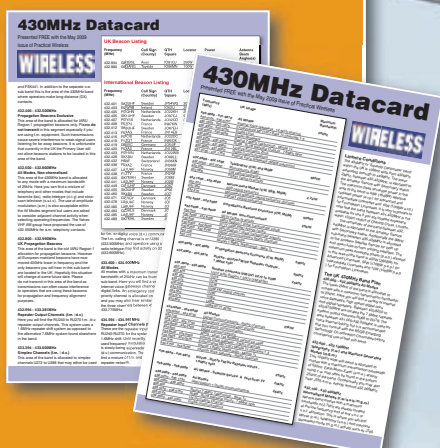
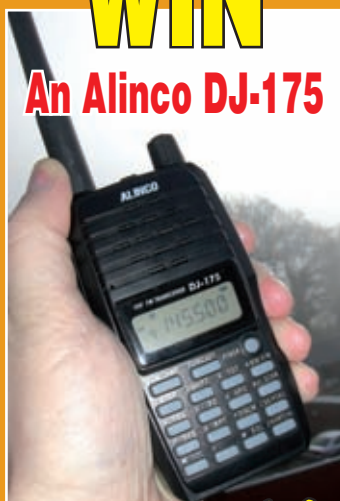


Practical

WIRELESS

*Britain's Best Selling Amateur Radio Magazine***FREE INSIDE****430MHz Datacard***Details Inside!*

The First Practical Wireless 70MHz Low Power Contest

*Plus***Round the Rockies with a
Hand-Held Transceiver****Build the G4DCH 3.5MHz
Mobile Antenna****WIN****An Alinco DJ-175****Worth £149**

R 15



05



9 770141 085105

**Build
a Soldering Iron
Saver**

WATERS & STANTON



SCOTTISH STORE • W&S @ JAYCEE, 20 WOODSIDE WAY, GLENROTHES, FIFE, KY7 5DF - CLOSED MONDAYS

• ENQUIRIES: 01592 756962 FAX: 01592 610451 EMAIL: jayceecom@aol.com OPENING TIMES: Tue-Fri: 9.15am - 5pm Sat: 9am - 4pm



HEAD OFFICE & SOUTHERN STORE • SPA HOUSE, 22 MAIN RD, HOCKLEY, ESSEX, SS5 4QS

• ENQUIRIES: 01702 204965 FAX: 01702 205843 EMAIL: sales@wsplc.com OPENING TIMES: Mon-Sat: 9am - 5.30pm



Hockley D-Star Repeater GB7SS! Rx 430.7375 Tx 439.7375

NEW Icom IC-7600



ICOM

This new HF-6m transceiver is the successor to the long running IC-756 series. It takes features from the flagship IC-7800 and the more recent IC-7700, putting them into a package that brings the price within reach of many more hams. **Phone now to reserve yours.**

from the flagship IC-7800 and the more recent IC-7700, putting them into a package that brings the price within reach of many more hams. **Phone now to reserve yours.**

NEW Icom IC-7700

HF Transceiver

• 1.8 - 54MHz up to 200W PEP • SSB CW FM AM



In Stock!

Exclusive - get FREE IC-7000kbd Keyboard with matching lead for instant RTTY/PSK31

£4999

Special Offer Nearfield FM Monitor

WR-5001 30 - 900MHz FM

Hunt out any local FM signal instantly. Just press nudge button to move to next signal. Built-in speaker and rechargeable battery pack. **Monitor your own signals.**



Normally £79.95

£59.95!

Waters & Stanton First with VX-8E

YAESU

Waters & Stanton were given a sneak preview of this new radio by Yaesu's top designer Mr Fujiki. We will have the first UK stocks and it should be **available April**. This will be the first truly portable APRS radio, and with Blue Tooth, could easily function as a mobile.



FT-450

NEW



YAESU

160m - 6m 100W SSB CW AM FM IF DSP Voice Memories 23 x 8.4 x 22 cm



Also get voice recorder and announcer!

W&S £549 D

Deal: Get FREE Extra DC Lead! Exclusive to PW Readers - Request when ordering

FT-450AT with Built-In ATU £619.95 C

FT-950

NEW



YAESU



100W 160 - 6m

W&S £999 D

DSP filtering, incorporating features such as Variable Bandwidth, IF Shift, and Passband Contour tuning. Digital Noise Reduction and Digital Auto-Notch Filtering. On transmit you get a three-band graphic equaliser and the ability to change the transmit SSB pass-band. There are plenty of other features which you will get from the Internet. What you won't get elsewhere is our offer to PW readers!

Deal: Get FREE Power-Max-25NF PSU worth £89 when you buy FT-950 from W&S. Offer to PW readers only at time of order.

These Yaesu offers expire 18/05/09

PAY NOTHING FOR 12 MONTHS

BUY NOW PAY LATER AT BOTH STORES



AVAILABLE ON ALL SALES OVER £200

On most items over £200 in value it is now possible to buy with a finance agreement and pay nothing for 12 months without incurring ANY interest charges. If paid in full within 12 months then a £29 settlement fee is payable. **Typical example of Buy Now Pay Later:** Cash price - £600. Pay no deposit and pay the full amount in 12 months. **Pay no interest - just £29 fee. OR - 29.8% APR** - Then repay £30.85 per month for 36 months. No settlement fee. Total amount due £1110.60. Interest is calculated from date of agreement. All finance is subject to status - written quotation on request.

FT-897D+



The FT-897D+ is exclusive to W&S and comes with dual DC leads making it the ideal base portable radio. **STOCKS LIMITED**

*HF + 6m, 2m, 70cm
*CW, SSB, AM, FMN, FMW, PACKET, DIGITAL
*HF/6m 100W, 2m 50W, 70cm 20W

W&S

£599 D

FT-2000



1.8-30MHz +6m 100W

£1899 D

FT-2000D 200W

£2399 D

The FT-2000 series has become the DXpedition favourite. With front end preselector and dynamic range, it handles crowded bands with ease. You can dial in selectivity right down to 25Hz. Transmitted audio quality can be adjusted over an enormous range via the built in DSP. And if you opt for the FT-2000D, it is almost having a 2 el. Yagi for FREE.

PART EXCHANGE? We take in almost any ham gear - even old clunkers!! Give us a call TODAY

FT-857D



*Tx: 160-6m(100W), 2m(50W), 70cm(20W)
*USB, LSB, CW, AM, FM (WFM Receive)

W&S

£529 D

FT-DX9000D



YAESU

Yaesu's top radio series of transceivers for the ultimate experience!

W&S £ Phone!

FT-DX9000Contest Phone!

FT-817ND

*TX: 160-10m, 6m, 2m, 70cm
*USB, LSB, CW, AM, FM, WFM, Digital (AFSK), Packet (1200/9600 FM)

YAESU



Deal: bhi DSP fitted £529

W&S £399 D

Get On D-Star Today!

ICOM IC-E2820

This dual band mobile offers D-Star facilities with digital speech as well as normal FM at 50W



IC-E2820 Mobile FM £384 C

IC-E2820 with D-Star £539 C

PW customers can claim an extra DC lead when ordering!

IC-E91

Fitted with D-Star

£379.95 C



D-Star Repeater - Low cost subsidised Icom repeater available to clubs when purchasing D-Star Radios from us. Phone for details.

TM-V71E

NEW

KENWOOD

EchoLink Memories & NODE Terminal 50W on 2m & 70cms!

W&S

£259.95 D



FT-2800M



2m 65Watts FM Mobile Transceiver List Price: £179.95

W&S £119.95 D

FTM-10E

Bluetooth

New 2m/70cm Mobile with Bluetooth option.

W&S

£249 D

IC-7800



ICOM

Icom's greatest HF transceiver ever. Invest in the best! 200W HF Built-in PSU. * All amateur bands HF + 50MHz 200W SSB, CW, RTTY, PSK31, FM, AM * Output power (continuously adjustable) SSB, CW, RTTY, PSK31, FM 5-200W, AM 5-50W, 137kHz, CW > -20dBm * General coverage Rx: 0.030-60.000MHz * 7in Colour TFT display

Deal: SP-20 Filter Spkr FREE W&S £6599 D

Carriage Charges: A=£3, B=£4, C=£6.95, D=£10, E=£12

Orderline



01702 206835

Online Catalogue



www.wsplc.com

UK's Lowest Prices



Zero Deposit
Zero Interest



DV-DONGLE

Work D-Star world-wide from
your PC or Laptop.

£199.95 C

**FAST NEXT WORKING DAY
DELIVERY SERVICE!**

Orders must be received before 3pm.



TS-2000E



- *100W All-mode
- *160m - 70cms
- *Duplex operation
- *Satellite ready
- *DX cluster QSY

The TS-2000 offers all-band coverage in one very neat & effective high performance system. This is one of the best buys in ham radio. Add our W-25AM 13.8v supply (£89.95) and you are ready to go.

Deal: FREE Extra DC Lead
(Quote advert when ordering)

W&S
£1369 D



TS-480SAT
100W HF+6m **£699 D**

TS-2000X with 23cms **£1624 C**

TS-480HX **£769 D**

IC-756PROIII

ICOM



HF + 6m
100W
All-Mode

W&S £2068 D

Special Deals

We can offer special deals on
most packages and good PX
allowances - call us!

IC-7000

ICOM



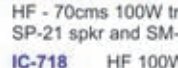
HF/VHF/UHF
All-Mode
Transceiver

W&S £939 D

Deal2: With TFT PAL TV Screen £999
Deal3: With TFT + Power-Mite PSU £1049

IC-7400

ICOM



HF - 70cms 100W transceiver plus
SP-21 spkr and SM-20 mic

£1511 D

IC-718 HF 100W transceiver **£449**

IC-706IIGDSP

ICOM



HF/VHF/UHF
100W
Transceiver

Deal: IC-706 + New Power-Mite-NF FREE **W&S £739 D**

IC-703DSP

ICOM



10W QRP
HF-6m built-in
Auto ATU + DSP

W&S £524.95 D

Visit our eBay shop for more bargains!



Go to
www.wsplc.com
& click on the link
to our eBay shop

KENWOOD



TS-480SAT
100W HF+6m **£699 D**

TS-480HX **£769 D**

Exclusive to Waters & Stanton!

Radiomate

NEW

For



Keyboard
For FT-817,
FT-857 & FT-897

Rig not included!

- * Direct frequency entry
- * Mode change
- * Carrier tune mode
- * VFO A/B
- * 20 Memories
- * Self-Powered

£87.95 C

bhi DSP Noise Cancelling

NES10-2 MkII



Speaker and
programmable DSP unit.
Offers dramatic noise
reduction.

£87.95 C

ANEM-MKII

"Noise Away" Amplified
Noise Elimination Module.
Fits in-line between the
equipment & speaker.



£119.95 C

NEIM-1031MKII

Noise Eliminating
In-Line Module.



£125.95 C

NEW Nissei Cross Needle Meters



This is a new
range of
cross-needle
meters at a very
competitive
price!

This new range is available April 2009

RX-103 1.6 - 60MHz 2kW **£49.95 B**
RX-203 1.8 - 200MHz 200W **£49.95 B**
RX-403 125 - 525MHz 200W **£49.95 B**
RX-503 1.8 - 525MHz 200W **£69.95 B**

Icom VHF/UHF Mobile/Base

IC-E208

Dual Band FM Mobile
*144-146MHz, 430-
440MHz Tx *55/50W (3 pwr steps each
band) *Wideband Rx 118-173,
230-549 & 810-999MHz **£254.95 D**



IC-910H **£1239 D**

2m/70cm 100W Base station all-modes
Option for 23cm module (UX-910 £359)

IC-910HX **£1439 D**

As Above but with 23cm Module ready
fitted and a big saving as well.

IC-2200H **£199.95 D**

2m 55W FM mobile with rugged
construction and with digital option.

IC-2725E **£319.95 D**

2m/70cm radio. Easy to operate and
install and a lovely detachable head.

Kenwood VHF/UHF Mobiles/Base

TM-271E

2m FM 60W Mobile
Transceiver. MIL-SPEC
DTMF Mic. Built-in
CTCSS & DCS
encoder / decoder.

£149 D

TM-D710E Low Price **£399 C**

Dual band APRS 50W FM

Yaesu VHF/UHF Mobiles/Base

FT-7800E

*2m/70cm Dual Band
Mobile *High power
50W 2m /40W 70cms
*Wide receive inc. civil & military airband
*CTCSS & DCS with direct
keypad mic. *1000 memories **£189 D**



FT-1802E Low Price! **£109 D**

*2m FM Mobile transceiver *5,10,25,50W

FT-8800E Low Price! **£269 D**

*2m/70cm Dualband FM Mobile transceiver

FT-8900R Low Price! **£299 D**

*2m/70cm/6m/10m Quadband FM Mobile

Yaesu ADMS Software

Programming Software For Your Radio

Programme Memories and all your radio's
functions from your PC. Includes Windows
software and serial lead with adaptor for your Radio.

ADMS-1 F for VX-110/150 / **ADMS-1 G** for VX-7

ADMS-1 H for VX-2E / **ADMS-1 J** for FT-60E

ADMS-2 H for FT-8900 / **ADMS-2 I** for FT-8800

ADMS-2 J for FT-2800 / **ADMS-2 K** for FT-7800

ADMS-3 Programming Kit for VR-500

ALL £41.95 with FREE PC Radio Data Lead.

ADMS-4A for FT-817 & **ADMS-4B** for

FT-857 **BOTH £32.95** both these items require a

separate CT-62 lead at **£29.95**

IC-E92D

NEW

ICOM

2m/70cm Handheld with
Built-in DSTAR



- * 144-146MHz /
430-440MHz
- * FM FMN WFM AM
(Rx) DV
- * 5W/2.5W/0.5W/0.1W
- * 1304 memories
- * 100 scan ranges
- * Rx range
0.495kHz-999.9MHz
- * CTCSS, DTMF, DTMF
Includes antenna, and
charger.

A fully fledged digital
radio using D-Star as well
as traditional dualband.

W&S
£369.95 C

Icom VHF/UHF Handhelds

IC-E91 D-Star Ready

Latest dual-band handheld
transceiver. receiver that covers
0.495 to 999MHz.

£269.95 C

IC-E91 with D-Star **£379.95 C**

IC-V82 7W 2m Digital **£172.95 C**

IC-U82 70cms Digital **£172.95 C**

IC-E90 6m/2m/70cm **£219.95 C**

IC-T3H 2m 5W **£144.95 C**

Kenwood VHF/UHF Handhelds

TH-F7E

* 144-146MHz Tx/Rx: FM
* 430-440MHz Tx/Rx: FM
Up to 6W out with Li-ion
battery and "scanner" style
coverage from 100kHz to
1300MHz including
SSB on receive!

£209.95 C

TH-K2E 2m 5W **£139.95 C**

TH-K2ET 2m 5W FM **£149.95 C**

TH-K4E 79cm 5W FM **£139.95 C**

Yaesu VHF/UHF Handhelds

VX-7R

Black or Silver Available.
Totally waterproof. Wide
frequency coverage
500kHz-900MHz AM/FM.

£239 C

VX-6E 2m/70cm wide rx 5W **£179.95 C**

FT-60E 2m/70cm wide rx 5W **£129.95 C**

VX-3E 2m/70cm **£129.95 C**

VX-170 2m 5W w/16-key pad **£89.95 C**

Carriage Charges: A=£3, B=£4, C=£6.95, D=£10, E=£12



AirNav Systems

The Most Trusted Name In Flight Tracking

Virtual Radar LIVE On Your PC

RadarBox 2009

- Approved By Airline Pilots
- Used By BBC & Flying Clubs
- Amazing Display Graphics
- No Tricky Software To Configure
- Aircraft Picture Library On CD
- Internet Data Sharing Network

Free NASA Map Overlays

The choice of more dealers - both in the UK & Worldwide - check www.airnavsystems.com



- Watch the Action Live from Home!
- Real-Time Radar Mode-S & ADS-B Decoder
- Zoom Worldwide to Runway Level
- Network your Station with Others
- Self Powered from USB Port. Plug & Play!
- Centre Map on your Home - Direct Reception
- Everything you Need Apart from PC

NEW ACARS Decoder Software

Stand alone or
integrate into
RadarBox
programme.

£99.95 C

£389.95 D

NEW RADAR-COM COMPLETE ANTENNA SYSTEM FOR RADARBOX WITH ALL CABLES

Includes the Radar-Extender antenna, 1m Westflex-103 with N type connectors, AS-1090 pre-amp, 10 or 20m Westflex-103 with N type connectors, AS-1090BT Bias-T and 1m Cable BNC/SMA.

RADAR-COM-10 Complete Antenna System including all cables with 10m cable **£249.95 A**

RADAR-COM-20 Complete Antenna System including all cables with 20m cable **£289.95 A**

You Just Need A 12V 1 Amp PSU.



WATSON

Official Distributer
UK's Lowest Prices

Power-Mite-NF

NOISE OFFSET POWER SUPPLY



22 Amps of continuous power output with variable voltage plus the new Noise Offset Function (NF).

W&S £69.95 C

Power-Max-45NF

POWER SUPPLY



40 Amp (45A Peak) continuous switch mode PSU with Noise Offset Function (NF). *Output 4-16V DC Variable *Input 100-260V AC *Short Circuit & Over Voltage Protection

W&S £119.95 D

NEW Power-Max-25-NF

22 Amp Cont. (25A Peak) with Noise Offset.

- W-3A** Output 3A, 13.8V DC, supply 230V AC **£24.95 C**
- W-5A** Output 5A, 13.8V DC, supply 230V AC **£29.95 C**
- W-10AM** Output 10A, 0-15V DC, supply 230V AC **£59.95 D**
- W-25AM** Output 25A, 0-15V DC, Dual meters **£89.95 C**
- W-30AM** Output 30A, 0-15V DC, Dual meters **£119.95 D**

£89.95 C

Bargain Price Antennas



Pre-tuned & Weather Sealed
Fibre-glass encapsulation

- W-30** 2m/70cms 3/6dB length 1.15m 150W SO-239 **£49.95 C**
- W-50** 2m/70cms 4.5/7.2dB length 1.8m 150W SO-239 **£54.95 C**
- W-300** 2m/70cms 6.5/9dB length 3/1m 150W SO-239 **£74.95 D**
- W-2000** 6m/2m/70cms 2.15/6.2/8.4dB length 2.5m 150W **£85.95 C**

Mobile Whips Bargain Prices



Watson mobile antennas are made to a high specification and employ stainless steel whip sections with SO-239 connectors. All models are pre-tuned and will withstand at least 100 Watts RF.

Watson - the name you know!

- W-2LE** 2m 0dBv length 0.48m **£10.95 C**
- W-285** 2m 3.4dBv length 1.33m **£14.95 C**
- W-77LS** 2m/70cm 0/2.4dBv length 0.43m **£14.95 C**
- W-770HB** 2m/70cm 3/5.5dBv length 1.1m **£19.95 C**
- W-7900** 2m/70cm 5/7.5dBv length 1.58m **£31.95 C**
- W-627** 6/2/70cm 2/4.5/7.2dBv length 1.6m **£34.95 C**

Antenna Time - FREE Carriage!

We offer **FREE** carriage to PW readers who order antennas from this advert until 18th May. This applies to UK mainland only.

For full technical information go to www.wsplc.com and key in the antenna product code.

Hustler Base HF

6-BTV	£255.95 D
5-BTV	£224.95 D
4-BTV	£182.95 D
HF Mobile Lower Mast	
MO-1	£36.95 C
MO-2	£34.95 C
MO-3	£28.95 A
MO-4	£24.95 A

Mobile Resonators

RM-10	£20.95 C
RM-12	£20.95 C
RM-15	£20.95 C
RM-17	£25.95 C
RM-20	£25.95 C
RM-30	£28.95 C
RM-40	£29.95 C
RM-80	£30.95 C



Cushcraft - HF Verticals

MA6V	£329.95 D
MA5V	£279.95 D
MA8040V	£319.95 D
R-8	£559.95 D
R8-GK	£54.95 D

R-6000

£399.95 D

AR-10 £99.95 D

HF Beams

MA5B	£479.95 D
A4-S	£739.95 D
A3-S	£599.95 D
A3-WS	£499.95 D
D-3	£299.95 D
D-3W	£299.95 D
D-4	£419.95 D
TEN-3	£259.95 D

GAP Antenna Specials!

Challenger-DX 80-2m 2kW

£324.95 £279.95 D

Voyager-DX 160-40m

£409.95 £349.95 D

Eagle-DX 40-10m

£349.95 £299.95 D

Limited stocks!

