and split operations were sometimes necessary. The largest 160m activity came from mobile stations. Monthly DF hunts and local Sunday nets used it. Regular car radios were opened up as receivers. DX activity was sparse except for official operations such as CW weather alerts to shipping.

As military and commercial use of LORAN eventually decreased, power restrictions were eased. Some US areas were allowed 1kW plate input power and the first of the 25 kHz segments conceded was 1825-1850kHz. A DX window was formed from 1825-1830 kHz to allow USA to Europe QSO's.

As time went on, new countries in the East Block gained access, New Zealand could move down from 1870 kHz and several Asian operators were also heard. The current DX window to Japan is 1907,5-1912,5 kHz. Australia uses 1800-1866 kHz. It was the piecemeal return of 160m both by frequency and area that formed the band we know today. This gradual process however prevented a unified frequency plan world wide. It was also a blessing, proving how good amateurs were at heart.

From the 1980's LORAN was gone, and the very last TX's pulled from operation in the 90's. Today, thanks largely to increased antenna technology and activity, 160m is no longer very seasonal. Despite these changes, Topband lives up to its name. Very few bands would have such a high level of compliance with voluntary band plans. Topband is a band built on fellowship and helping others. It is both educational and addictive. 160m remains a frontier, just as it was in the 60's.

Successful 160m operation requires a gut-deep interest in radio and antennas. A contact at any distance regardless of mode, can be an achievement, where each individual sets his own goals and ambitions, and where one feels good about one's accomplishments as an individual.

Editor: Undoubtedly one of the most expert low-band operators is John Devoldere ON4UN. His publications such as "80m DXing" and "Low-band DXing" attest to his immense experience and achievements on all technical aspects to achieve success. The latter book is crammed with low-band propagation and antenna data as well as detailed explanations of what really counts in receiver- and transceiver specifications and operating techniques.

Need a bright mouse pointer?

Lecturing, presentations and demonstrations may be enhanced if the mouse pointer were brightly visible to a distant audience. Of course laser pointers can be useful in some instances but usually not when demonstrating on-screen operations. Investigate if this is what you need: <http://www.stardock.com/products/cursorXP/>

ARRL BOOK ON INTERNET LINKING VoIP: Internet Linking for Radio Amateurs - by Jonathan Taylor, K1RFD

Voice Over Internet Protocol, in conjunction with a radio for long-distance communication, is becoming popular. Amateurs use the Internet as the relay between their base stations, handhelds and mobile transceivers. This is a guide to the four primary VoIP systems used by amateurs: EchoLink, IRLP, eQSO and WIRES-II. The book is designed for beginners who need the information on how to set up and use these systems, but it also provides plenty of technical meat if you want to know how these systems work.

Contents: Connecting The World
Conference Servers, Reflectors and Nets
Digital Audio and the Internet

Under the hood: IRLP
Under the hood: Echolink
Setting Up Your Own Node

Using a VoIP Link
Other Linking Systems
Legal issues in linking

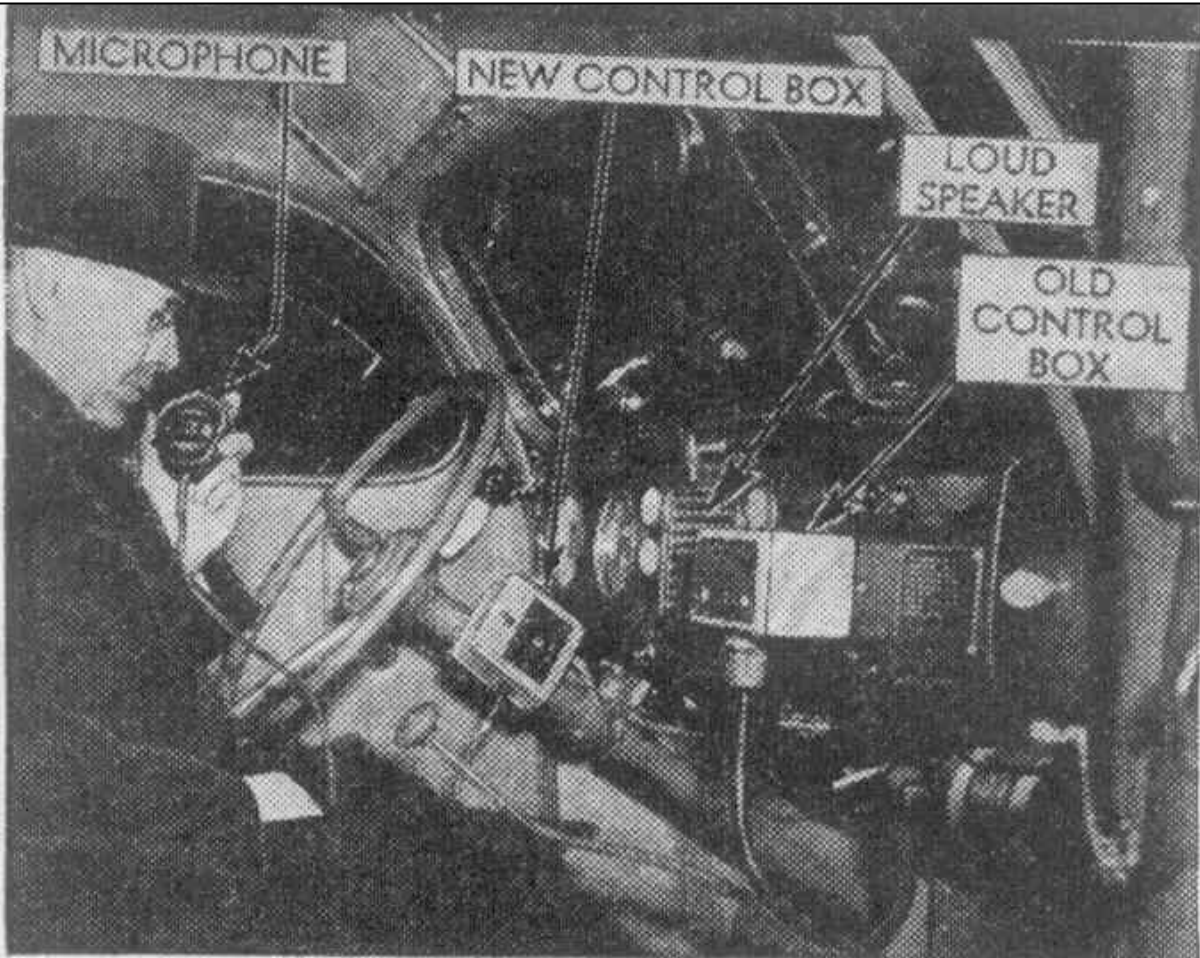
This may be the first book ever written about ham radio applications of VoIP! The author K1RFD, is the creator of EchoLink and one of the top experts in VoIP. First edition, © 2004, The American Radio Relay League, Inc. (ISBN: 0-87259-926-4) #9264 - \$17.95

Plaaslike Eskom uitvinding maak opslae



Save on a hands-free kit – use a rekkie

64 years ago: Spot the changes



Photo—Chicago Tribune
Police car with F.M. equipment.