Hygain - Verticals

AV-12AVQ	£149.95 D
AV-14AVQ	£189.95 D
AV-18AVQ	£269.95 D
AV-18HT	£1069 D
AV-18HTJR	£399.95 D
AV-18VS	£109.95 D
AV-620	£329.95 D
AV-640	£429.95 D

DX-77A £479.95 D

DX-88 £409.95 D

Hygain Beams

TH-2Mk3	£399.95 D
TH-3JRS	£399.95 D
TH-3Mk4	£532.95 D
TH-5Mk2	£799.95 D
TH-7DX	£939.95 D
TH-11DX	£1239 D

Tonna 6m Yagi

20505	£109.95 D
Tonna 2m Yagis	
20804	£59.95 C
20808	£84.95 D
20809	£69.95 D
20809	£70.95 D
20818	£109.95 D
20822	£135.95 D
20811	£104.95 D
20817	£121.95 D

Tonna 70cms Yagis

20909	£56.95 D
20919	£72.95 D
20938	£111.95 D
20921	£89.95 D
20922	£135.95 D
Tonna 23cms Yagis	
20623	£66.95 D
20624	£66.95 D
20635	£79.95 D
20636	£79.95 D

Black - Box Arrives!

The Air Traffic Flight Monitor
That Catches Everything!

No more missed transmissions. No more hunting for frequencies. Even safe inside aircraft cabin. Hear things others miss!

Just switch on, adjust volume and squelch to listen to any VHF airband signal. Great for airshows or where frequencies are not known. Passive non radiating, so safe inside an aircraft cabin. Built-in speaker plus headphone socket. Runs from PP3 battery or external 12V supply. You even get a FREE 12V cigar lead.



Only £79.95 C

Now In Stock!



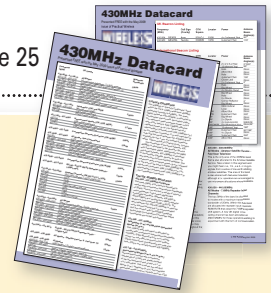
Practical Wireless May 2009

contents

Volume 85, Number 5, Issue 1225. On sale 9 April 2009

FREE INSIDE
430MHz Datacard

See page 25



6 Keylines

Rob G3XFD announces a new *PW* 70MHz contest and describes how he also admires keen SOTA operators.

7 Radio Waves – Reader's Letters

Your chance to air your views and discuss topics of interest.

10 News

See what's happening and what's of interest in the world of Amateur Radio.

18 Antenna Workshop



Chris Tucker G4DCH is a keen Amateur with much experience! Here the ever-effervescent Chris describes the G4DCH mobile 3.5MHz antenna.

25 The 430MHz Datacard

David Butler G4ASR introduces the 430MHz band Datacard given away free with this issue of *PW*.

26 Using the Moonraker YG3 4 70MHz 3-Element Yagi

Rob Mannion G3XFD comments on the 3-element Yagi that he used during the last *PW* 70MHz activity afternoon back in 2008.

27 Rallies

Find out the details of the next radio rally that you would like to attend.

30 PW 70MHz Contest – New!

Colin Redwood G6MXL explains the rules of the first brand-new *Practical Wireless* 70MHz Low Power Contest.

35 Save Me A Bit!

Geoff Theasby G8BMI describes his soldering iron saver circuit that not only extends the bit's life, it saves a bit of money too!

36 Around The Rockies With A Hand-held

Bob Harry G3NRT decided that as his children had grown up, it was time to get active in VE7 land with just the XYL and a hand-held radio.

38 Club News

Three pages of news and club details! Does your club feature here?

42 In Focus – RNARS

Wally Walker G4DIU – the Royal Naval Amateur Radio Society's Historian – puts the organisation in focus for *PW* readers.

45 Competition

Your chance to win an **Alinco DJ-175** hand-held radio!

46 Carrying On The Practical Way

The Rev. George Dobbs G3RJV describes the American project called the Twofer – a 20 year-old popular project for today.



52 VHF DXer

David Butler G4ASR takes a look at your v.h.f. and u.h.f. reports and has news of a world record that was achieved on the 70MHz band.

55 What Next?

Colin Redwood G6MXL looks at some of the awards and how to get them so that they can grace your shack walls.

60 Valve & Vintage

Join **Ben Nock G4BXD** as he explores some of his new acquisitions in the world of vintage military radio systems.

64 HF Highlights

Carl Mason GW0VSW presents the *Phoenix* radio along with readers' reports and QSL cards from the h.f. bands.

67 Morse Mode

Roger Cooke, G3LDI explains how Morse can be a life-line to handicapped people in his bi-monthly report.

68 In The Shop

Harry Leeming G3LLL explores some testing techniques before turning to a faulty FT-902 on the bench.

72 Traders' tables

74 Classified Advert

75 Bargain Basement

76 PW Publishing Bookstore

80 Subscriptions

81 Topical Talk

Rob Mannion G3XFD discusses interesting topics from readers' letters, which range from book publishing to tackling interference.



Front cover: Our thanks go to **Colin Redwood G6MXL** for the photography.

Design by **Steve Hunt**.

Copyright © PW PUBLISHING LTD. 2009. Copyright in all drawings, logos, photographs and articles published in Practical Wireless is fully protected and reproduction in whole or part is expressly forbidden. All reasonable precautions are taken by Practical Wireless to ensure that the advice and data given to our readers are reliable. We cannot however guarantee it and we cannot accept legal responsibility for it. Prices are those current as we go to press. Published on the second Thursday of each month by PW Publishing Ltd., Arrowsmith Court, Station Approach, Broadstone, Dorset BH18 8PW. Tel: 0845 803 1979. Printed in England by Holbrooks Printers Ltd., Portsmouth PO3 5HX. Distributed by Seymour, 2 East Poultry Avenue, London EC1A 9PT. Tel: 020 7429 400. Web: <http://www.seymour.co.uk>. Sole Agents for Australia and New Zealand - Gordon and Gotch (Asia) Ltd.; South Africa - Central News Agency. Subscriptions INLAND £38, EUROPE £47, REST OF WORLD £57, payable to PRACTICAL WIRELESS, Subscription Department. PW Publishing Ltd., Arrowsmith Court, Station Approach, Broadstone, Dorset BH18 8PW. Tel: 0845 803 1979. PRACTICAL WIRELESS is sold subject to the following conditions, namely that it shall not, without written consent of the publishers first having been given, be lent, re-sold, hired out or otherwise disposed of by way of trade at more than the recommended selling price shown on the cover, and that it shall not be lent, re-sold, hired out or otherwise disposed of in a mutilated condition or in any unauthorised cover by way of Trade, or affixed to or as part of any publication or advertising, literary or pictorial matter whatsoever. Practical Wireless is Published monthly for \$50 per year by PW Publishing Ltd., Arrowsmith Court, Station Approach, Broadstone, Dorset BH18 8PW, Royal Mail International, c/o Yellowstone International, 87 Burelows Court, Hackensack, NJ 07601. UK Second Class Postage paid at South Hackensack. Send USA address changes to Royal Mail International, c/o Yellowstone International, 2375 Pratt Boulevard, Elk Grove Village, IL 60007-5937. The USPS (United States Postal Service) number for Practical Wireless is: 007075.



Rob Mannion's

keylines

Rob G3XFD announces a new PW 70MHz contest and admires keen SOTA operators.

Recently, I mentioned in *Keylines* that I had finally – with help – got myself on to transmitting PSK31.

Since then I've been discovering the joys of using yet another mode that can be used very effectively with simple antennas and lower power.

Despite my awareness (at least I regard myself as being fully aware!) of the diversity of opinions within our multi-faceted hobby, I was rather surprised that a very old friend of mine – an extremely experienced Amateur with many years in the hobby – questioned the use of PSK31 on the Amateur bands, during a telephone chat where I'd expressed my enjoyment of the mode. He had reacted by saying, "PSK31 – that's not real Amateur Radio is it, Rob?"

I was very surprised at my friend's reaction to my activity using the digital mode because he'd always seemed to be an open-minded person – a stalwart of his local club. More importantly perhaps, my friend has also been instrumental in encouraging many newcomers into the hobby. Maybe that's why I was so surprised!

Over the years, I've often mentioned in my editorials about the incredible (it really is incredible) diversity within the hobby of Amateur Radio communications. In fact, I suggest that if we prepared a sort of family tree leading away from the base subject, it could probably spread (just like tree roots) an amazing distance from the 'radio communications' base while remaining linked to the 'core subject'.

The final 'icing on the cake' associated with my own 50 years of pleasure that has come with our truly wonderful hobby (and a thoroughly enjoyable job for me on *PW*!) is that I can use my Amateur Radio in a unique way to share and enjoy some of my other interests. These include railways and railway history, geography and languages.

There's certainly room for all our many differing interests in Amateur Radio – and *PW* will always endeavour to help everyone share their special interests. Our hobby is so diverse that the magazine we love so much, **must reflect** that diversity as much as possible. It's my place as Editor to ensure this happens, and with our readers reflecting their own interests when they work as authors, they'll be sure of demonstrating their own successful

diversity via their own efforts. So, let's be hearing from you – with your very own special activities and we can then add them to the ever-expanding Amateur Radio 'family tree' roots.

Monitoring Transmissions

As I grow more experienced using PSK31, I've become fascinated with monitoring both the incoming signals and outgoing transmissions. On the incoming side it's been a revelation to watch the 'waterfall' type display with the differing tracks of the various individual PSK31 signals. And seeing the effects of QSB – as the signals increase and fade – leaving either an increasingly noisy waterfall trace, or a strong clear trace, has been fascinating indeed.

Before I started preparing this edition of *Keylines*, I had been operating on 14MHz PSK31, and almost managed to work a KP4 station (Puerto Rico), before changing conditions on the band replaced that station with a series of Italian stations! However, I'll persevere and will work that American Island state on PSK31 eventually!

The appearance of the Italian stations – all calling 'CQ' – brought another problem as some transmitters were being over-driven, causing transmission distortion and multiple sidebands. This led to several transmissions occupying more than twice the bandwidth of a correctly adjusted PSK31 audio drive on this very narrow-band mode. Unfortunately, this is quite a common problem.

I've yet to come across a PSK31 system that provides a real time screen display of the **outgoing transmissions** and I think that such a system would make a useful project. **Tex G1TEX** and I have discussed the various techniques together. However, I'm not sure if monitoring and displaying the audio input levels to the transmitter microphone input or 'sniffing' the final output would be more practical. We'd be very interested in ideas from readers and my own preferences would be that some form of monitoring 'scope, in effect a limited bandwidth spectrum analyser (panadapter) would be the most useful, perhaps using a 1CP1 miniature 25mm (1in) oscilloscope tube?

Rob Mannion G3XFD/EI5IW

Practical Wireless

PW Publishing Limited
Arrowsmith Court
Station Approach
BROADSTONE
Dorset BH18 8PW

Tel: 0845 803 1979
Fax: 01202 659950

Editor
Rob Mannion G3XFD/EI5IW
rob@pwpublishing.ltd.uk

Technical Editor
NG (Tex) Swann G1TEX/M3NGS
tex@pwpublishing.ltd.uk

Art Editor
Stephen Hunt
steve@pwpublishing.ltd.uk

Advertising Typesetting/Admin
Peter Eldrett
peter@pwpublishing.ltd.uk

Advertisement Sales
Roger Hall G4TNT
roger@pwpublishing.ltd.uk

Finance Manager
Alan Burgess
alan@pwpublishing.ltd.uk

Book Orders
bookstore@pwpublishing.ltd.uk

PW Publishing Website
www.pwpublishing.ltd.uk

Our 0845 numbers are charged at the BT Standard local Rate. Callers with an appropriate BT inclusive call package can call this number free!

Directors: Stephen Hunt & Roger Hall

Subscription Administration

Webscribe
Practical Wireless Subscriptions
PO Box 464
Berkhamsted
Hertfordshire HP4 2UR, UK
pw@webscribe.co.uk
www.mysubcare.com
☎ 01442 879097
Fax: 01442 872279

Subscriptions

Subscriptions are available at £38 per annum to UK addresses, £47 Europe Airmail and £57 RoW Airmail. See the Subscriptions page for full details.

Components For PW Projects

In general all components used in constructing PW projects are available from a variety of component suppliers. Where special, or difficult to obtain, components are specified, a supplier will be quoted in the article.

Photocopies & Back Issues

We have a selection of back issues, covering the past three years of *PW*. If you are looking for an article or review that you missed first time around, we can help. If we don't have the whole issue we can always supply a photocopy of the article. See the Book Store page for details.

Placing An Order

Orders for back numbers, binders and items from our Book Store should be sent to: PW Publishing Ltd., Post Sales Department, Arrowsmith Court, Station Approach, Broadstone, Dorset BH18 8PW, with details of your credit card or a cheque or postal order payable to PW Publishing Ltd. Cheques with overseas orders must be drawn on a London Clearing Bank and in Sterling. Credit card orders (Access, Mastercard, Eurocard, AMEX or Visa) are also welcome by telephone to Broadstone 0845 803 1979. An answering machine will accept your order out of office hours and during busy periods in the office. You can also FAX an order, giving full details to Broadstone 01202 659950. The E-mail address is bookstore@pwpublishing.ltd.uk

Technical Help

We regret that due to Editorial time scales, replies to technical queries cannot be given over the telephone. Any technical queries by E-mail are very unlikely to receive immediate attention either. So, if you require help with problems relating to topics covered by *PW*, then please write to the Editorial Offices, we will do our best to help and reply by mail.



readers' letters

The Star Letter will receive a voucher worth £20 to spend on items from our Book Store or other services offered by *Practical Wireless*.

Further Thoughts On Foundation Training

Dear Rob,

The letter from **Ray Howes G40WYI** (March issue) got me thinking again about the Foundation entry into Amateur Radio, and the various obstacles faced by people wanting to get into Amateur Radio.

I think that relevant factors may be:

1: Many mature age people (i.e. young adults to the elderly) lack confidence in their ability to learn. A number of my students in Amateur Radio courses and at university have a poor opinion of their intelligence and their abilities. Statements such as, "I was pretty dumb at school" have often been voiced to me. The other statement that really distresses me is, "I am only a housewife."

2: Quite a number of my university students, even some who have been admitted to a masters course, have lacked basic numeracy and literary skills. And I am not talking about overseas students for whom English is a second language. These basic skills should have been acquired at school. Why have they not been acquired? I could only speculate as to the reasons, as it's 45 years since I taught in a High School. I will however hazard a guess that there is a choking effect whereby the rate at which the system tries to stuff information into the heads of students exceeds the rate at which the students are able to absorb it. The overload causes fatigue and the net result is discouragement and an antipathy to learning. Of course the pace is much faster at university, and I have often been asked by first year students, "Why do I have to learn all this rubbish?" My response has been to tell my own story of catastrophic failure in the third and final year of my science degree, and how a kindly lecturer grabbed hold of me and in thirty minutes or so, taught me how to

study. With the ability to study came increased confidence and an interest in the topic.

3: Mature age people often do not realise how skills and wisdom acquired in the ordinary course of their lives can help them with study in later life. Holding down a job, finding a life partner, financing a home, bringing children into the world and rearing them, all sharpen the problem solving skills. Once they get into an amateur radio course and start to be able to solve the problems set for them, their interest level and confidence increases.

4: Candidates for Amateur Radio licences come from all types of background, hence the instructor needs to be able to spot difficulties and provide extra assistance where

necessary. (I supplement my formal class with one-to-one tuition at a local coffee shop where this would be helpful).

5: I have found that many lose their antipathy to maths when (a) they realise that they have enough 'smarts' to acquire the basics and (b) they see how useful is a good grasp of basic maths.

6: I think that in comparison with the old Australian Novice syllabus, the current Foundation and Standard steps help overcome the choking effect I mentioned earlier. I think that a good paradigm for older candidates is "Listen a little, write quite a bit (solve set problems), and operate a lot (get your Foundation licence, acquire on-air experience and also realise the joy and satisfaction of achievement and

Star Letter

Book Review in PW *From Wireless to Radio - Bridging The Gap*

Dear Rob,

Thank you very much for your generous review of my book, *From Wireless to Radio: Bridging the Gap* in the April issue of *PW*. I am glad you enjoyed it and agree with you that there are some problems with its presentation.

Nevertheless, I am extremely grateful to the publisher, Arima/Abramis, for allowing it to 'see the light of day' in the first place! I did approach some of the larger publishing firms but was told that the market for this sort of book had 'dried up'.

The book was, necessarily, a low-budget production. The great advantage of Arima's type of operation, i.e. low-cost, 'on-demand' publishing, is that it allows the market to be tested without either the author, or the publisher, having to commit to the expense of a large print-run in advance. Storage of unsold copies is not cheap!

Despite the book's imperfections, if I have been able to communicate some of the fun I had as a youngster doing some of these 'wireless' experiments for the first time, my main objective will have been achieved. Best wishes,

John Hough G0KRR

Linslade

Leighton Buzzard

Bedfordshire

Editor's reply: It was a pleasure to read your text John and to enjoy sharing your lifetime's experience. Please join me in the Topical Talk page for further comment of the type of publishing involved with your book. **Rob G3XFD**.

making new friends around the world). This can provide powerful motivation to go on to the next level.

I think that many would-be Amateurs face enough difficulties in getting back to study and passing their examinations without the rest of us making their path all that harder by an unwelcoming attitude. And the greater the number of Amateurs, the more revenue to national Amateur Radio organisations and the stronger the amateur voice with the authorities, some of whom, it would appear, are more interested in worshipping at the altar of Mammon than in enforcing the law. Yours sincerely,

Kevin Luxford VK3DAP/ZL2DAP
Mount Waverley 3149
Australia

The Dreaded Interference

Dear Rob,

I'm writing following your *Keylines* comments over the dreaded interference issues. Like most amateurs and enthusiasts I've suffered r.f.i. from all sorts of sources over the past 45 years but these days the variety of causes is much more challenging.

Here's a tip for readers: a correspondent of mine, **Nick Brown** in Rugby had serious v.h.f. interference

problems extending from Band 1 upwards, and thought it was another BT broadband installation and their power supplies are often suspect. Then Ofcom became involved and the source was found to be a digital 'photo frame' at a neighbouring house – it had the usual fictional CE marking which is (these days) is totally meaningless!

My other experience relates to problems that appeared late last Spring (2008) when suddenly serious interference appeared – over the 24 hours – across the 153-158MHz band (part of the Marine band) and peaking at or about 156.0MHz – the marine band distress calling channel 0. Retirement a few weeks later allowed a more leisurely approach and I sauntered outside with my HP-100 scanner, checking on 156.00MHz (using a.m. to hear the r.f.i. easier).

I wandered up the road and the interference was everywhere, round the corner and it continued, is it coming out of the ground, leaky cables, etc., I wondered? Eventually the problem (using the in-series aerial attenuator on the scanner) was traced to a lighting column, then another, then another, the whole lot in this area – they're all metal columns so are effectively earthed.

We are a test area for the lighting tests conducted by Hampshire

County Council (HCC) and had new halogen lighting heads fitted, these are controllable for intensity, energy saving, on and off sequences etc (some dimmer along the road, brighter at junctions, then we had all lights off at midnight and so on).

The HCC responded and the first site investigation resulted in the internal timer/consumption unit being sent back to the manufacturer and it was eventually declared 'clean'. More E-mails flowed between the three parties namely myself, the HCC and the Irish manufacturer, with measurements and other checks measurements, etc., being made. Eventually another lighting engineer with EMC experience arrived one cold December night with two electricity contractors and their van plus a 'cherry picker' hoist.

Switching off a selected column confirmed that **it was** one of the faulty posts. So, up went the hoist and the lighting head was dismantled where the photocell was found to be radiating interference. A second column was similarly tested and another faulty head with the suspect photocell replaced and the r.f.i. was cleared. These were sent back to the Irish manufacturers and in January all columns (40 plus) having the new halogen heads were modified with non RFI producing photocells. The result after all this effort was a clear v.h.f. band.

The new lighting heads were to be rolled out over Hampshire in a replacement programme. However, the local authority was only too aware (by then) that installing such radiating lighting equipment near to a land-based lifeboat station, a Coastguard monitoring station (such as the helicopter base at Lee on Solent between Southampton and Portsmouth) or other marine users would render the distress channel difficult to use.

It took more than nine months to resolve the problems but the HCC was positive and helpful in their approach. The HCC lighting staff members were very concerned over the wider implications; interesting too that the lighting photocell was CE marked! Had we got nowhere then both **Ofcom** and the **Maritime & Coastguard Agency** (MCA) would have then been contacted, fortunately but I was able

A Farmer's Opinion Of Electric Fences!

Dear Rob,

I suspect electric fences are often blamed as sources of interference when they are not! As you know, I'm a farmer and use about half a mile of electric fence, one end of which and the fencer unit are about 50 yards from my 1.8MHz half-wave dipole.

In fact, I've just turned the fence on to see if it's producing anything – I had a good listen on 3.5MHz and heard only static band noise and the electric fence wasn't heard!

However, I have frequently heard a wide-band repetitive swishing type noise on 3.5MHz, with a repetition rate of about 2Hz – but this is not a fence either! I suspect its source is not local as the level does vary. Modern fencers use an SCR (silicon controlled rectifier) to discharge a few hundred volts into a transformer to generate the outgoing narrow KV pulse; the result is far less wide-band noise than from the earlier electro-mechanical induction coil fencers, which are now museum pieces! Best wishes.

Tim Walford G3PCJ
Upton Bridge Farm
Long Sutton
Langport
Somerset

Problems With PLT Ethernet Adapters

Dear Rob,

I would be delighted if you could publish my letter to raise awareness of my own problems with PLT Ethernet adapters and I think the following additional paragraphs may be helpful to identify the problem and the easy way to get a potentially free solution.

I think that the QRM from these PLT Ethernet adaptors is usually the strongest and most easily recognised in the 9MHz h.f. broadcast band and is best heard by using the amplitude modulation (a.m.) mode, and frequencies around 9.450MHz (**Radio Poland**) are particularly badly affected. The h.f. Amateur bands are 'notched' in some PLT models, but the Amateur experimental 5MHz Notice of Variation (NOV) band isn't – and in other PLT models there may be less effective or no notches.

The best frequency for direction finding (DF) the source of the QRM has in my experience been around 27.380MHz a.m. for Comtrend adaptors (used for BT Vision). There's a dedicated website and Yahoo technical group on this subject with PLT QRM audio examples and relevant papers to be found at <http://www.mikeandsniffy.co.uk/UKQRM/>

I ask readers that they shouldn't (Please!) think, that as a Radio Amateur that they're not affected! This is because even where the notches are in place the general noise floor across h.f. is significantly raised, meaning that weak signals – such as DX – can't be heard as easily as they should be (or even heard at all). You may not have noticed the noise floor raising, but even NATO is apparently concerned about the adverse effects of these devices on h.f. communications and has recently published a paper.

However, there is a free and easy solution – provided the PLT QRM is not being generated inside your house or from your equipment – and that's to fill out the Ofcom on-line complaint form. Here's the link <http://www.ofcom.org.uk/complain/inter/radio/293505/?itemid=298436> Ofcom will investigate speedily and attempt to resolve the problem. Regards to everyone at PW.

Philip Lancaster
Penrith
Cumbria

Editor's comment: Thanks for the advice Philip. I also like to listen to the h.f. broadcast bands and have noticed how much worse the QRM can be in the 31 metre (9MHz) band. It can also badly affect the 10MHz Amateur band. **Rob G3XFD**

to resolve the issue before it reached that far!

When I started with radio in about 1960 the curse was sparking plugs, electric drills and vacuum cleaners – life was so simple then! Best wishes.

Roger Bunney
Romsey
Hampshire

Editor's comment: It's good to hear from you again Roger and I'm pleased you're settling into retirement. However, knowing just how busy broadcasting engineers are I know that you're likely to be just as busy in retirement! I invite readers to join me on the Topical Talk pages for further discussion. **Rob G3XFD**.

Ralph Banks G5BN – Information Sought

Dear Rob,

Primarily on behalf of **Flight Refuelling Amateur Radio Society** in Wimborne (of which I am a member) and the **National Trust at Kingston Lacy**, on the outskirts of Wimborne Minster, here in Dorset, we are seeking information on **Ralph Banks G5BN**, who is now a Silent Key.

Ralph Banks was the last owner of Kingston Lacy, which he bequeathed to the National Trust, being passed to them in 1980. The remains of a home-brewed transmitter – bearing the handwritten callsign of G5BN – are located within the house and suggest

Send your letters to:

Rob Mannion
PW Publishing Ltd.,
Arrowsmith Court,
Station Approach,
Broadstone,
Dorset BH18 8PW
E-mail: pwletters@pwpublishing.ltd.uk

Amateur Radio operations in the early 1930s. However, although the property was owned by the Bankes family for over 300 years, there are no longer any known living descendants who we might be able to contact.

There is a photograph of Ralph Bankes dressed in a Royal Naval Volunteer Reserve Flag Lieutenant's uniform on board HMS *Victory* during the Second World War. It's considered possible that he might have been called to the colours as a member of the Naval Wireless Reserve in 1939. Another suggestion is that he could have held an Artificial Aerial Licence, which was common during the period before the war.

It's also believed that a further source of information could be the Royal Naval Museum in Portsmouth Dockyard, now that Second World War records are now freely available for research. However, as I'm on the wrong side of '80 turns on the tank coil coil', it's a bit beyond easy reach for me these days!

The object of the exercise is to be able to put on a Special Event Station sometime during 2009, to publicise these connections for the benefit of the National Trust and also all the local radio societies. Any information or advice for research, particularly in the Bournemouth or Portsmouth areas would be gratefully accepted (I am fully QTHR in the 2008 *Yearbook*). Incidentally, it's worth mentioning that we've discovered that Ralph Bankes was definitely not a member of the **Royal Naval Amateur Radio Society** (RNARS), although they might also become involved (my membership number is 3532) if arms can be twisted! Yours very sincerely,
Jack Goodman G4PIJ (Co-ordinator of the Event)
West Moors
Ferndown
Dorset
E-mail g4pij@ukonline.co.uk

A great deal of correspondence intended for 'letters' now arrives via E-mail, and although there's no problem in general, many correspondents are forgetting to provide their postal address. I have to remind readers that although we will not publish a full postal address (unless we are asked to do so), we require it if the letter is to be considered. So, please include your full postal address and callsign with your E-Mail. All letters intended for publication must be clearly marked 'For Publication'. **Editor**



news & products

A comprehensive round-up of what's happening in our hobby.

Lorne Guides Thinking Day On The Air

Peter Mercer G14VIV, Bertie Drain G14POC, Merrill McNinch G16JGB, Harry Squance G14JTF, Myles Boyle G10VTS and Richard White G14DOH, Bill Langtry G14AAM, members of Bangor & District Amateur Radio Society ran an event at the Lorne Guide Centre, Hollywood in County Down on Sunday February 22nd. Fiona White M13FSW daughter of the Chairman Richard White G14DOH shepherded about 70 Brownies and Guides and also kept the supply of tea, coffee and biscuits flowing. Sarah Schofield of 1st Ballygilbert Guides liaised with Lorne House and organised the other North Down groups that attended.

The society demonstrated Amateur Radio radioteleprinter (RTTY) communications and high frequency (h.f.) single sideband (s.s.b.) equipment using a vertical antenna. Small PMR446 rigs were

used to get the Guides/Brownies through their badge test.

Although conditions were generally poor, a station in Antarctica – with a booming signal level! – was worked. The girls showed great interest in the Morse practice set-up and quite a few of them enthusiastically sent words and even sentences using the printed code translation sheets as a guide. We were able to write down what they were sending on a piece of paper and show it to them when they were finished – much to everyone's delight. The quality of the Morse was excellent even if the spelling was a bit questionable in the excitement.

The skill displayed in matching QSL card countries with the right spot on the global maps was a credit to the education system and some of the rarer cards produced quite a challenge – and one or two laughs as well!



Peter G14VIV is a well known 'Ambassador' for Amateur Radio and his famous enthusiasm for the hobby, together with his welcoming nature, helped him and the rest of the B&DARS team cope with large numbers of really keen Brownies and Guides during the 'Thinking Day On The Air'.

Further information on the B&DARS via <http://www.bdars.com/> or gi4xsf@hotmail.com Meeting are held at the The Boathouse, Harbour Car Park, Groomsport, BT19 6JP.

Bill Langtry G14AAM.

Austrian Police Car Radio Restoration

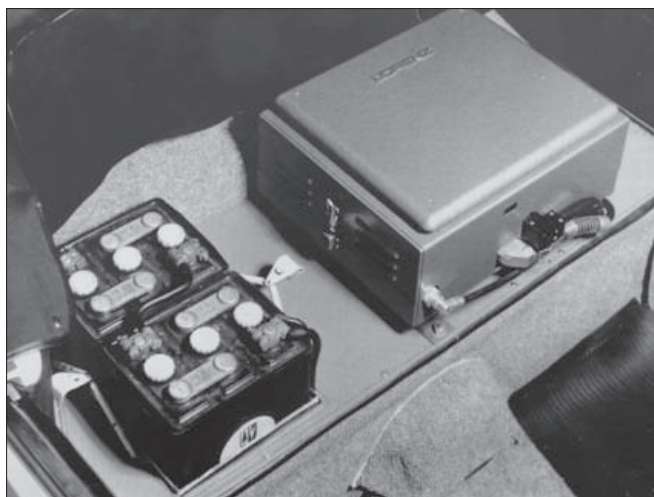
Helen Goff writes from Ashy-de-la-Zouche in Leicestershire: "Hi Rob, PW reader David Mason has asked me to send you some photos of my 1958 Porsche 356a Austrian Police car, which I am currently having (professionally) restored

back to (hopefully!) its original Austrian Police specification and livery. Here's how we think you can help: I now have just about everything, including a uniform and warrant card from the car's original driver! But I have drawn a blank trying to find a radio from the correct period.

The photo shows radio batteries which took up the whole of the back seats!

Incidentally, I have many more photos, together with blueprints for a 356 design the French Police ordered but never went ahead with. Having heard that PW is read widely in Europe, I'm hoping that somewhere, one of your well-informed readers will be able to help me! Thanks and best wishes.

Helen Goff



This historic photograph shows that the remotely mounted transceiver took up all the space where the back seats should have been in Helen's Porsche.



Helen Goff has a real sense of humour-in-uniform! If you can help this indomitable lady finish the restoration on her 1958 Porsche 356a Austrian police car by finding, or giving information or details on the radiotelephone unit, please contact her direct and also keep the PW office up-to-date.

Telephone (01530) 564959 or E-mail via helen_serena_goff@yahoo.co.uk

Editor's comment: Our pleasure to try to help you Helen! I'm sure that you'll get some help advice and assistance. Our readers are a great bunch! Rob G3XFD.

Malta Welcomes Radio Amateurs!



Many people from the United Kingdom, including Radio Amateurs, have visited the Maltese Island group in the Mediterranean for the sun, friendly people, historic architecture (especially the huge number of Church buildings!) – but how many of us miss the chance of meeting the local Amateurs? Visit the **Maltese Amateur Radio League (MARL)** website www.9h1mrl.org/ The League is a member of the **International Amateur Radio Union** and even a quick look will show just how long a radio history Malta has, to add to its truly fascinating – indeed often overwhelming – main history. With relatively few Radio Amateurs on the Island (now part of the European Union) this friendly group enjoy making friends and it's possible to obtain a reciprocal licence. **So, why not visit them in 2009?**

See <http://www.visitmalta.com/main>



Send all your news to:

PW Publishing Ltd.,
Arrowsmith Court,
Station Approach,
Broadstone,
Dorset BH18 8PW
E-mail: newsdesk@pwpublishing.ltd.uk

Schools, Science Amateur Radio & G4PRS

Dave Mason G3ZPR, President of the Poole Radio Society, reports on what his active club did for 'Science week'.

The 'Science week' is the national name given to a period when special efforts are made to raise the interest and awareness of young people in science related subjects. It's hoped to broaden their interests and, perhaps, equip them for a future vocation in a scientific, technical or engineering field.

The **Borough of Poole Education Department** hasn't prescribed action for Poole schools but has left Head Teachers at each school to arrange their own efforts, as they see fit. To this end, the Secondary Science Consultant gathered together science teachers from various schools to attend a seminar on February 25th 2009 in the pleasant surroundings of Upton House on the shore of Holes Bay on the western edge of Poole.

Poole Radio Society was invited to attend for the last session of the day to present the case for introducing Amateur Radio into the curriculum of Middle and Upper schools within the Borough. This was a challenge we were pleased to address!

A small group of licensed Amateurs within the Poole club were then brought together to consider the objectives of the event, establish a plan for the content

of the session and decide on the style of delivery. There was no difficulty in identifying the links between Amateur Radio and the following subjects; maths, physics, languages, communication skills, geography, computing, technology and space communication, which is surely enough to whet the appetite and invite further interest.

A brief history of Amateur Radio as a backdrop was sketched out, followed by a short list of some easily recognised Radio Amateurs in the public eye. We also included some notable events in modern times in which Amateurs have been to the forefront e.g: recent conflict, space, football, television personalities, monarchs, politicians, peers and actors. More importantly though, are the numbers of young people who have entered the hobby and we emphasised this aspect. We then planned the 'summing up' and decided on what we would offer the schools by way of training and support. Each 'stall holder' was then left to plan their own display.

On the day we experienced an over-run from earlier sessions which seriously limited our ability to set up, the room was occupied continually although the organiser tried to give us as much space as possible, even though sessions continued.

Apart from one small technical hitch the presentation went well and the group then split to enable them to visit the various 'stalls' we had set out.

Alan Walker G4UWS

(Committee member), talked to some fairly keen tutors, giving them information supplied by the RSGB and our own club leaflets. He reported six or seven genuinely interested people asking good questions.

Phil Ciotti G3XBZ the PRS Chairman, explained the operation of PSK31 to four tutors while **Andrew M3XAM**, supplied the other



Phil Ciotti G3XBZ demonstrates the PSK31 set-up Poole Radio Society members used at the club's 'Science Week' contribution.

end of the link from his car in the grounds.

Phil Mayer G0KKL, provided information on the Foundation Syllabus for potential school groups and felt there was good client contact.

Tex Swann G1TEX the PRS Hon. Secretary, maintained the interest of his visitors with a good range of 'Home-brew' equipment, one (lady) tutor who works with students with behavioural problems could see an advantage to introducing her students to construction projects.

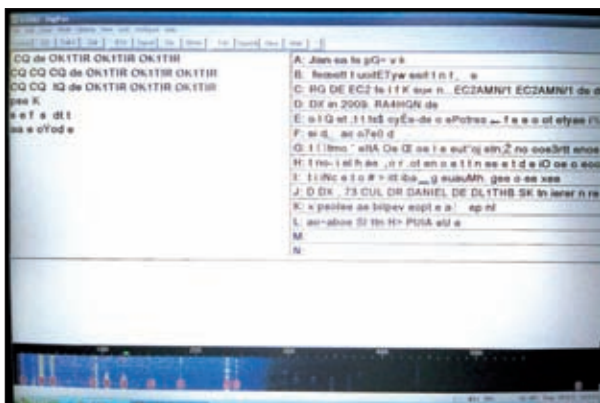
Richard Noon M3YLU, ensured that the DVD of the Neston School ISS (International Space Station) link was running, clearly of interest to science teachers. Additionally, **David Morris** was on hand to talk about short wave broadcast listening.

Together with **Eddy Cobb M3YIZ**, we were all involved in setting up and clearing away at the end of the session.

As the presentation concluded we were pleased to discover that one of our audience was the Regional Advisor for National Science Strategy, our message could go far beyond Poole.

We were delighted to have the opportunity to attend on the day and hope we delivered the right message. We may not know for some time whether that is so, but we must be ready to respond, even if there is only a single school take-up, it will have been a success.

Dave Mason G3ZPR, President Poole ARS. E-mail dave@g3zpr.wanadoo.co.uk
Website www.g4prs.org.uk/



The computer screen showing a typical PSK31 QSO.

The 2009 West of England Radio Rally

This year's rally to be held on June 28th, as follows at the **Cheese & Grain Venue, Bridge Street, Frome, Somerset BA11 1BE**. The rally opens at 10am – and closes at 3pm. Adult admission £2. Accompanied juniors under 14 free. There are inside and outside trade stands and a PW Publishing Ltd. book stand is planned. A cafe is on site and there's ample free car parking and disabled facilities.

Full details from **Shaun O'Sullivan G8VPG**, Tel: (01225) 873 098.

E-mail via rallymanager@westrally.org.uk
Website www.westrally.org.uk

International Space Colloquium 2009

This year AMSAT-UK will be holding their International Space Colloquium from **Friday July 24th to Sunday 26th July** at the **University of Manchester** right in the centre of the city and within 200 metres of Piccadilly Railway Station.

The station has direct trains to Manchester Airport and there's also an hourly bus service from the Liverpool John Lennon Airport. This three day event always attracts Radio Amateurs from around the world. It provides an opportunity to rub shoulders with the designers of the Amateur satellites. Last year's event was attended by many of the builders of the (then) recently launched Delfi-C3 Amateur Radio satellite and the formal switch-on of the satellite's transponder for general Amateur use took place on the Saturday evening.

Amateur satellites offer a wide range of challenges. With some it's possible to communicate using little more than a standard dual-band f.m. handheld. Others use c.w. or s.s.b. and allow intercontinental DX communications using the v.h.f., and u.h.f. bands. Radio Amateurs have even built satellites that transmit pictures of the Earth as they pass overhead.

Many of the Astronauts who visit the International Space Station are licenced Radio Amateurs and operate 144MHz f.m. when off duty. There is a real thrill in talking direct to an Astronaut in space!

Several new Amateur Radio satellites are planned for launch this year and the SuitSat-2 project on the International Space Station is eagerly awaited. Whatever aspect of amateur space communications interests you the AMSAT-UK Colloquium in Manchester will be the place to find out the latest news or to get advice.

The new RSGB GB4FUN radio communications trailer, which has a fully equipped satellite station, will be available during the event for visitors to work the satellites.

The event is open to all Radio Amateurs and short wave listeners (s.w.l.s). Either, day passes or full packages comprising overnight accommodation and meals are available. Further details from **Jim Heck G3WGM** via g3wgm@amsat.org Further details can be seen at www.uk.amsat.org/colloquium

Icom UK Relaunch Website

Herne Bay-based Icom UK has recently redeveloped its website www.icomuk.co.uk to provide customers with a more user-friendly browsing experience. The site has gone through a complete overhaul to improve its speed and functionality. The site – designed by Corporate IT Solution Company **easi360 Ltd** – utilises a powerful content management system called easiCMS (see www.easicms.com).

The new site has been completely redeveloped and contains the following new features;

- Keep informed of the latest Icom news via the brand new RSS news feed

- View all of Icom's products and related accessories through the new linking service

- Will find information more efficiently by

searching for terms in specific sections such as "products" and "news"

- Provides directions to Icom UK Ltd HQ in Herne Bay, Kent via Google Maps through the updated 'contact us' section

Ian Lockyer M3INL, Marketing Manager of Icom UK said, "The new site has improved functionality, a sleek design and will allow users to obtain the information they need quickly and easily. I'm confident that our customers across all our markets will approve."

Further information from:

Icom UK Ltd.,
Sea Street, Herne Bay, Kent CT6 8LD.
Tel: (01227) 741741.
E-mail: sales@icomuk.co.uk

Help Needed With An (Almost) Insane Project!



Brian Leathley-Andrew G8GMU contacted *Newsdesk* with the following desperate plea: "Dear *PW*, I wonder if you can assist with publication of an almost insane project? The year 2010 sees the 75th Anniversary of 'The Birth of Radar' when **Robert Watson-Watt** (later Sir Robert) and **Arnold Wilkins** detected the 49 metre band transmission reflections from the high power BBC short wave transmitter at Daventry in Northamptonshire, from an RAF *Heyford* Bomber near the Village of Weedon, also in Northamptonshire. The experiment eventually led to the

Radar we know today.

There are now plans to re-enact the event as far as possible, even though the BBC 49 metre band transmitter at Daventry has been dismantled. There's also much support from the farmer whose land was involved in the tests and also support from the local historic society.

Subject to filling all the conditions, **Ofcom** are likely to issue **GB75 RADAR** as a special event call sign. A request has also been made to the **Science Museum** in South Kensington, London, for the loan of the original apparatus, which of course would be for display purposes only (it would be a brave person who tried to power up such long retired equipment!).

However, perhaps the most important thing that *PW* readers can help with at the moment is the search for a very special vehicle (see photographs). Perhaps someone – maybe a vintage vehicle collector – might know where the vehicle **KX 50** – which was the vehicle used for this historic event on February 26th 1935. It was a short nose Morris Van with an Eccles ambulance body. Alternatively, perhaps you may know of someone with a close relative of this vehicle?

We know some of the history of KX50, it was the van used at Ditton Park, but we'd like to know more. Thank you all! **Brian G8GMU**, 4 Robinson Road, Bedworth, **Warwickshire CV12 0EL**, or via E-mail via info@andrewphotographic.co.uk

Cray Valley's Mills On The Air

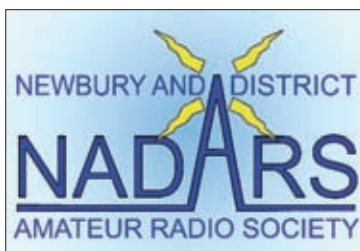
South East London-based **Cray Valley Radio Society** is planning to operate the **GB6MW** 'Mills on the Air' Station from **Meopham Windmill** in May 2009. Cray Valley – an extremely active club – will be delighted to work *PW* readers who are 'Mills hunting'. Further details on the Mill operation from **Kevin Jennings MOKSJ**. E-mail via kevin@m0ksj.org.uk website (Windmill) see www.qrz.com/db/GB6MW/1235860550



For more details of the club and activities, E-mail the Club Secretary, **Richard Perzyna G8ITB** via secretary@cvrs.org. The club meet at the **Progress Hall, Admiral Seymour Road, Eltham, London SE9 1SL**. (Near the Eltham Well Hall Roundabout). Website www.cvrs.org/



Newshound says: "That little item in your club newsletter really fascinated your members – so why not share it with *PW* readers worldwide by sending it to **Tex Swann G1TEX** for Club News?"



Newbury Rally Time!

Phil Morris G6EES writes, "It's getting closer to the time when *PW* readers need to start making plans to attend the **Newbury & District Amateur Radio Society** rally! Thank you for including the details of the event in *Practical Wireless*, we often get contacts from people who have seen it listed in the magazine and enjoy meeting readers."

We outgrew our old rally site in Cold Ash and are planing to make the new venue – that was very popular in 2008 – our permanent location. We open to traders at 8am, and rally visitors

at 9am. Parking is free and admission is £2 per person. (trader's plots £10 each for a 7m x 5m plot). This is the 22nd year of the rally – come and join the fun!"

The N&DARS team will welcome *PW* readers on June 21st at the **Newbury Showground**, (Next to Junction 13 of the M4 motorway) **Priors Court, Hermitage, Thatcham RG18 9QZ**.

Contact information: **Phil Morris G6EES Vice Chairman, Newbury & District Amateur Radio Society and Rally Manager**. Tel: (Mobile) **077 71 504 738**, or via E-mail Phil.Morris@Ascom.com

North Wakefield Club Courses On Target!

Robin Mosely G1MHU (Public Relations Officer) from the North Wakesfield Club reports, "We've had some successful Foundation Licence Courses at the club recently. The courses were taught by **Andrew Walker M0HFX** aided by myself, Robin Moseley."

Further details on the club from Robin Moseley G1MHU, **North Wakefield Radio Club, 20 Bleakley Avenue, Notton, Wakefield WF4 2N**.

Via E-mail top robin@rmoseley.co.uk Website www.g4nok.org



The successful January, NWRC Foundation Course
Names (left to right) **Les Potter, John Myers, Emma Taylor, Dai Williams, Greg Stewart**.



The successful March NWRC Foundation course. Pictured left to right are (Front) **David Mitchell, Michael Moseley, Georgie Scaife**, (Rear) **Barry Tufnell, Mark Walker, Martin Nash**.

Morse Examination – New Scheme

Jim Stevenson G0EJQ, the **Radio Society of Great Britain (RSGB)** **Regional Manager, Region 13**, reports that, "That Region 13 took its first Morse Exam, under the new scheme. It was taken by **Anthony Freeman M0HAZ** at **Lincoln Short Wave Club**. Anthony passed 100% on sending and receiving. He took the test at 12w. p.m. on March 4th and travelled more than 72km (45 miles) from Skegness to take it! So, after Anthony's success we hope this is helping to lead the way for other candidates to be encouraged around the country. Well done Anthony!"

Further details from **Jim G0EJQ** **Regional Manager Region 13**, Tel: **(01522)532604** or mobile **07500061306**, or via E-mail g0ejq@rsgb.org.uk Websites <http://www.g0ejq.co.nr> and www.rsgb-region-13.org.uk

Can You Help?

Can you help a keen Radio Amateur and great friend of *PW*? He's having a bit of a problem – so over to you Dave!

"Dear *PW* team: I have an old military transceiver, which I want to use for the local c.w. net. Fortunately this set only needs one crystal per channel but the frequency values have four decimal places! For example 7.020MHz will need an oscillator frequency of 17.7215MHz, etc. The i.f. is 10.7015MHz). Can anyone recommend a manufacturer in the UK who can supply such crystals at a reasonable price? 73 to everyone in 'PW Land'! **Dave Gemmell ZS6AAW** dave@zs6mus.org.za

Keen *PW* reader **Fred Barnes** writes: Hello 'valve people'! I have a Tektronix 545A valved oscilloscope with type 1A2 plug in unit. It contains many valves. I also have the complete manuals for both items, which are in very readable condition. Unfortunately with a house move the units were left in a shed so they have been subject to damp for some while. I wondered if any *PW* reader would be interested. Please drop me an E-mail if you are. frederick.barnes@btinternet.com



Newshound says: "On January 31st Ofcom, the UK Regulator, announced that there were 4804 Intermediate Licences issued – an increase of 47 since December 2008."

Wainwrights On The Air

Wainwrights On The Air (WOTA) was due to launch on March 21st 2009. The WOTA scheme is a new adventure radio programme for Radio Amateurs within reach of the English Lake District. Similar to the well-known **Summits On The Air** programme, the basic objectives are to 'collect' as many Lake District summits as possible, either by activating them (making contacts from the top) or by chasing them (making contacts with the activators). The summits that count for points are the 214 mountains described by the late **Alfred Wainwright** in his internationally *Pictorial Guides to the Lakeland Fells*, popularly known as "The Wainwrights."



The WOTA scheme is the idea of, and will be managed by **Julian Moss G4ILO**, who lives close to the Lake District in Cockermouth, Cumbria, often considered to be the 'Gateway to the Lake District'. Julian has developed a website to support participants in the scheme. The website allows activators to pre-announce their activations, and chasers to 'spot' stations heard working from the fells to allow others to catch them. There is also a database into which both activators and chasers can enter the details of their contacts and then view statistics and league tables.

Julian is sponsoring the "Worked All Wainwrights" and "Activated All Wainwrights" awards for participants who successfully work or activate all 214 Wainwright fells. Anyone who wishes to sponsor other WOTA awards should contact Julian. Only contacts made on, or after March 21st 2009 may be counted for WOTA awards or league tables.

For more information, including the rules of WOTA, see the website: www.wota.org.uk or contact Julian Moss G4ILO, **36 The Parklands, Cockermouth, Cumbria CA13 0WW** or via Email: julian@g4ilo@gmail.com



Newshound says: "You'll probably send your news item to more than one magazine – but by 'trying that little bit harder' for PW you'll almost certainly end up with an eye catching story with an excellent headline!"

Newshound asks, "Did You Know?," that the first printed circuit board (p.c.b.) technology was invented by **Paul Eisler**, an Austrian refugee living in London. From early experiments in 1936 he eventually made a valved radio with p.c.b. tracks, which is now in the Science Museum in South Kensington. Eisler's techniques gradually replaced the laborious hand-wired circuits, which were then standard. The p.c.b. was first used in large quantities in proximity fuses for anti-aircraft shells – before peacetime applications took over.

Nathan Scores With SOTA!

The **Thornton Cleveleys ARS** in Lancashire, are pleased to announce that **Nathan Nuttall 2E0OCC** aged 14, one of the junior members has won the **Under 18s SOTA Beams Challenge 2008**. The determination of this young man to reach the top was amazing. With the help of **Dad Brian 2E0OYG** and **Mum Jennifer M6MIJ**, Nathan has achieved the goals he was set by **Ian Taylor 2E0EDX**, a very enthusiastic SOTA activator and a great help to the team.



In winning the SOTA Beams award, Nathan also achieved the following milestones, 100 point SOTA activator award, Third place in the **SOTA Summits Personality of the Year** and the **Everest Award**. If this wasn't enough Nathan also completed his **Duke of Edinburgh Bronze award** and as an active member of his local **Air Training Corps (ATC) 2454 Warbreck Squadron**, passed his **First Class Cadet exam**, his **Leading Cadet exam** (with credit) and won the **Cadet of the**

Year 2008. Looks like Nathan (above centre) has a Bright Future!

Further information on the **Thornton Cleveleys ARS** from the Hon. Secretary, **John Foster M3WAZ** via m3waz@hotmail.co.uk The society meets at the **Frank Townend Centre, Kensington Road, Cleveleys FY5 1ER**, every Monday (except Bank Holidays). Meetings start at 8p.m. See website www.tcars.org.uk/

Stop Press News!

New Tri-Band Alinco Transceiver

Dateline March 20th 2009 – Mike Devereux G3SED, Managing Director of Portsmouth-based Nevada Radio announced the imminent arrival of a brand new Alinco tri-band DJ-G7E transceiver. Mike commented, "We're pleased to announce the release of the new Alinco DJ-G7e Tri-Band hand-held radio covering 144, 430MHz and 1.2GHz. The radio has **full duplex** and wide-band receive up to almost 1300MHz. There will be many applications for this radio from Raynet to point-to-point communications and we feel sure it will be very popular. The first delivery will be mid-April. The DJ-G7e radio will sell for around £359.95."

Mike Devereux G3SED
Managing Director
Nevada
Unit 1, Fitzherbert Spur
Farlington
Portsmouth
Hampshire PO6 1TT
Tel: (02392) 313095

Manufacturer's Preliminary Specifications

- Covers 144, 430MHz and 1.2GHz.
- Full Duplex operation.
- Wide-band receive 531kHz - 1299.995MHz
- Power 144MHz/5W, 430MHz/4.5W, 1.2GHz/1W
- Modes a.m., f.m. and wide-band f.m.
- 1000 Alphanumeric memories
- Twin dials
- Spectrum display
- Backlit display with contract/brightness adjustable
- Full CTCSS/DCS encode/decode
- With DTMF tones and autodial memories
- Auto power off



ML&S martin lynch & sons
The World's Favourite Ham Store



Outline House, 73 Guildford Street,
Chertsey, Surrey KT16 9AS

Tel: **0845 2300 599**

(Local Call Number) Tel: 01932 567 333 (Direct Dial Number)

Web: www.hamradio.co.uk

E-mail: sales@hamradio.co.uk

Yaesu Factory announce further PRICE RISES

But don't worry
guess who filled his very large
cupboard up with stock at
OLD PRICES?!

All YAESU prices shown here are
pre-increase prices introduced by
Yaesu UK on April the 6th.

Our stock can't last forever.
So please call now to
discuss your requirements.

Yaesu FT-2000 HF Base Transceiver



FT-2000: £1899.95 FT-2000D: £2399.95

The FT-2000 & FT-2000D (200W version) are available
from ML&S. No cuddly toys that you don't really need, just
excellent customer service and a fair deal.

- The Yaesu FT-2000 was the best selling HF Base Transceiver in 2007.
- The Yaesu FT-2000 was the ONLY radio used on the 3B7C St Brandon Island during 2007.
- There were NO FAILURES during 18 days of continuous 24 hour operation during 3B7C.
- ML&S sold more FT-2000's than any other dealer in the UK.
- ML&S always has the FT-2000 on permanent demo with large stocks of the 100 & 200 versions.
- Peter Hart said: "SON OF FT-1000MP, aimed at the serious DX and contest operator".

Available from stock and on permanent demo in our showroom

FT-2000 Accessories

Got a Yaesu FT-2000 or FT-950?

Add a DMU-2000 Data Management Unit

- Spectrum Scope with Limited Bandwidth Sweep feature
- Audio Scope/Oscilloscope Display Page
- Swept-Frequency SWR Page
- Memory Channel List
- World Clock with GreyLine Page
- Rotator Control Page
- Log Book Feature

DMU Price: £CALL

SP-2000 External Speaker with 2 inputs & filters	£139.95
MD-200A8X Desktop Deluxe Microphone, sounds amazing with the FT-2000!	£189.95
MD-100A8X Desktop Microphone	£116.95
CW Filters for Sub-Receiver	
YF-122C (500Hz) CW Filter	£94.95
YF-122CN (300Hz) CWN Filter	£109.95
FH-2 Remote Control Keypad	£33.95
RF External Tune Kits	
3 versions available. 160m Band Kit "A". 80/40 Band Kit "B". 30/20m Band Kit "C"	NOW IN STOCK £359.95

The Ultimate Accessory!

Quadra System 1kW HF Linear Amplifier, PSU & Auto ATU
Always available from stock £CALL

Yaesu's "Midship Radio"

Many of you grabbed the new Yaesu FT-950 HF & 6M from us at the end of November. Once again Yaesu identified a position in the market and hit it spot on. When Peter Hart said it was "An eye catching radio with some very nice features" and "it represents extremely good value" he wasn't kidding. If you don't need dual receive or internal PSU like its Dad, (the FT-2000) then check out the FT-950.

YAESU FT-950 HF Base Transceiver



**The FT-950 is available
now from ML&S at only
£999.95 CALL!!**

Yaesu FT-450 HF Base Transceiver with & without ATU

- TX Frequency Coverage: 160-10 Meters, 50MHz.
- RX Frequency Coverage: 30 kHz-56 MHz;
- Power Output: 100 watts HF-6M
- Operating Modes: USB, LSB, CW, AM, FM,
- 400 MHz built-in IF DSP
- Built-in Electronic Keyer.
- Multi-Color LCD Multi-function Display.
- Bar-Graph Metering
- AGC Fast-Slow-Auto-Off Selection.
- IF WIDTH & SHIFT, CONTOUR, Digital NR, Manual Notch Filter
- Dedicated Data Jack for FSK-RTTY
- Optional Internal Antenna Tuner (ATU-450)
- Optional Carry Handle.
- Built-in CTCSS
- Digital voice announcement of frequency, mode and S-meter
- Clarifier adjustment
- 500 Regular Memories
- Two voice memories
- CW Beacon function (up to 118 characters).
- 10 kHz Roofing Filter

The Yaesu FT-450 is a major new HF & 6m transceiver offering full a 400MHz IF DSP design at a very low price. Available with or without internal ATU, this new rig offers serious performance for those who are not bothered about the upper V/U bands.



**HF & 6m
full DSP**

**CALL OR SEE
WEB FOR BEST
PRICE!**



NEW Yaesu VX-8

Latest 6/2/70 Handie with Bluetooth, APRS and optional GPS.
See web for more details.
Price TBA.

Yaesu FT-897D

High Power version of the FT-897. Use as a transportable, (20W) or as a base/mobile (100W) Latest batch straight from the factory!
Call for lowest price!
and special "Bundle" offers



Yaesu FT-857D

The Ultimate HF Mobile Installation!
Plus ATAS-120D 40m-70cm Auto Antenna
Bundle Price: £CALL
(Rig only: £CALL)



Yaesu FT-817ND

The worlds only all-band portable transceiver. Only £399.95
Why not add a CSC-83 Carry Case for only £19.95?

Bundle 1
FT-817ND 'Vanilla' - Basic FT-817 £399.95
£39.95 deposit, 36 x £13 p/m

Bundle 2
FT-817ND + YF-122C 500Hz CW Filter £489.95

Bundle 3
FT-817ND + YF-122S COLLINS SSB Filter £499.95

**All ML&S FT-817ND's include;
2 Years Warranty, Metal
Hydride batteries, charger,
mic, etc.**



Yaesu FT-7800E. NOW ONLY £199.95

Bar make the tea it'll give you 2m/70cm @50W/40W.

Add a YSK-7800 Remote Kit for Only £19.95!

Yaesu FTM-10R. ML&S £239 A small compact dual band 2m/70cm transceiver with high power output of 50W on 2m and 40W on 70cm, (adjustable power levels of 50/40W, 20/20W, 5/5W). Receive range from 0.5-1.8MHz, 76-108MHz, 137-222MHz and 300-999MHz.

Quadra VL-1000. ML&S CALL The easiest way to get 1kW output from any Yaesu HF Transceiver. Plug in 240V, attach rig & antenna and you have a fully automated amplifier with auto tuner.

Yaesu FT-8800. ML&S £259.95 Similar to the FT-7800 but can receive on 2 & 70 simultaneously.

Yaesu FT-8900. ML&S £299.95 High-power FM on 10m, 6m, 2m & 70cm. When your local repeater is busy, slip onto 10m & work DX! **NEW Yaesu**

FT-2800. ML&S £119.95 2m FM Mobile. 5-65W output.

NEW Yaesu VX-3E. ML&S £144.95 Micro Handie 2/70 with scanner. Complete with Li-ion battery, charger & antenna.

Yaesu FT-60R. ML&S £134.95 Latest twin band handie complete and ready to go.

Yaesu VX-6R. ML&S £179.95 Yet another 2/70 handie from Yaesu.

Yaesu VX-7R. ML&S £234.95 The UK's best selling Triple Band Handie.



Outline House, 73 Guildford Street,
Chertsey, Surrey KT16 9AS

Tel: **0845 2300 599**

(Local Call Number) Tel: 01932 567 333 (Direct Dial Number)

Web: www.hamradio.co.uk

E-mail: sales@hamradio.co.uk

ICOM

COUNT ON ML&S!

Icom HF products

IC-718	Basic HF Radio, 12V, 100W output.....	£449.95
IC-703	Ideal M3 Licence holder 10W HF+6m radio.....	£539.95
IC-706mk11G	100W HF/6m + 2/70 Multimode Mobile.....	£739.95
IC-7200	Mr T's choice for tough HF/6M Operation	£779.95
IC-7000	Full DSP, TFT Screen, 100W HF/6m + 2/70	£939.95
IC-7400	100W HF/6M/2M Base, full DSP, Auto ATU	£1199.95
IC-756Pro111	Run out of this excellent HF Transceiver	£Call!!!
IC-7600	100W, Twin RX, Huge Display. No psu	£Call!!!
IC-7700	Superb 200W HF/6M Base, PSU/ATU.....	£Call!!!
IC-7800	Icom's Flagship radio has gone up again.....	£Call!!!
IC-PW1Euro	1kW Fully automatic HF/6m Linear Amp.....	£Call!!!

Icom V/U Products

IC-E91	Full Dual Band 2/70 with D-Star as option	£249.95
IC-E92ED	As above c/w D-Star fitted & splash-proof	£369.95
IC-E208E	Brilliantly easy to use 2/70 remote-head.....	£269.95
IC-E2820	Proper dual band, dual display, remote etc.....	£395.95
IC-E2820+D	Supplied with UT-123 D-Star board	£539.95
IC-910H	Multimode 2/70 Base Station	£1249.95
IC-910X	As above but with optional 23cm UX-910	£1449.95

Icom PCR/IC-R Receivers

IC-R9500	Flagship Base Receiver, 50kHz-3335MHz	£Call!!!
----------	---	----------

PC Controlled Receivers from ICOM

Icom IC-PCR1500 & IC-PCR2500

All Windows XP & Vista Controlled via USB with four models to choose from:



IC-PCR1500	10kHz-3300MHz All Mode	£399.95
IC-R1500	As above but with remote head	£449.95
IC-PCR2500	Twin Receiver version of PCR-1500	£509.95
IC-R2500	As above but with remote head	£559.95

KENWOOD

LISTEN TO THE FUTURE WITH ML&S!

STOP PRESS! Kenwood announce new PRICE INCREASES See Web or call.

Kenwood HF Products

TS-480SAT	Remote head HF/6m 100W inc ATU Transceiver	£Call!!!
TS-480HX	200Watt version of above, no auto-ATU.....	£Call!!!
TS-2000E	100Watt all mode HF/2/6M with auto-ATU etc	£Call!!!
TS-2000X	As above but fitted with 10Watts on 23cm (all mode)	£Call!!!

Kenwood V/U Products

TH-F7E	The only 2/70 FM Handie with SSB/CW WB Receiver	£Call!!!
TM-V71E	First Class 2/70 FM Mobile with remote head.....	£Call!!!
TM-D710E	The only 2/70 FM Mobile/Base with APRS/TNC etc	£Call!!!
TM-D710E+AvMap Bundle.	Personal Navigator for GPS located APRS	£Call!!!

ICOM IC-7000



Whilst the price has gone up it's actually cheaper now than it was when first introduced!

The only full feature all-mode, all band Mobile/Base Transceiver with full colour TFT display.

Only £939.95

ICOM IC-7600



By the time you read this we will, hopefully, have had our first batch from Icom UK. The successor to the IC-7565Pro111, the eagerly awaited new mid-range HF/6M Transceiver will try and set another bench mark like that of its predecessor. Price between £3000-£3500. See our website for up to date price.

KENWOOD TS-2000X



For those of you that really want a one stop solution to HF though 23cm all mode operation, the TS-2000X is the rig for you. Twenty five years ago this type of frequency operation would have filled a shack – you can now have it all in one neat desktop package.

The new price is a whopping £1999.00, **ML&S Only £1599.95** (Whilst stocks last)

Used equipment sitting at home gathering dust?

MAXIMUM PRICES PAID

For genuine good condition equipment

Call us now and get an
instant quote to buy &
collect from your home.
Or send your list to:
sales@MlandS.co.uk

To Finance or not to Finance? That is the question!

Having many years of experience offering specific finance packages for our customers, we can now offer various options on payment, including 36 and 60 months on selected products. Please note that interest is calculated from the date of the original agreement at 19.9% APR. Minimum purchase available for finance is £350.
Finance Example IC-E2820 with UT-123. Discounted price of £519, £52 deposit, then 36 x £16.86p/m. TAP £658.96, APR 19.9%. E&OE.

MyDel Power Supplies

SPS-8250	25A continuous, fully metered power supply	£79.95
MP-9626	120A, 13.8V DC power supply	£299.95
MP-8230	13.8V DC, 25A power supply	£69.95
MP-925	Linear 25-30A, 13.8V DC power supply	£99.95
MP-9600	60A switch mode power supply	£179.95
MP-6A	13.8V DC, 6A power supply	£29.95

LDG Electronics

AT-200pro	Designed for new generation of rigs	£119.95
Z-817	Ultimate autotuner for QRP radios, including the Yaesu FT-817D	£119.95
KT-100	Dedicated tuner for Kenwood radios	£169.95
IT-100	New version of the AT-7000	£149.95
Z-100Plus	Ultimate autotuner for Yaesu FT-817D	£139.95
RCA-14	4-way DC Breakout Box	£49.95
AT-1000Pro	1kw 160m-6m (1.8-54MHz) High speed Auto ATU, tuning range 6-1000Ohms	£499.95
AT-897	Bolt-on Alternative Auto Tuner for the FT-897. Wider tuning range and cheaper too!	£179.95
Z-11Pro	Portable compact & tunes 100mW to 125W	£154.95
RBA-1:1	Probably the best 1:1 balun out there	£34.95
RBA 4:1	Probably the best 4:1 balun out there	£34.95
TW-1 & TW-2	Talking Wattmeters! TW-1 HF 0-2kW TW-2 6/2/70 250W	£129.95 each
DTS-4 + 4R & DTS-6 + 6R	Remote Antenna Switchers. 1.5kW 1-54MHz. Either 4 or 6 way	£69.95 + £34.95 / £87.95 + £43.95
FT Meter	External meter Add-on analogue meter for the FT-857 and FT-897. Just plug & go! Enables you to read signal strength. Discriminator, power output, s.w.r., ALC etc	£42.95

Palstar

Full range now in stock. See www.hamradio.co.uk

AT-Auto	Automatic 1500 Watt ATU	£1179.95
AT-1KP	1200W Antenna Tuner	£419.95
AT-1500DT	1500W Differential Antenna Tuner	£449.95
AT-2K (2000W)	Antenna Tuner	£499.95
AT-4K (2.5kW)	Antenna Tuner	£809.95
AT-5K (3.5kW)	Antenna Tuner	£1079.95
BT-1500A	Balanced Antenna Tuner	£659.95
ZM-30	Antenna Analyser	£395.95
PM-2000AM	Power/SWR Meter	£149.95

Palstar Dummy Loads

DL-1500 (1.5KW)....	£109.95	DL-2K (2kW)....	£229.95	DL-5K (5kW)....	£359.95
---------------------	---------	-----------------	---------	-----------------	---------

Palstar Receiver

R30A Receiver	Palstar R30A, fitted Collins filters for SSB & AM	£649.95
MW550P	Active preselector & ATU for AM & 160M reception	£279.94
SP30	Matching Desk Speaker	£69.95
AA30	Active Antenna Matcher 300kHz-30MHz	£99.95

Real Time Virtual Radar

SBS-1e Portable Low-cost Mode-S/ADS-B receiver



For full details see our
website:
www.virtualradar.com

ML&S are appointed
distributors for the
SBS-1e and associated
products.

Based on the famous original SBS-1 launched in 2005, the **NEW SBS-1E Pocket Radar** is a portable low-cost Mode-S/ADS-B Receiving instrument designed for commercial, training and aviation enthusiasts. Supplied complete with antenna and Basestation Virtual Radar software. The SBS-1e Pocket Radar allows you to track ADS-B aircraft on a PC simulated radar screen and identifies and displays Mode-S equipped aircraft.

Now available from stock!

New SPE 1K-FA
1000W Expert HF
Linear Amplifier.



Buy your SPE Amplifier
from a BS ISO 9001:2000 Approved
Company.

CALL
FOR
PRICE

1kW output, built-in PSU, Auto ATU etc.

Perseus VLF-LF-HF Receiver



only
£749.95

PERSEUS is a VLF-LF-HF receiver based on an outstanding direct sampling digital architecture.

Unlike lower class direct sampling receivers, the PERSEUS RF analog front-end has been carefully designed for the most demanding users. PERSEUS can also be operated in a wide band mode as a 10KHz - 40MHz spectrum analyzer with more than 100dB dynamic range in a 10KHz resolution bandwidth. PERSEUS is a Software Defined Radio and relies on PC software applications to carry out the demodulation process.

ML&S are Sole Distributors for Perseus in the UK and Ireland

MyDEL CG-3000

With 200W and 200 memory channels.

- Tunable frequency: 1.8 - 30 Mhz with long wire antenna from 8 meters
- Input impedance: 50 ohms
- Input power: 10 - 200W PEP
- SWR: <2:1
- Power supply voltage: 12V +/- 10%
- Current consumption: <0.8A
- Auto tuning time: Approx. 2 seconds (first time tuning)
Less than 1 second (return to memory frequency)
- Memory channels: 200
- Weight: 1.8 KG
- Size: 310 x 240 x 72mm (L - W - H)

NEW! Remote control for the CG-3000 and CG-5000. £39.95



CG-3000 shown with optional remote switch.

ML&S:
£279.95

As reviewed by Steve White in Radcom
"A real bargain when compared to its obvious USA competitor" "Well built & performs impressively"
Steve White, Radcom November.

MyDEL CG-5000

NEW MkII Version!

At last! 600W PEP High Speed Remote Tuner from MyDEL

Specifications:

- Tuneable frequency:
1.8 - 30Mhz with long wire antenna from 8 meters
- Input impedance: 45-55 ohms
- Input power: 10 - 600W PEP
- SWR: <2:1
- Power supply voltage: DC 13.8V
- Current consumption: <1.5A
- Memory channels: 800
- Auto tuning time: 0.5-6 seconds (first time tuning),
less than 0.2 second (return to memory frequency)
- Weight: 3 Kg.
- Size: 385mm x 280mm x 110mm (L - W - H)



ML&S:
£589.95

See www.hamradio.co.uk for more details on all of these items ... and much, much more! E&OE

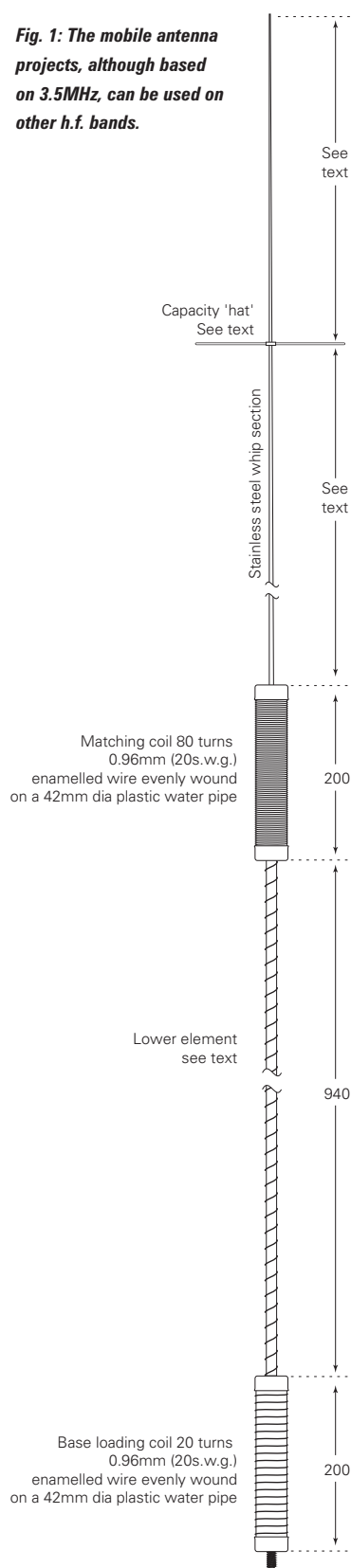


Chris Tucker's

antenna workshop

Get going 'mobile' on 'Eighty' with Chris G4DCH's project!

Fig. 1: The mobile antenna projects, although based on 3.5MHz, can be used on other h.f. bands.



To begin with a bit of history, I've been a professional antenna design engineer, working in the defence industry for the past 30 years. The antennas I have designed have operated generally in the microwave region, ranging from 1 to 50GHz. However, being more familiar with phased arrays, wave-guide structures, etc., high frequency (h.f.) antennas design, especially mobile whips, were as much a black art as most other people consider microwave antenna design!

However, at the start of this article I would like to mention two things. Firstly, the antennas I have designed and constructed can be made for a few pounds. They have been made from components that can be readily purchased from shops such as Maplins, your local DIY store and supermarket. Secondly, I should mention that I don't have a workshop full of sophisticated tools – instead I just use just everyday ones such as; a drill, various saws and files and my piece-de-resistance, a cheese grater! (More on this secret ingredient later!).

Base Loaded

The first antenna I made was a base-loaded whip for 3.5MHz (80m), but this turned out to be a bit of a disaster! Except for one contact with another Amateur about 10km (approx. six miles) away and one report from a short wave listener (s.w.l.), QSOs were non-existent.

Undeterred, I was still determined to continue and after trawling the net for ideas, I came across a article for a 14MHz mobile whip. Using this 14MHz design as the basic idea, I started work on calculating the coil dimensions needed for an 3.5MHz version. The antenna consists of four main parts: a base matching coil, a short helical section, a centre loading coil and the top whip section (see the overall layout in Fig. 1).

Base Matching Coil

The base loading coil, Fig. 2, is made using 20 turns of 0.9mm (20s.w.g.)

enamelled copper wire spaced 2mm apart between windings, wound on a 42mm outside diameter (OD) pvc water pipe. The coil is tapped at 10 turns, which acts as the 50Ω feed point. The bottom of the coil is attached either to a mounting stud such as a M10 bolt or (as I use in my version) an old SO239 (Male) connector, potted with resin compound into the tube.

At this point, individual constructors may need to use their own ingenuity, depending on how you intend to mount the antenna onto a vehicle. One method that has worked for me used a pipe reducer 38 OD to 20mm, which you can buy from any d.i.y. store.

The SO239 can be then be cemented into the reducer using any of the hard-setting epoxy resin adhesives. If you need to use some additional packing to make a tighter fit, you can take a note from my book as I have used strips of plastic cut from milk cartons after they've been thoroughly cleaned and de-greased. Note: Plastic tube fittings can be glued using UHU or Bostik all purpose adhesives.

A link wire is then attached from the 50Ω connector to the tapped point on the coil. This link wire should stand proud of the coil by at least 20mm. An alternative method (that I've used) on a similar antenna designed for 1.8MHz, brings the link up through the centre of the coil and emerges through a hole drilled near the tap point and then soldered.

The bottom end of the coil is soldered to the earth side of the same connector. The top of the coil is cemented (again using UHU or Bostik all purpose adhesive), to a 38 to 20mm pipe reducer to take the next section of the antenna.

Helically Wound Section

The helical section is a 20mm OD plastic overflow tube 940mm long with a helical winding of 2mm (14s.w.g.) enamelled copper wire wound up the tube with 33mm

The G4DCH 3.5MHz Mobile Antenna

Chris Tucker G4DCH is a keen Amateur with much experience! Here the ever-effervescent Chris describes his mobile 3.5MHz antenna.

Chris Tucker G4DCH

PW Publishing Ltd.,
Arrowsmith Court,
Station Approach,
Broadstone,
Dorset BH18 8PW
E-mail: antennas@pwpublishing.ltd.uk

spacing between each winding. This spacing is not critical but should be between 30 and 35mm apart.

The 38 to 20mm pipe adaptor glued into the top of the matching coil allows the middle section to be fitted into the bottom section. The bottom end of the coil will be soldered to the base matching section – once all the sections have been constructed and aligned.

Centre Loading Coil

The centre loading coil, **Fig. 3**, attaches to the helical section using the same 20mm to 38mm pipe adaptor as was used on the bottom section. The coil is wound in the same way as the base matching coil on 42mm OD *pvc* water pipe, about 200mm long. The coil consists of 80 turns of 0.92mm (20s.w.g.) close-wound on the tube.

Note: Here's another handy little tip! The top cap for the coil is cut from a cheap plastic chopping board which can be obtained from various supermarkets. These boards are made from polypropylene and are ideal for many different construction ideas. They cost about £2 for the thicker ones and about £1 for the thinner ones.

I've used these cutting boards in various ways in my antenna construction projects for making caps and insulators, etc. I cut the discs out using a rotary saw used for cutting holes in kitchen cabinets to take waste water pipes. The discs are cut slightly oversize for fitting into the pipe section, then shaved down using the cheese grater! I have also used it as



Fig. 2: The base matching coil.

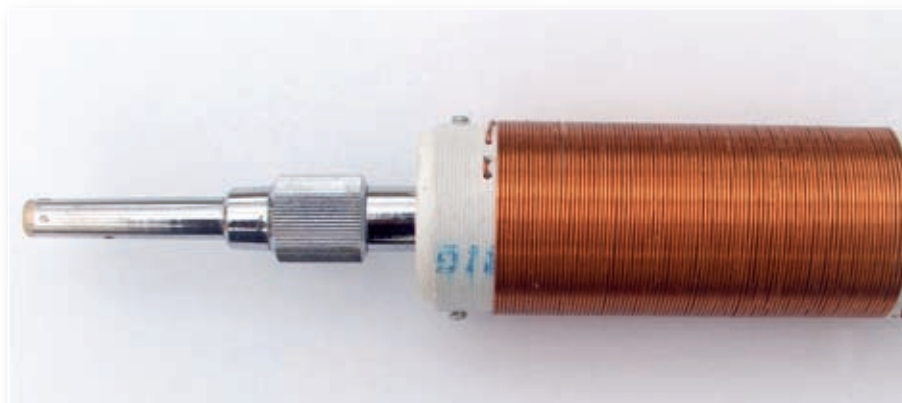


Fig. 3: The centre loading coil.

part of the mounting bracket for the antenna on my car.

I then drill a hole in the centre of the cap to take the ferrule for the top whip section. The top of the coil is then attached to the whip using a ferrule and screw arrangement. I cut the ferrule from an old 144MHz mobile

whip antenna, which already had a screw thread on one end.

The ferrule is bolted through the cap of the loading coil with a solder tag and wire attached to it. The wire from the solder tag is soldered to the top of the loading coil, before the cap is cemented and screwed in place.



Fig. 4: The final assembly is firmly fixed using epoxy resin or similar adhesive.

Top Whip Section

The top part of the antenna uses a standard 1.3m long stainless steel whip. I used an old 144MHz whip section, but stainless steel sections can be picked up from rallies quite cheaply. **Note:** These will need adjusting by cutting to length, to bring the antenna to the desired frequency.

Final Assembly

Once you're happy with the construction of the coil sections, they can be assembled together and glued using epoxy resin or similar adhesive, **Fig. 4.** To make sure the sections will survive the stresses placed on them while mobile I also use small (8mm) 2M size self-tapping screws, using three or four around each joint circumference should be adequate. **Note:** Two screws aren't sufficient as the cap can rotate around them, should the cap's adhesive fixing fail.

To check on the resonant point of the antenna, one piece of essential equipment is the MFJ-259 or similar antenna analyser. If you don't have one yourself, then try to borrow one to do the tuning measurements! * This last part must be carried out on the vehicle you wish to mount the antenna, **Fig. 5.** The mounting should have all the necessary brackets and earth bonding wires in place as these will all affect the tuning point of the antenna.

What I found best is first to check to see on what frequency the antenna is resonant, as this will be dependent on the length of whip section – this needs to be about 3.8 to 4MHz. If the antenna indicates it's low, e.g. 3.2MHz, then either take a few turns off the centre loading coil or reduce the length of the whip by small steps, until a tuning point of about 4MHz is reached.

Then construct a simple X shaped capacity hat from two pieces of 1.6mm (16s.w.g.) tinned copper wire about 150mm across. Fix this about two thirds of the way up the whip. This should bring the tuning point



down from 4MHz to around 3.5MHz. Next, you should then carefully trim the length of each arm of the capacity hat until the desired operating frequency is reached e.g. 3.66MHz.

The antenna should have a good match i.e. a voltage standing wave ratio (v.s.w.r.) of better than 1.5:1, and a bandwidth of >20kHz to the 2:1 point and >30kHz to 3:1 points. Minor adjustments to the matching frequency can be made with a suitable antenna tuning unit (a.t.u.). Alternatively by bending the radials of the capacity hat downwards, the antenna will tune further up the band, so a range of between 3.6 and 3.8MHz should be achievable.

Once tuning has been completed you should then check all the sections are well soldered, that the pipes are firmly cemented together and any other fixtures are well secured. Finally, cover the exposed sections of the

Fig. 5: The final tuning must be done while the antenna is mounted on the vehicle to be used. Chris G4DCH recommends using a suitable antenna analyser.

coils in pvc tape and spray a clear lacquer over the coils to improve the waterproofing. Then your antenna should be complete!

** Antenna analysers are very useful indeed. I know of several clubs who have purchased antenna analysers for their members to use in their own workshops. A small charge covers the loan and after several years use, it's paid for and club members borrow it free of charge! Editor.*

A 7MHz Variant

Once you've built and tuned the 3.5MHz antenna it's simple to make a 7MHz (40m) version. To start, cut a short section of stainless steel whip about 250mm long and replace the 3.5MHz whip section. Check the resonant point – using the antenna analyser – and it should tune on the low side of 7MHz.

Next, carefully reduce the length of the whip until a frequency within the 40m band is achieved. Don't worry that the whip section looks very short, this is a truly resonant antenna and is therefore efficient! If you don't believe this, try matching the 3.5MHz antenna on a signal around 7.05MHz using an a.t.u. and compare it to the 40m antenna made above without the a.t.u. I'm sure you'll be amazed by the difference in signal strength.

A 1.8MHz Version

Using exactly the same construction techniques, but winding the matching coil and loading coils as follows, a 1.8MHz (Top Band) version of the antenna can be made. The base matching coil is made from 40 turns tapped at 20 turns, using 20s.w.g. enamelled copper wire on a 42mm OD pvc pipe former.

The centre loading coil is made up from 270 turns using 20s.w.g. enamelled copper wire on a 42mm OD pvc pipe former. The helical section and whip sections are as for the 3.5MHz version.

Enjoy the DXing with your antennas and I look forward to working you on the bands!

Table 1

Frequency Band (MHz)	Base loading Section (turns)	Tube Dia (mm)	Tap Point (turns)	Loading Coil (turns)	Tube Dia (mm)	Whip Length
1.8MHz	40	42mm	20	270	42mm	1.3m
3.5MHz	20	42mm	10	80	42mm	1.3m
7MHz	20	42mm	10	80	42mm	0.2m

the new Short Wave Magazine radiouser

incorporating Radio Active

RADIOUSER APRIL

- **Intek AR-109 Airband/vhf Receiver Reviewed** by Andy Giles
- **Scanning Scene** Bill Robertson asks, "could the police be forced to use analogue FM again?"
- **Broadcasting on the Short Wave Bands** Nick Sparkes looks back at the history of short wave broadcasting
- **Competition** Win an Intek AR-109 courtesy of Thunderpole
- **Military Matters** Kevin Paterson reports on the 352nd Special Operations Group dropping in to RAF Machrihanish
- **Decode** Mike Richards looks at weather data decoding and ALE on the HF bands
- **Maritime Matters** Robert Connolly describes the HF data modes used by American and Canadian Coastguards and NAVTEX area changes
- **Apollo Communications Systems - part 2** Jon Trowsdale explains how television pictures were sent back to Earth
- **Airband News** David Smith reports on the decline in flights last year, ASPIRE and Project Chloe
- **Airshow & Events Guide** Plan your visits this year
- **Sky High** The latest frequency changes with Godfrey Manning
- **NDB DXing** Robert Connolly looks at some NDBs that only operate during daylight hours
- **Questions & Answers** With Steve White
- **Off the Record** Pirates and the Internet with Oscar the Engineer
- **SBS Files** Mode-S monitoring with Kevin Paterson
- **LM&S Broadcast Matters** by Chris Brand
- **DXTV** TV and satellite reception by Keith Hamer and Garry Smith
- **Radio Related Websites** Websites with a radio connection by Chris Brand
- **Radio Events**
- **Special Offer** Save £20 on an Etón E5
- **Comms from Europe** With Simon Parker
- **Software Spot** The latest hobby radio software with QSP73
- **Bookstore** Radio mail order bookstore. Huge stock and fast delivery. New Titles in stock now!
- **Trading Post** Buy and sell your second-hand equipment here



**ON
SALE
NOW**

Available from all good newsagents
Price £3.50



radiouser
see www.radiouser.co.uk

RadioUser is Published by: PW Publishing Ltd.,
Arrowsmith Court, Station Approach,
Broadstone, Dorset BH18 8PW.
Tel: 0845 803 1979

Log Periodic

MLP32	£119.95
* Frequency:100-1300MHz TX & RX	
* Boom:142cm Longest Element 150cm	
* Gain 11-13 dB	
MLP62	£199.95
* Frequency:50-1300MHz TX & RX	
* Boom:200cm Longest Element 300cm	
* Gain 10-12 dB	



AM-Pro Mobile HF Whips (with 3/8 base fitting)

AM-PRO 6 metre (Length 4.6' approx).....	£17.95
AM-PRO 10 metre (Length 7' approx).....	£17.95
AM-PRO 17 metre (Length 7' approx).....	£17.95
AM-PRO 20 metre (Length 7' approx).....	£17.95
AM-PRO 40 metre (Length 7' approx).....	£17.95
AM-PRO 80 metre (Length 7' approx).....	£19.95
AM-PRO 160 metre (Length 7' approx).....	£49.95
AM-PRO MB6 Multi band 6/10/15/20/40/80m can use 4 Bands at anyone time (Length 250cm).....	£69.95

Slim Jims

SJ-70 430-430MHz slimline design with PL259 connection. Length 1.00m with N-TYPE socket.....	£19.95
SJ-2 144-146MHz slimline design with PL259 connection. Length 2.00m with SO-239 socket.....	£24.95

VHF/UHF Mobile Antennas

MICRO MAG Dual band 2/70 antenna complete with 1" magnetic mount 5mtrs of mini coax terminated in BNC.....	£19.95
MR700 2m/70cm, 1/4 wave & 5/8, Gain 2m 0dB/3.0dB 70cm Length 20" 3/8 Fitting.....	£9.95
MR 777 2 Metre 70 cm 2.8 & 4.8 dBd Gain (5/8 & 2x5/8 wave) (Length 60") (3/8 fitting).....	£17.95
MR0525 2m/70cm, 1/4 wave & 5/8, Gain 2m 0.5dB/3.2dB 70cm Length 17" PL259 fitting commercial quality.....	£19.95
MR0500 2m/70cm, 1/2 wave & 2x5/8, Gain 2m 3.2dB/5.8dB 70cm Length 38" PL259 fitting commercial quality.....	£24.95
MRQ750 2m/70cm, 6/8 wave & 3x5/8, Gain 2m 5.5dB/8.0dB 70cm Length 60" PL259 fitting commercial quality.....	£34.95
MRQ800 6/270cm 1/4 6/8 & 3 x 5/8, Gain 6m3.0dB/2m 5.0dB/70 7.5dB Length 60" PL259 fitting commercial quality.....	£39.95
GF151 Professional glass mount dual band antenna. Freq: 2/70 Gain: 2.9/4.3dB. Length: 31".....	£29.95

Rotative HF Dipoles

RDP-3 10/15/20mtrs length 7.40m.....	£169.95
RDP-4 12/17/30mtrs length 10.50m.....	£169.95
RDP-40M 40mtrs length 11.20m.....	£189.95
RDP-6B 10/12/15/17/20/30mtrs boom length 1.00m.....	£279.95

Single Band Mobile Antennas

MR214 2 metre straight stainless 1/4 wave 3/8 fitting.....	£4.95
PL259 type.....	£5.95
MR214S-2 2 Metre stainless steel 1/4 wave with built in spring PL259 fitting.....	£9.95
MR258 2 Metre 5/8 wave 3.2 dBd Gain (3/8 fitting) (Length 58").....	£12.95
MR268S 2 Metre 5/8 wave 3.5dBd gain Length 51" S0239 fitting.....	£19.95
MR290 2 Metre (2 x 5/8 Gain: 7.0dBd) (Length: 100"). PL259 fitting, "the best it gets".....	£39.95
MR444S-2 4 Metre straight stainless 1/4 wave with spring and PL259 fitting.....	£14.95
MR614 6 Metre loaded 1/4 wave (Length 56") (3/8 fitting).....	£14.95
MR625 6 Metre base loaded (1/4 wave) (Length: 50") commercial quality.....	£19.95

Single Band End Fed Base Antennas

2 metre 1/2 wave (Length 52") (Gain 2.5dB) (Radial free).....	£29.95
4 metre 1/2 wave (Length 80") (Gain 2.5dB) (Radial free).....	£44.95
6 metre 1/2 wave (Length 120") (Gain 2.5dB) (Radial free).....	£49.95
6 metre 1/4 wave (Length 150") (Gain 4.5dB) (3 x 28" radials).....	£59.95

Vertical Fibreglass Colinear Antennas

New co-linear antennas with specially designed tubular vertical coils that now include wide band receive!
Remember, all our co-linears come with high quality, N-type connections.

SQBM105 Mk.2 Dual Bander Radial FREE!.....	£39.95
(2m 2.0dBd) (70cm 4.5dBd) (RX:25-2000 MHz) (Length 28")	
SQBM100 Mk.2 Dual Bander.....	£44.95
(2m 3dBd) (70cm 6dBd) (RX:25-2000 MHz) (Length 39")	
SQBM110 Mk.2 Dual Bander (Radial FREE!).....	£59.95
(2m 3dBd) (70cm 6dBd) (RX:25-2000 MHz) (Length 39")	
SQBM200 Mk.2 Dual Bander.....	£54.95
(2m 4.5dBd) (70cm 7.5dBd) (RX:25-2000 MHz) (Length 62")	
SQBM223Mk.2 Tri Bander.....	£69.95
(2m 4.5dBd) (70cm 7.5dBd) (23cm 12.5dBd) (RX 25-2000MHz) Length: 62"	
SQBM500 Mk.2 Dual Bander Super Gainer.....	£69.95
(2m 6.8dBd) (70cm 9.2dBd) (RX:25-2000 MHz) (Length 100")	
SQBM800 Mk.2 Dual Bander Ultimate Gainer.....	£129.95
(2m 8.5dBd) (70cm 12.5dBd) (RX:25-2000 MHz) (Length 5.2m)	
SQBM1000 Mk.2 Tri Bander.....	£79.95
(6m 3.0dBd) (2m 6.2dBd) (70cm 8.4dBd) (RX:25-2000 MHz) (Length 100")	



Single Band Vertical Colinear Base Antenna

BM33 70 cm 2 X 5/8 wave Length 39" 7.0 dBd Gain.....	£44.95
BM45 70cm 3 X 5/8 wave Length 62" 8.5 dBd Gain.....	£54.95
BM55 70cm 4 X 5/8 wave Length 100" 10 dBd Gain.....	£79.95
BM60 2m 5/8 Wave, Length 62", 5.5dBd Gain.....	£54.95
BM65 2m 2 X 5/8 Wave, Length 100", 8.0dBd Gain.....	£79.95
BM75 2m 2 X 5/8 Wave, Length 175", 9.5dBd Gain.....	£99.95

MFJ Tuners

See our website for full details.

AUTOMATIC TUNERS	
MFJ-925 Super compact 1.8-30MHz 200W.....	£179.95
MFJ-926 remote Mobile ATU 1.6-30MHz 200W.....	£439.95
MFJ-927 Compact with Power Injector 1.8-30MHz 200W.....	£256.95
MFJ-928 Compact with Power Injector 1.8-30MHz 200W.....	£199.95
MFJ-929 Compact with Random Wire Option 1.8-30MHz 200W.....	£219.95
MFJ-991B 1.8-30MHz 150W SSB/100W CW ATU.....	£219.95
MFJ-993B 1.8-30MHz 300W SSB/150W CW ATU.....	£259.95
MFJ-994B 1.8-30MHz 600W SSB/300W CW ATU.....	£349.95
MFJ-998 1.8-30MHz 1.5kW.....	£679.95
MANUAL TUNERS	
MFJ-16010 1.8-30MHz 20W random wire tuner.....	£69.95
MFJ-902 3.5-30MHz 150W mini travel tuner.....	£104.95
MFJ-902H 3.5-30MHz 150W mini travel tuner with 4:1 balun.....	£124.95
MFJ-904 3.5-30MHz 150W mini travel tuner with SWR/PWR.....	£134.95
MFJ-904H 3.5-30MHz 150W mini travel tuner with SWR/PWR 4:1 balun.....	£154.95
MFJ-901B 1.8-30MHz 200W Versa tuner.....	£109.95
MFJ-971 1.8-30MHz 300W portable tuner.....	£199.95
MFJ-945E 1.8-54MHz 300W tuner with meter.....	£132.95
MFJ-941E 1.8-30MHz 300W Versa tuner 2.....	£144.95
MFJ-948 1.8-30MHz 300W deluxe Versa tuner.....	£164.95
MFJ-949E 1.8-30MHz 300W deluxe Versa tuner with DL.....	£184.95
MFJ-934 1.8-30MHz 300W tuner complete with artificial GND.....	£209.95
MFJ-974B 3.6-54MHz 300W tuner with X-needle SWR/WATT.....	£194.95
MFJ-969 1.8-54MHz 300W all band tuner.....	£219.95
MFJ-962D 1.8-30MHz 1500W high power tuner.....	£299.95
MFJ-986 1.8-30MHz 300W high power differential tuner.....	£349.95
MFJ-989D 1.8-30MHz 1500W high power roller tuner.....	£389.95
MFJ-976 1.8-30MHz 1500W balanced line tuner with X-needle SWR/WATT meter.....	£489.95

MFJ Analyser

MFJ-229 UHF Digital Analyser 270-480MHz.....	£209.95
MFJ-249B Digital Analyser 1.8-170MHz.....	£264.95
MFJ-259B Digital Analyser 1.8-170MHz.....	£297.95
MFJ-269 Digital Analyser 1.8-450MHz.....	£349.95
MFJ-269PRO Digital Analyser 1.8-170/415-450MHz.....	£399.95

G5RV Inductors

Convert your half size G5RV into a full size with just 8ft either side. Ideal for the small garden

G5RV-IND	£24.95
-----------------------	---------------



Crossed Yagi Beams (fittings stainless steel)

XYG5-2 2 metre 5 Element (Boom 64") (Gain 7.5dBd).....	£89.95
XYG8-2 2 metre 8 Element (Boom 126") (Gain 11.5dBd).....	£109.95
XYG13-70 70 cm 13 Element (Boom 83") (Gain 12.5dBd).....	£79.95



Yagi Beams (fittings stainless steel)

YG4-2C 2 metre 4 Element (Boom 48") (Gain 7dBd).....	£29.95
YG5-2 2 metre 5 Element (Boom 63") (Gain 10dBd).....	£49.95
YG8-2 2 metre 8 Element (Boom 125") (Gain 12dBd).....	£69.95
YG11-2 2 metre 11 Element (Boom 185") (Gain 13dBd).....	£99.95
YG3-4 4 metre 3 Element (Boom 45") (Gain 8dBd).....	£59.95
YG5-4 4 metre 5 Element (Boom 104") (Gain 10dBd).....	£69.95
YG3-6 6 metre 3 Element (Boom 72") (Gain 7.5dBd).....	£64.95
YG5-6 6 metre 5 Element (Boom 142") (Gain 9.5dBd).....	£84.95
YG13-70 70 cm 13 Element (Boom 76") (Gain 12.5dBd).....	£49.95



ZL Special Yagi Beams (Fittings stainless steel)

2 metre 5 Element (Boom 38") (Gain 9.5dBd).....	£49.95
2 metre 7 Element (Boom 60") (Gain 12dBd).....	£59.95
2 metre 12 Element (Boom 126") (Gain 14dBd).....	£99.95
70 cm 7 Element (Boom 28") (Gain 11.5dBd).....	£39.95
70 cm 12 Element (Boom 48") (Gain 14dBd).....	£49.95



The biggest advantage with a ZL-special is that you get massive gain for such a small boom length, making it our most popular beam antenna

G5RV Wire Antenna (10-40/80m) (Fittings stainless steel)

	HALF	FULL
Standard (enamelled).....	£19.95	£24.95
Hard Drawn (pre-stretched).....	£24.95	£29.95
Flex Weave (original high quality).....	£29.95	£34.95
Flexweave PVC (clear coated PVC).....	£34.95	£39.95
Deluxe 450 ohm PVC	£44.95	£49.95
Double size standard (204ft).....	£49.95	
TS1 Stainless Steel Tension Springs (pair) for G5RV.....	£19.95	



Reinforced Hardened Fibreglass Masts (GRP)

GRP-125 ★ Length: 2m ★ Size: 30mm OD Grade: 2mm.....	£14.95
GRP-150 ★ Length: 2m ★ Size: 37mm OD Grade: 2mm.....	£19.95
GRP-175 ★ Length: 2m ★ Size: 44mm OD Grade: 2mm.....	£24.95
GRP-200 ★ Length: 2m ★ Size: 51mm OD Grade: 2mm.....	£29.95

Portable Telescopic Masts

LMA-S Length 17.6ft open 4ft closed 2-1" diameter.....	£79.95
LMA-M Length 26ft open 5.5ft closed 2-1" diameter.....	£89.95
LMA-L Length 33ft open 7.2ft closed 2-1" diameter.....	£99.95
TRIPOD-P Lightweight aluminium tripod for all above.....	£44.95

5ft Poles Heavy Duty (Swaged)

20ft Heavy Duty Swaged Pole Set	
These heavy duty aluminium (1.8mm wall) have a lovely push fit finish to give a very strong mast set	
1.25" set of four 5ft sections.....	£29.95
1.50" set of four 5ft sections.....	£39.95
1.75" set of four 5ft sections.....	£49.95
2.00" set of four 5ft sections.....	£59.95



Mini HF Dipoles (Length 11' approx)

MD020 20mt version approx only 11ft.....	£49.95
MD040 40mt version approx only 11ft.....	£54.95
MD080 80mt version approx only 11ft.....	£59.95



CHECK ON-LINE FOR ALL UPDATES, NEW PRODUCTS & SPECIAL OFFERS

www.moonrakerukltd.com

★ Postage is a maximum of £7.99 on all orders ★
(UK mainland only)

CALL MAIL ORDER 01908 281705

FAX 01908 281706

Opening times: Mon-Fri 9-6pm sales@moonrakerukltd.com



Connectors & Adapters

PL259/9 plug (Large entry)	£0.75
PL259/9C (Large entry) compression type fit	£1.95
PL259 Reducer (For PL259/9 to conv to PL259/6)	£0.50
PL259/6 plug (Small entry)	£0.75
PL259/6C (Small entry) compression type fit	£1.95
PL259/7 plug (For mini 8 cable)	£1.00
BNC Screw type plug (Small entry)	£1.50
BNC Solder type plug (Small entry)	£1.50
BNC Solder type plug (Large entry)	£3.50
N-Type plug (Small entry)	£3.50
N-Type plug (Large entry)	£3.50
PL259 Chassis socket (Round)	£2.00
PL259 Chassis socket (Square)	£2.00
N-Type Chassis socket (Round)	£3.50
N-Type Chassis socket (Square)	£3.50
PL259 Double female adapter	£1.50
PL259 Double male adapter	£1.50
N-Type Double female	£3.00
PL259 to BNC adapter	£2.00
PL259 to N-Type adapter	£3.00
SO239 to PL259 adapter (Right angle)	£2.50
PL259 T-Piece adapter (2xPL 1XSO)	£3.00
N-Type to PL259 adapter (Female to male)	£3.50
BNC to PL259 adapter (Female to male)	£2.00
BNC to N-Type adapter (Female to male)	£3.50
BNC to N-Type adapter (Male to female)	£3.50
SMA to BNC adapter (Male to female)	£3.95
SMA to PL259 adapter (Male to PL259)	£3.95
PL259 to 3/8 adapter (For antennas)	£3.95
3/8 Whip stud (For 2.5mm whips)	£2.95

Please add just £2.00 P&P for connector only orders

PLEASE PHONE FOR LARGE CONNECTOR ORDER DISCOUNTS

Mounting Hardware (All galvanised)

Tripod-15L free standing tripod for use with 1.5" diameter poles	£54.95
Tripod-20L free standing tripod for use with 2" diameter poles	£59.95
6" Stand Off Bracket (complete with U Bolts)	£6.00
9" Stand off bracket (complete with U Bolts)	£9.00
12" Stand off bracket (complete with U Bolts)	£12.00
18" Stand off bracket (complete with U Bolts)	£18.00
12" T & K Bracket (complete with U Bolts)	£17.95
18" T & K Bracket (complete with U Bolts)	£19.95
24" T & K Bracket (complete with U Bolts)	£24.95
36" T & K Bracket (complete with U Bolts)	£44.95
Single chimney lashing kit (suitable up to 2 mast)	£14.95
Double chimney lashing kit (suitable up to 2 mast)	£19.95
3-Way Pole Spider for Guy Rope/wire	£3.95
4-Way Pole Spider for Guy Rope/wire	£4.95
Mast Sleeve/Joiner (for 1" pole)	£6.95
Mast Sleeve/Joiner (for 1.25" pole)	£7.95
Mast Sleeve/Joiner (for 1.5" pole)	£14.95
Mast Sleeve/Joiner (for 2" pole)	£16.95
Earth rod including clamp (solid copper)	£19.95
Earth Rod including clamp (copper plated)	£14.95
RAW Bolt M12 (4 pack)	£6.95
Pole to pole clamp 2" - 2"	£4.95
Di-pole centre (for wire)	£4.95
Di-pole centre (for aluminium rod)	£6.95
Di-pole centre (for wire but with an PL259 socket)	£5.95
Dog bone insulator	£1.00
Dog bone insulator heavy duty	£1.50
Dog bone (ceramic type)	£1.00
CAR PLATE (drive on plate to suit 1.5 to 2" mast/pole)	£19.95
PULLEY-2 (Heavy duty adjustable pulley wheel)	£19.95

Cable & Coax Cable

RG58 best quality standard per metre	35p
RG58 best quality military spec per metre	60p
RGMini 8 best quality military spec per metre	70p
RG213 best quality military spec per metre	£1.00
H100 best quality military coax cable per metre	£1.25
WESTFLEX 103 best quality military spec per metre	£1.45
3-core rotator cable per metre	45p
7-core rotator cable per metre	£1.00
10 amp red/black cable 10 amp per metre	40p
20 amp red/black cable 20 amp per metre	75p
30 amp red/black cable 30 amp per metre	£1.25

Please phone for special 100 metre discounted price

Baluns

MB-1 1:1 Balun 400 watts power	£29.95
MB-4 4:1 Balun 400 watts power	£29.95
MB-6 6:1 Balun 400 watts power	£29.95
MB-1X 1:1 Balun 1000 watts power	£39.95
MB-4X 4:1 Balun 1000 watts power	£39.95
MB-6X 6:1 Balun 1000 watts power	£39.95
MB-Y2 Yagi Balun 1.5 to 50MHz 1kW	£39.95

Duplexers & Antenna Switches

DX-720D Duplexer *Port 1: HF + 6 + 2m (1.6-150MHz). *Port 2: 70cm (400-460MHz). *Connection: Fixed 2 x PL259 & 1 x PL259	£24.95
MX-72 Duplexer *Same spec as DX-720D but with PL259 fly leads	£34.95
MX-627 HF/VHF/UHF internal Tri-plexer (1.6-60MHz) (110-170MHz) (300-950MHz)	£49.95
CS201 Two-way di-cast antenna switch. Freq: 0-1000MHz max 2,500 watts PL259 fittings	£14.95
CS201-N Same spec as CS201 but with N-type fittings	£19.95
CS401N Same spec as CS201 but 4-way	£49.95
CS401N Same spec as CS401 but with N-type fittings	£59.95

Antenna Rotators

AR-35X Light duty UHFVHF	£109.95
AR26 Alignment Bearing for the AR35X	£24.95
RC5-1 Heavy duty HF	£559.95
RC5-3 Heavy Duty HF inc pre set control box	£679.95
RC26 Alignment Bearing for RC5-1/3	£49.95
RC5A-3 Serious heavy duty HF	£929.95

Complete Mobile Mounts

All mounts come complete with 4m RG58 coax terminated in PL259 (different fittings available on request).

3.5" Pigmy magnetic 3/8 fitting	£9.95
3.5" Pigmy magnetic PL259 fitting	£12.95
5" Limpet magnetic 3/8 fitting	£12.95
5" Limpet magnetic PL259 fitting	£14.95
7" Turbo magnetic 3/8 fitting	£14.95
7" Turbo magnetic PL259 fitting	£16.95
Tri-Mag magnetic 3 x 5" 3/8 fitting	£34.95
Tri-Mag magnetic 3 x 5" PL259 fitting	£34.95
HKITHD-38 Heavy duty adjustable 3/8 hatch back mount	£29.95
HKITHD-SO Heavy duty adjustable SO hatch back mount	£29.95
RKIT-38 Aluminium 3/8 rail mount to suit 1" roof bar or pole	£12.95
RKIT-SO Aluminium SO rail mount to suit 1" roof bar or pole	£14.95
RKIT-PR Stainless PL259 rail kit to suit 1" roof bar or pole	£24.95
PBKIT-SO Right angle PL259 pole kit with 10m cable/PL259 (ideal for mounting mobile antennas to a 1.25" pole)	£19.95

Antenna Wire & Ribbon

Enamelled copper wire 16 gauge (50mtrs)	£19.95
Hard Drawn copper wire 16 gauge (50mtrs)	£24.95
Equipment wire Multi Stranded (50mtrs)	£14.95
Flexweave high quality (50mtrs)	£29.95
PVC Coated Flexweave high quality (50mtrs)	£39.95
300Ω Ladder Ribbon heavy duty USA imported (20mtrs)	£14.95
450Ω Ladder Ribbon heavy duty USA imported (20mtrs)	£17.95

(Other lengths available, please phone for details)

Miscellaneous Items

CDX Lightning arrester 500 watts	£19.95
MDX Lightning arrester 1000 watts	£24.95
AKD TV1 filter	£9.95
Amalgamating tape (10mtrs)	£7.50
Desoldering pump	£2.99
Alignment 5pc kit	£1.99

Telescopic Masts (aluminium/fibreglass opt)

TMA-1 Aluminium mast ★ 4 sections 170cm each ★ 45mm to 30mm ★ Approx 20ft erect 6ft collapsed	£99.95
TMA-2 Aluminium mast ★ 8 sections 170cm each ★ 65mm to 30mm ★ Approx 40ft erect 6ft collapsed	£189.95
TMF-1 Fibreglass mast ★ 4 sections 160cm each ★ 50mm to 30mm ★ Approx 20ft erect 6ft collapsed	£129.95
TMF-1.5 Fibreglass mast ★ 5 sections 200cm each ★ 60mm to 30mm ★ Approx 30ft erect 8ft collapsed	£179.95
TMF-2 Fibreglass mast ★ 5 sections 240cm each ★ 60mm to 30mm ★ Approx 40ft erect 9ft collapsed	£199.95

Halo Loops

HLP-2 2 metre (size approx 300mm square)	£19.95
HLP-4 4 metre (size approx 600mm square)	£29.95
HLP-6 6 metre (size approx 800mm square)	£39.95

These very popular antennas square folded di-pole type antennas

Scanner Preamplifier

A great pre-amp at an incredible new low price!	
MRP-2000 Mk2 ★ Active wideband pre-amp	
★ Freq: 25-2000MHz	
★ Gain: 6-20dB ★ Power: 9-15v (battery not included) ★ Lead: 1m with BNC	£39.95
M-100 ★ Professional 24-2300MHz pre-amp ★ Freq: Band A:225- 1500MHz Band B:108-185MHz Band C: 24-2300MHz ★ Gain: -10 to +22dB ★ Impedance: 50 Ohms	£69.95

Trapped Wire Di-Pole Antennas (Hi grade heavy duty Commercial Antennas)

MDT-6 FREQ:40 & 160m LENGTH: 28m POWER:1000 Watts	£79.95
MTD-1 (3 BAND) FREQ:10-15-20 Mtrs LENGTH:7.40 Mtrs POWER:1000 Watts	£69.95
MTD-2 (2 BAND) FREQ:40-80 Mtrs LENGTH: 20Mtrs POWER:1000 Watts	£79.95
MTD-3 (3 BAND) FREQ:40-80-160 Mtrs LENGTH: 32.5m POWER: 1000 Watts	£129.95
MTD-4 (3 BAND) FREQ: 12-17-30 Mtrs LENGTH: 10.5m POWER: 1000 Watts	£69.95
MTD-5 (5 BAND) FREQ: 10-15-20-40-80 Mtrs LENGTH: 20m POWER:1000 Watts	£119.95

(MTD-5 is a crossed di-pole with 4 legs)

HB9CV 2 Element Beam 3.5dBd

HB9-70 70cm (Boom 12")	£24.95
HB9-2 2 metre (Boom 20")	£29.95
HB9-4 4 metre (Boom 23")	£39.95
HB9-6 6 metre (Boom 33")	£49.95
HB9-10 10 metre (Boom 52")	£69.95
HB9-627 6/2/70 Triband..... (Boom 45")	£69.95

SWR & SWR Power Meters

SWR-100 (26-30MHz)	£8.95
SWR-125 (26-30MHz) (Power to 100W)	£12.95
AV-20 (3.5-150MHz) (Power to 300W)	£34.95
AV-40 (144-470MHz) (Power to 150W)	£34.95
AV-201 (1.8-160MHz) (Power to 1000W)	£49.95
AV-400 (14-525MHz) (Power to 400W)	£49.95
AV-601 (1.8-160/140-525MHz) (Power to 1000W)	£69.95
AV-1000 (1.8-160/430-450/800-930/1240-1300MHz) (Power to 400W)	£79.95

Power Supplies

PSU-2 (small high quality 2amp)	£19.95
PSU-5 (5amp over volt protected)	£22.95
PSU-50 (High quality switching 50amp)	£99.00
POWER-MITE-NF (22amp switch mode with noise offset) & cig socket)	£69.95
POWER-MAX-25-NF (22amp switch mode with noise offset & cig socket)	£89.95
POWER-MAX-45-NF (38amp switch mode with noise offset & cig socket)	£119.95

Tarheel Motorised Mobile

Little Tarheel II 3.5-54MHz 200W max length 48"	£349.95
Tarheel 40A HP 7-34MHz 1.5Kw max length 8ft	£429.95
Tarheel 75A 7-34MHz 250W max length 8ft	£429.95
Tarheel 100A 3.4-30MHz 1.5Kw max length 10.4ft	£449.95
Tarheel 200A HP 3.4-28MHz 1.5Kw max length 12ft	£479.95
Tarheel 300A 1.7-30MHz 250W max length 11.4ft	£449.95
Tarheel 400A 1.7-30MHz 250W max length 12ft	£479.95

FULL TARHEEL ANTENNA RANGE NOW IN STOCK!

Please see website for more details.
www.amateurantennas.com



Callers welcome. Opening times: Mon-Fri 9-6pm sales@moonrakerukltd.com
CRANFIELD ROAD, WOBURN SANDS, BUCKS MK17 8UR

HF Verticals

VR3000 3 BAND VERTICAL FREQ: 10-15-20 Mtrs
GAIN: 3.5dBi HEIGHT: 3.80m POWER: 2000 Watts (without radials) POWER: 500 Watts (with optional radials).....**£149.95**
OPTIONAL 10-15-20mtr radial kit.....**£59.95**

EVX4000 4 BAND VERTICAL FREQ:10-15-20-40 Mtrs
GAIN: 3.5dBi HEIGHT: 6.50m POWER: 2000 Watts (without radials) POWER: 500 Watts (with optional radials).....**£159.95**
OPTIONAL 10-15-20mtr radial kit.....**£59.95**
OPTIONAL 40mtr radial kit.....**£19.95**

EVX5000 5 BAND VERTICAL FREQ:10-15-20-40-80 Mtrs
GAIN: 3.5dBi HEIGHT: 7.30m POWER: 2000 Watts (without radials) POWER: 500 Watts (with optional radials).....**£199.95**
OPTIONAL 10-15-20mtr radial kit.....**£59.95**
OPTIONAL 40mtr radial kit.....**£19.95**
OPTIONAL 80mtr radial kit.....**£24.95**

EVX6000 6 BAND VERTICAL FREQ: 10-15-20-30-40-80 Mtrs
GAIN: 3.5dBi HEIGHT: 5.00m RADIAL LENGTH: 1.70m(included) POWER: 800 Watts.....**£349.95**

EVX8000 8 BAND VERTICAL FREQ:10-12-15-17-20-30-40 Mtrs (80m optional) GAIN: 3.5dBi HEIGHT: 4.90m RADIAL LENGTH: 1.80m (included) POWER: 2000 Watts.....**£349.95**
80 MTR RADIAL KIT FOR ABOVE.....**£129.00**

(All verticals require grounding if optional radials are not purchased to obtain a good VSWR)

Ainco

Hand-helds

Ainco DJ-G7 Triband 2/70/23cm.....**£TBA**
Ainco DJ-V5 Dual band 2/70cm.....**£199.00**
Ainco DJ-596 Dual band 2/70cm.....**£189.00**
Ainco DJ-C7 Dual band 2/70cm.....**£149.00**
Ainco DJ-175E Single band 2m.....**£149.00**
Ainco V17E Single band 2m.....**£149.00**
Ainco DJ-195 Single band 2m.....**£139.00**

BASE/PORTABLE

Ainco DX-70TH 100W 1.8-50MHz All modes.....**£599.00**

LDG Tuners

LDG Z-817 1.8-54MHz ideal for the Yaesu FT-817.....**£119.95**
LDG Z100 Plus 1.8-54MHz the most popular LDG tuner.....**£139.95**
LDG IT-100 1.8-54MHz ideal for IC-7000.....**£149.95**
LDG Z-11 Pro 1.8-54MHz great portable tuner.....**£154.95**
LDG KT-100 1.8-54MHz ideal for most Kenwood radios.....**£169.95**
LDG AT-897 1.8-54MHz for use with Yaesu FT-897.....**£179.95**
LDG AT-100 Pro 1.8-54MHz.....**£189.95**
LDG AT-200 Pro 1.8-54MHz.....**£209.95**
LDG AT-1000 Pro 1.8-54MHz continuously.....**£499.95**

Scanner Hand-held Antennas

Going out? Don't miss out! Get a super Gainer! p+p just £2.00

MRW-100 SUPER GAINER ★ Freq: 25-1800MHz ★ Length: 40cm ★ Fitting: BNC.....**£19.95**
MRW-210 SUPER GAINER ★ Freq: 25-1800MHz ★ Length: 40cm ★ Fitting: SMA.....**£19.95**

Scanner Portable/Indoor Antennas

SKYSCAN DESKTOP ★ Type: Disccone style
★ Freq: 25-2000MHz ★ Length: 90cm
★ Cable: 4m with BNC.....**£49.95**
Tri-SCAN 3 ★ Type: Triple Coil ★ Freq: 25-2000MHz
★ Length: 90cm ★ Cable: 4m with BNC.....**£39.95**

Guying equipment

MGR-3 30m of 3mm 250Kg braided nylon cord.....**£7.95**
MGR-4 30m of 4mm 330Kg braided nylon cord.....**£14.95**
MGR-6 30m of 6mm 620Kg braided nylon cord.....**£24.95**
MGW-3 30m of 3mm 6X7stranded galvanised wire rope.....**£14.95**
MGW-3H 30m of 3mm 6X19 stranded galvanised wire rope.....**£24.95**
GS-18HD Heavy duty galvanised ground stake.....**£12.95**
GS-20 Light duty aluminium ground stake.....**£5.95**
SPIDER-3 way pole spider support for guy fixings.....**£3.95**
SPIDER-4 way pole spider support for guy fixings.....**£4.95**
GUY KIT P10 This is a complete light duty guy kit which includes pole spider, three aluminium ground stakes with nylon rope and turn buckles (supports up to a 40ft mast or less).....**£29.95**
GUY KIT HD10 This is a complete heavy duty guy kit which includes pole spider, three galvanised steel ground stakes with steel rope and turn buckles (supports up to a 40ft mast or less).....**£49.95**

Scanner Fibreglass Vertical Antennas

SSS-MK1 Freq: 0-2000MHz RX ★ Length: 100cm ★ Socket: PL259.....**£39.95**
SSS-MK2 Freq: 0-2000MHz RX ★ Length: 150cm ★ Socket: PL259 ★ Gain:3dB over SSS-1.....**£49.95**

Hand-held VHF/UHF Antennas

Postage on all handies just £2.00

MRW-300 ★ Type: Helical rubber duck ★ Freq TX: 2&70 RX: 25-1800MHz ★ Power: 10w ★ Length: 21cm
★ Connection: SMA.....**£12.95**
MRW-310 ★ Type: Helical rubber duck ★ Freq TX: 2&70 RX: 25-1800MHz ★ Power: 10w ★ Length: 40cm ★ Connection: BNC Gain: 2.15dBi.....**£14.95**
MRW-200 ★ Type: Helical rubber duck ★ Freq TX: 2&70 RX: 25-1800MHz ★ Power: 10w ★ Length: 21cm ★ Connection: SMA.....**£16.95**
MRW-205 ★ Type: Helical rubber duck ★ Freq TX: 2&70 RX: 25-1800MHz ★ Power: 10w ★ Length: 40cm
★ Connection: SMA ★ Gain: 2.15dBi.....**£19.95**
MRW-222 SUPER ROD ★ Type: Telescopic whip ★ Freq TX: 2&70 RX: 25-1800MHz ★ Power: 20w ★ Length:23-91cm
★ Connection: BNC ★ Gain: 2m 3.0dB 70cm 5.5dB
★ DX Performance.....**£24.95**

Hand-held HF Antennas

Postage on all handies just £2.00

MRW-HF6 ★ Type: Telescopic Whip ★ Freq TX: 6m RX: 6-70cm ★ Power:50 Watts ★ Length: 135cm
★ Connection: BNC.....**£19.95**
MRW-HF10 ★ Type: Telescopic Whip ★ Freq TX: 10m RX: 10-4m ★ Power: 50 Watts ★ Length: 135cm
★ Connection: BNC.....**£19.95**
MRW-HF15 ★ Type: Telescopic Whip ★ Freq TX: 15m RX: 15-6m ★ Power:50 Watts ★ Length: 135cm
★ Connection: BNC.....**£19.95**
MRW-HF20 ★ Type: Telescopic Whip ★ Freq TX: 20m RX: 20-6m ★ Power: 50w ★ Length: 135cm ★ Connection: BNC.....**£22.95**
MRW-HF40 ★ Type:Telescopic Whip ★ Freq TX: 40m RX: 40-10m ★ Power: 50w ★ Length: 140cm ★ Connection: BNC.....**£22.95**
MRW-HF80 ★ Type: Telescopic Whip ★ Freq TX: 20m RX: 80-10m ★ Power: 50w ★ Length: 145cm ★ Connection: BNC.....**£24.95**

100m Cable Bargains

RG58 Standard 6mm coax cable.....**£24.95**
RG58M Military spec 6mm coax cable.....**£39.95**
RGMINI8 Military spec 7mm coax cable.....**£59.95**
RG213 Military spec 9mm coax cable.....**£84.95**
WESTFLEX 103 mil spec 9mm coax cable.....**£129.95**
RH100 Military spec 9mm coax cable.....**£99.95**
FLEXWEAVE Original antenna wire.....**£49.95**
PVC FLEXWEAVE Original pvc coated antenna wire.....**£69.95**
300 Ribbon cable USA imported.....**£59.95**
450Ω Ribbon cable USA imported.....**£69.95**

Patch Leads

STANDARD LEADS
1m RG58 PL259 to PL259 lead.....**£3.95**
10m RG58 PL259 to PL259 lead.....**£7.95**
30m RG58 PL259 to PL259 lead.....**£14.95**

MILITARY SPECIFICATION LEADS

1m RG58 Mil spec PL259 to PL259 lead.....**£4.95**
10m RG58 Mil spec PL259 to PL259 lead.....**£10.95**
30m RG58 Mil spec PL259 to PL259 lead.....**£24.95**
1m RG213 Mil spec PL259 to PL259 lead.....**£4.95**
10m RG213 Mil spec PL259 to PL259 lead.....**£14.95**
30m RG213 Mil spec PL259 to PL259 lead.....**£34.95**
1m H100 Mil spec PL259 to PL259 lead.....**£5.95**
10m H100 Mil spec PL259 to PL259 lead.....**£19.95**
30m H100 Mil spec PL259 to PL259 lead.....**£44.95**

(All other leads and lengths available, ie. BNC to N-type, etc. Please phone for details)

ATOM Single Band Mobile Antennas

New low profile, high quality mobiles that really work!

ATOM-20 ★ Freq: 20m ★ Length: 130cm ★ Power: 200W
★ Fitting: 3/8.....**£22.95**
ATOM-20S ★ Freq:20m ★ Length:130cm ★ Power: 200W
★ Fitting: PL259.....**£24.95**
ATOM-40 ★ Freq: 40m ★ Length:130cm ★ Power:200W
★ Fitting: 3/8.....**£24.95**
ATOM-40S ★ Freq: 40m ★ Length: 130cm ★ Power: 200W
★ Fitting: PL259.....**£26.95**
ATOM-80 ★ Freq: 80m ★ Length: 130cm ★ Power: 200W
★ Fitting: 3/8.....**£27.95**
ATOM-80S ★ Freq: 80m ★ Length: 130cm ★ Power: 200W
★ Fitting: PL259.....**£29.95**

ATOM Multiband Mobile Antennas

ATOM-AT4 ★ Freq: 10/6/2/70cm ★ Gain: (2m 1.8dBd) (70cm 3.5dBd) ★ Length: 132cm ★ Power: 200w (2/70cm) 120w (10/6m) ★ Fitting: PL259.....New low price **£49.95**
ATOM-AT5 ★ Freq: 40/15/6/2/70cm ★ Gain: (2m 1.5dBd) (70cm 3.5dBd) ★ Length: 129cm ★ Power:200w (2/70cm) 120w (40/6m) ★ Fitting: PL259.....New low price **£59.95**
ATOM-AT7 ★ Freq: 40/20/15/10/6/2/70cm (5 bands at once) ★ Gain: (2m 1.8dBd) (70cm 3.5dBd) ★ Length: 200cm ★ Power: 200w (2/70cm) 120w (40/6m) ★ Fitting: PL259.....New low price **£69.95**

SPX Multiband Mobile Antennas

All these antennas have a unique flyleaf & socket to make band changing easy! Just plug-n' go!

SPX-100 ★ Portable 9 Band Plug n' Go HF mobile antenna ★ Freq: 6/10/12/15/17/20/30/40/80m ★ Length: 1.65m retractable to 0.5m ★ Power: 50w ★ Fitting: 3/8 or PL259 with adapter included.....**£44.95**
SPX-200S ★ Mobile 6 band Plug 'n Go HF mobile antenna ★ Freq: 6/10/15/20/40/80 ★ Length: 130cm ★ Power:120w ★ Fitting: PL259.....**£49.95**
SPX-300 ★ Mobile 9 band Plug 'n Go HF mobile antenna ★ Freq: 6/10/12/15/17/20/30/40/80m ★ Length: 165cm ★ Power: 200w ★ Fitting: 3/8 Thread.....**£59.95**
SPX-300S ★ Mobile 9 band Plug 'n Go HF mobile antenna ★ Freq: 6/10/12/15/17/20/30/40/80m ★ Length:165cm ★ Power:200w ★ Fitting: PL259.....**£64.95**

Mobile Colinear Antennas

Ever wanted colinear performance from your mobile?

MR3-POWER ROD ★ Freq: 2/70cm ★ Gain: 3.5/6.5dBd
★ Length: 100cm ★ Fitting: PL259.....**£29.95**
MR2-POWER ROD ★ Freq: 2/70cm ★ Gain: 2.0/3.5dBd
★ Length: 50cm ★ Fitting: PL259.....**£24.95**

AR-300XL VHF/UHF Antenna rotator

Back in stock and only

£79.95

CALL MAIL ORDER 01908 281705

Opening times: Mon-Fri 9-6pm sales@moonrakerukltd.com

**UNIT 12, CRANFIELD ROAD UNITS, CRANFIELD ROAD
WOBURN SANDS, BUCKS MK17 8UR**



430MHz Datacard

David Butler G4ASR explains the 430MHz band Datacard given away free with this issue of PW.

The UK 430MHz band (70 Centimetres) has considerably more bandwidth than all the Amateur Radio bands between 136kHz to 28MHz, 50MHz, 70MHz and 144MHz put together. With 10MHz of bandwidth from 430 - 440MHz there's plenty of room for everyone. However, there are particular problems associated with band planning within this area of the spectrum.

Although the bandplan's based on the International Amateur Radio Union (IARU) Region-1 band plan, many European countries have considerably smaller allocations than we enjoy in the UK. Therefore the UK plan is modified somewhat from the European model. There are common areas, particularly the weak signal segments of the band used for c.w., s.s.b. and m.g.m. modes and the Amateur Satellite Service.

However, our allocation is also located in a particularly sensitive area of the spectrum where the Primary User can effectively determine what usage is made by the Amateur Radio Service throughout much of the 430MHz band. The major impact of this is that in the UK we must use a repeater system with output channels that are reversed from that commonly used in Europe. And because of this UK users occasionally suffer interference from repeater output channels that are located in other nearby European countries.

Less understandable is the refusal by the Primary User to allow propagation beacons to

be located in the harmonised European sub-band 432.400-432.490MHz. So, in the UK our three low-power beacons must remain 'out-on-a-limb' some 400kHz higher up the band. It's nonsensical when you consider that the Amateur Radio Service authorises anyone with an advanced licence to run 400W output into any size of antenna anywhere between 432-440MHz!

Attractions

One of the attractions of using the 430MHz band is that with 10MHz of bandwidth to play with there are so many different ways of using this amateur service allocation. Some of these aspects include f.m. and digital voice (d.v.) using either simplex or repeater channel systems. You'll also find activities that are using Morse (c.w.), telephony (s.s.b.) and machine generated modes (m.g.m.) for terrestrial DX and Moon-bounce purposes.

There's also local activity with amplitude modulation (a.m.), facsimile (FAX), radio-teletype (RTTY), PSK31 and a whole host of other similar modes, fast-scan amateur television (ATV) and slow-scan television (SSTV). In addition you will also find DX Cluster access channels, Internet voice gateways, high speed digital links and there's still room for a 3MHz wide band for the Amateur Satellite Service.

More than enough for everyone!

Antenna & Feeder

Now here's a reality check. At this ultra high frequency (u.h.f.) you are going to be very disappointed with results if you only use a small vertical antenna fed with a considerable length of very thin coaxial cable. There's no getting round it, but at these frequencies you **must** use a good antenna and even more importantly you **must** use a high quality low-loss feeder cable. Anything less and it's all a complete waste of time and effort.

If you want local communications, possibly for an f.m. net or to access a nearby repeater then you will probably need omni-directional coverage. A vertical co-linear antenna is very popular for this type of general transmission. Locate it as high as you can ideally above roof level but don't forget to use low-loss cable, ideally nothing less than 10mm diameter.

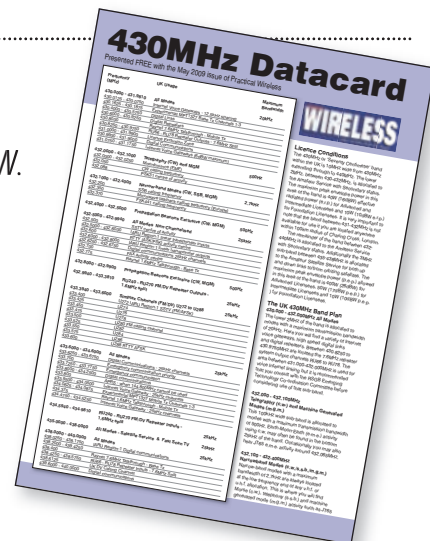
If you want to work long distances (DX) on c.w. or s.s.b. then you must have some form of horizontally polarised beam antenna. At these frequencies a multi-element Yagi can look very similar to a television aerial so it can become socially acceptable. Indeed you might be able to locate a pair of

long Yagis and rotator onto a suitable chimney stack without looking out of place.

Don't forget that you can always operate portable from a local hill top site. With a small pole and a directional beam you can often contact stations hundreds of kilometres away even when running relatively low power.

Propagation Modes

On this u.h.f. band the only propagation mode that you will normally encounter is some form of tropospheric enhancement. Surprisingly though these events occur much more frequently on this band than at lower frequencies. The only downside is that there is less activity on 430MHz compared to 144MHz or other popular bands. But when the band does open up there will be dozens of stations to contact and many will be at considerable distances away from the UK, in Eastern Europe and Scandinavia.



Keeping up to date

If you want up-to-date information regarding the 430MHz band, then take a look at these web sites.

Spectrum Information: <http://www.rsgb.org/spectrumforum/>

Analogue and Digital Repeaters: <http://www.etcc.rsgb.org/>

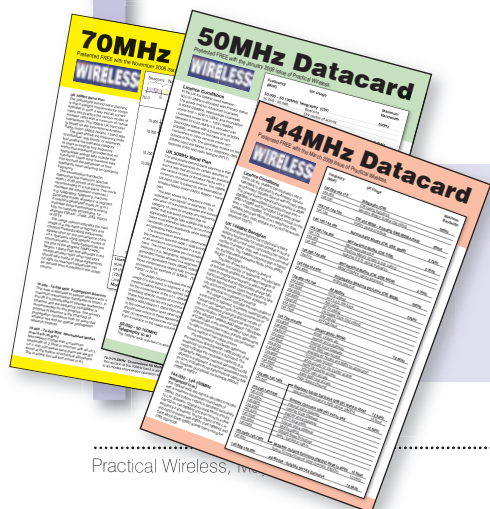
Data Communications: <http://www.dcc.rsgb.org/>

Amateur Satellites: <http://www.uk.amsat.org/>

RSGB VHF Manager: vhf.manager@rsgb.org.uk

The 430MHz Datacard with this issue is the fourth, and last, of the series. Add it to the previous three and you'll have an in-depth operational knowledge of the v.h.f. and u.h.f. bands.

If you missed the 70, 50 and 144MHz Datacards, you can still get them for just £1.75 (inc. p&p) each by calling 0845 803 1979 or send a cheque or postal order to the Editorial address, made payable to PW Publishing Ltd.



The 70MHz Saturday

Using the Moonraker YG3 4 70MHz 3-Element Yagi
During the PW Activity Afternoon 2008



Fig. 1: The Moonraker YG3 4 70MHz 3-element Yagi antenna. The slightly thinner looking outer elements are telescopic, and slide into the main elements. This was the feature that first attracted G3XFD's attention, for ease of assembly for portable operations.

The filled-to-capacity issues of *PW* over the Winter of 2008/2009 left to no space available for me to present the report of the last 70MHz Activity Afternoon. However, I was determined to squeeze it in at the same time or before we published the rules of our new 70MHz low power contest and – at least – I've managed to get it into *PW* as we published the rules!

Even though the last Activity Afternoon was held in the latter part of 2008 (on Saturday September 27th) I still remember how enjoyable it was working readers from my regular spot at Povington Hill, on the Purbeck Hills on the Dorset coast (Locator IO80). It's an ideal location for operating on the 70 and 144MHz bands.

One of the main reasons I wanted to publish the report as soon as we could find the space, was the fact that I also had the opportunity to evaluate the Moonraker YG3 4 70MHz 3-element Yagi antenna, which could be useful for our readers keen to get onto the band. I'd been looking for a really robust portable/semi-collapsible beam for use on the band for some while. Having looked at photographs provided by Moonraker, I thought it would be well worth trying it out – and I wasn't disappointed!

Robust Antenna

The YG3 4 antenna, **Fig. 1**, turned out to be far more rugged than I had imagined possible for the price, particularly as the photographs I had viewed didn't really present the antenna very well (it's quite difficult to photograph antennas and get good results!). It's also very well built, indeed it's built-to-last and I'm sure that once set-up and adjusted on a mast or tower, it would last for many years.

Moonraker claim that the antenna has a forward gain of 8dB (no details as to whether this refers to a dipole or isotropic source) with a v.s.w.r. of 1.5: to 1 or better, with a maximum power handling capacity of 500W (not stated whether p.e.p. or r.m.s.). Connection is via an SO239 socket.

However, what attracted my attention at first was the fact that the outer sections of the three elements are telescopic, meaning that there was a possibility I wouldn't have to completely dismantle the whole array for transportation. The telescopic sections can be identified in **Fig. 1**, because they're of a much smaller diameter aluminium tubing. In use they're secured by small screws (more on this point later).

Matching of the driven element (the dipole) is achieved by the use of a 'trombone' style gamma matching unit. This item, particularly well constructed, is complete with heat-shrink sleeving and is entirely engineered by Moonraker within its well-equipped factory in Buckinghamshire.

The antenna is extremely easy to assemble and break down for transport. By removing (or sliding the outer elements into the main element) I found that I could transport the Yagi in the back of my car, or comfortably on the roof rack. **Note:** Anyone using a 70MHz Yagi antenna for the first time will be quite surprised – I'm sure – of the increase in element lengths compared to the usual 144MHz antenna that many Amateurs are used to on the band!

Once I had assembled the antenna at home and tested it – using a standing wave ratio (s.w.r.) meter than can be used up to 180MHz) I marked the resonant lengths of the telescoping element with *pvc* tape. Then, in the field I could slide them in up to the tape and secure them with the supplied screws. The final s.w.r. was better than Moonraker had claimed in the product details.

Rob Mannion G3XFD comments on the 3-element Yagi that he used during the last PW 70MHz activity afternoon.

Incidentally, the supplied screws aren't particularly user-friendly and can be difficult to use, requiring them to be tightened while the main element is held steady. I achieved it with the main element sandwiched between my legs (legs astride the element) with all the dangers that a mishandled, slipping screwdriver could do to the sensitive parts of the anatomy! In the end I searched around in my screw and nuts box and found two butterfly type bolts that had originally been used on a cheap folding 144MHz Yagi. Perhaps Moonraker will eventually provide butterfly headed bolts?

Once the Gamma matching unit has been adjusted and set I placed several dabs of hot-melt glue at the junction of the sliding unit and main tube, so it won't move. However, this is perhaps being over cautious as it locks nicely with the set-screw and the heat-shrink sleeving set by using a hair drier or similar if the user prefers to seal it.

On The Air

Using the Yagi on the air from Povington Hill for the first time was easy and it proved to be lightweight and simple to set up. For my first tests I had the antenna mounted on the top of a short stub mast of around 6m (approx. 18ft) as windy conditions had been forecast. I didn't want to risk using a maximum (boom length) 1.422m (56in) long and 2.325m (88in) wide (width of elements tip-to-tip) antenna on my relatively lightweight 10m (fully extended) pneumatic Clark Mast on an extremely exposed hill top. (Later I used the Yagi on the 10m mast at home and it proved to be more than adequate to support the Yagi).

Listening to 70MHz I received the beacon **GB3BUX**

in Buxton, north Derbyshire on 70.000MHz at a good RST559. I wasn't able to plot an accurate polar diagram – this is usually done by applying test signals at differing frequencies within the antenna's working band and taking measurement remotely using field strength meter. However, by swinging the antenna 30 to 40° either side of the maximum signal peak to a point where the signal became inaudible, I roughly estimated the beamwidth as being very reasonable for a 3-element antenna. Reversing the antenna the G3BUX beacon dropped in level so much it was only just audible, indicating a very reasonable front-to-back ratio. Obviously, my tests **were very crude** but at least they provided an indication on the antenna's performance.

Using my Spectrum Transverter (transmit input and receive output 28MHz) and running it at approximately 15W p.e.p. I then worked several *PW* readers in southern England, with one station as far away as Birmingham. Reports were good (average reports were between 5 and 7-8, with conditions being fairly 'flat'. However, despite the conditions I achieved my best QSO of the day with a reader living in West Wales. It was difficult, with the characteristic deep QSB associated with 4m – but it was great fun.

I'm planning to be active on the first *PW* 70MHz Contest using the Moonraker YG3 4 because I now have one for use at G3XFD. So, I'm looking forward to working as many contest entrants as possible on **Saturday June 13th** – and I hope to meet as many friends as possible. Good luck in the contest!

Rob's acknowledgements: My thanks go to **Justin Godfrey** of Moonraker, for the loan of the review antenna which is available from them for £59.95 plus £7.99 p&p. Further information from **Moonraker, Cranfield Road, Woburn Sands, Buckinghamshire MK17 8UR.** Tel: (01908) 281705. Website: www.moonrakerukltd.com E-mail: sales@moonrakeruk.ltd.com

rallies

Radio rallies are held throughout the UK. They're hard work to organise so visit one soon and support your clubs and organisations. PW Publishing Ltd. is attending at rallies marked *.

Send all your rally info to

PW Publishing Ltd.,
Arrowsmith Court,
Station Approach,
Broadstone,
Dorset BH18 8PW
E-mail: newsdesk@pwpublishing.ltd.uk

April 19th

The Andover Club Boot Sale

The Andover Radio Amateur Club will be holding their Boot Sale at the Wildhern Village Hall and Playing Field SP11 0JE (this is off the A343 north of Andover). Admission will be £1.50 and there will be talk-in on S22, parking, catering and facilities for the disabled.

Martin MOMWS

Tel: 01980 612070
www.arac.co.uk

April 19th

The West London Radio & Electronics Show*

The West London Radio & Electronics Show will take place at Kempton Park Racecourse, Sunbury-on-Thames, Surrey. There will be free car parking, the doors will open at 10.00am and there will be talk-in on S22 & V44, trade stands, a Bring & Buy, a flea market, catering, special interest groups

and facilities for the disabled.

Paul. Tel: 0845 1650351

E-mail: paul@radiofairs.co.uk

www.radiofairs.co.uk

April 26th

The Yeovil QRP Convention

The Yeovil QRP Convention will be held at Digby Hall, Hound St, Sherborne, Dorset DT9 3AA. (Digby Hall adjoins the central shopping car park). The doors will open at 10.00am and there will be talk-in on S22 and V44, car parking, lectures, trade stands, a Bring & Buy, catering and facilities for the disabled.

Derek. Tel: 01935 414452.

E-mail: yarc-contact@tiscali.co.uk

www.yeovil-arc.com

May 3rd

The Dambusters Radio Rally

The Dambusters Radio Rally will take place at the Thorpe Camp Visitor Centre,

Thorpe, near Coningsby, Lincolnshire LN4 4PE (on the B1192 at Tattershal). Doors will open at 10.30am (10.00am for disabled, 8.00am for traders). Admission will be £2 (accompanied children free) – this includes admission to the Visitor Centre. There will be free car parking and free camping spaces will be available on the site.

Tony G3ZPU. Tel: 01507 527835

E-mail: g3zpu@yahoo.co.uk

<http://beam.to/tcrm>

May 4th

The Dartmoor Radio Rally

The Dartmoor Radio Rally will be held at Tavistock College, Crowndale Rd, Tavistock, Devon PL19 8DD. Doors will open at 10.30am (10.15am for disabled) and there will be talk-in on S22 and V44, car parking, family attractions, trade stands, a Bring & Buy, catering and facilities for the disabled.

Peter M1AYI. Tel: 01822 860277

Radioworld Ltd

34-42 Brook Lane, Great Wyrley, Walsall, WS6 6BQ
Tel: 01922 414796 Fax: 01922 417829 skype: radioworld_uk



KENWOOD

****NEW**** TM-D710E
Dual-Band Mobile
VHF/UHF - £395.00

TS-480SAT - HF&6m 100W... £684.95.
TS-480HX - HF & 6m 200W... £769.00.
TS-2000 - HF/6/2/70cms... £1369.00.
TS-2000X-HF/6/2/70/23cm... £1624.95.
TM-G707-Dual Band Mobile £265.00.
TM-V7E - 2m/70cm's... £359.00.
TH-F7E - 2mtrs/70cm's... £204.95.
TM-271E-2m/FM Mobile TX/RX £149.95.
TM-V71E - VHF/UHF Trx£256.95.

ICOM

2 YEAR WARRANTY



ICOM IC-E92
Built-in
DSTAR
£365.00

IC-7700 HF & 6m Base£4995.00
IC-7800-2 HF/50MHz 200W£6500.00.
IC-756PRO3 - HF/50MHz£1889.00.
IC-7400 - HF 6m/2m 100W.....£1331.00.
IC-7000 - HF/6m/2m/70cm's.....£939.00.
IC-718 - HF 100W.....£449.95.
IC-910H - 2M 100W/70cm 75W £1239.00.
IC-E7 - Mini Dual-Band Handy...£149.00.
IC-E91 - Top Flight Handheld...£269.95.
IC-706M2G - All-Mode TX/RX£739.00.
IC-E90 - 2m/6m/70cm Handheld £219.00.
IC-E2820 Dualband VHF/UHF £384.00.

YAESU

Choice of the World's top DX'ers™

FT-950 HF Transceiver..... £999.95.
FTM-10E - VHF/UHF tx/rx £219.95.
FT-897D - HF/6m/2m/70cm... £595.00.
FT-817ND - 1.8-430MHz 5W. £399.00.
FT-857D - HF/6m/2m/70cms £545.00.
FT-7800E W/YSK-7800 cable £195.00.
FT-8800E - 2m/70cm mobile...£259.95.
FT-8900 - 10m/6m/2m/70cm...£289.00.
FT-1802E - 2m 50W mobile...£119.95.
FT-2800M - 2m 65W mobile...£125.00.
VX-7R - 6m/2m/70cm handy...£209.95.
VX-6E - 2m/70cm handheld...£164.95.
VX-3E - 2m/70cm handheld...£121.95.
VX-170 - 2m handheld 5W.....£107.95.
FT-60E - 2m/70cm FM 5W ...£129.95.
FT-450 - HF/6m transceiver... £529.95.
FT-450AT transceiver..... £599.95.



YAESU FT-2000 - £1895.00
FT-2000D 200W - £2399.00



MFJ

MFJ-989D 1500W Auto ATU...£389.95.
MFJ-986C 3Kw HF.....£349.95.
MFJ-991B Auto Intellituner...£219.95.
MFJ-976 1500w ATU£489.95.
MFJ-969 300w Rollercoaster £219.95.
MFJ-962D 1.5Kw Inductor...£299.95.
MFJ-949E 300w W/D-Load...£185.95.
MFJ-948 300w HF.....£162.95.
MFJ-945E Mobile£132.95.
MFJ-941E 300w£144.95.
MFJ-934 ATU+AG£209.95.
MFJ-921 2m ATU.....£96.95.
MFJ-924 70cms£96.95.
MFJ-914 Extender£61.95.
MFJ-901B 200w Versa tuner...£109.95.

Analysers

MFJ-249B 1.8-170 Dig.....£264.95.
MFJ-259B 1.8-170£279.95.
MFJ-269 HF/VHF/UHF£369.95.
MFJ-201 grid dip meter.....£156.95.
MFJ-269PRO 1.8-170&430-520 £399.95.

Dummy Loads

MFJ-250 1kw Oil filled£77.95.
MFJ-250X 1KW without oil£55.95.
MFJ-260C 300w PL259£44.95.
MFJ-260CN 300w N-Type£53.95.
MFJ-264 1.5kw PL259£75.95.
MFJ-264N 1.5kw N-Type£84.95.
MFJ-267 Load/VSWR£159.95.

RigExpert



RigExpert Standard.....£149.00
RigExpert Plus£229.00
AA-200 Antenna Analyzer.....£379.00

**New lower
prices on..**



PR-781-PTT deluxe base mic...£136.95.
Pro-Set-Plus Headset£186.95.
Pro-Set-Plus-IC Headset£199.95.
Pro-Set-HC-4/5 Headset£114.95.
Pro-Set-HC-IC Headset£129.95.
Goldline GM-4 Stick mic£119.95.
Goldline GM-5 Stick mic£119.95.
HM-4 Handy mic w/HC-4 insert £79.95.
HM-5 Handy mic w/HC-5 insert £79.95.
HM-IC Handy mic + Icom insert £79.95.
HM-10-4 Hand mic + HC-4£79.95.
HM-10-5 Hand mic + HC-5£79.95.

Tigertronics
Grain Processing, Oregon

SL-USB-13PDI 13pin DIN for Icom. £9495
SL-USB-13PDK 13pin Kenwood....£9495
SL-USB-4R 4pin round mic cable...£89.95
SL-USB-5PD 5 pin round mic cable £89.95
SL-USB-6PMD 6pin miniDIN(Yaesu)£89.95
SL-USB-8PD 8pin mini DIN.....£89.95

COMET

H422



Comet H422 - High power
1Kw, 4 Band Rotary V Dipole.
Frequencies : 7,14,21,28 Mhz
£249.00

CHA250B broadband vertical,
covers 80-6m, no gaps £299.95.

Comet V-250 3.5-54MHz Max 200w.
Ideal for limited space £299.00.

GP-6 High Gain Dualband
Co-Linear 2/70cm. Max 200w £99.95

GP-15 Tri-Band 2/6/70 Fibreglass
Antenna. Max 150w £99.95



V-250



WATSON



POWER-MITE NF Watson 22A, £59.95

W-25AM 25A Supply.....£89.95.
W-10AM 10A Supply£59.95.
W-5A 5A Supply£29.95.
W-3A 3A Supply£22.95.
W-25SM 25A Supply£59.95.
W-10SM 10A Supply£49.95.

WATSON



W-30 2/70 Base£49.95.
W-50 2/70 Base£54.95.
W-300 2/70 Base£74.95.
W-2000 6/2/70 Base£85.95.
WBV-70 4m 1/2 Wave Base...£44.95.



BENCHNER, INC.

Butternut HF-2V 40/80m£299.95.
Butternut HF-6V 80-10m£399.95.
Butternut HF-9V 80-6m£466.95.
Butternut HF-5B 20-10m£472.95.
30-MRK 30m ad for HF2V£139.95.
A-17-12 17&12 ad for HF6V£71.95.
A-6 6m ad for HF6V-X£23.95.
TBR-160S 160m HF2/6/9V£169.95.

HUSTLER

Hustler 5-BTV£224.95.
Hustler 4-BTV£182.95.
Hustler 6-BTV£255.95.
Hustler RM-10 10m resonator£20.95.

PALSTAR

AT-1KP Digital Display£419.95.
AT-1500DT 1500w ATU£449.00.
AT-2K 2000W ATU£479.95.
AT4K 2500 Watt ATU£809.95.
AT5K 3500 Watt ATU£1079.95.

**Miracle
Antenna**

Miracle Whip£109.95.
Miracle Ducker IL£109.95.
Miracle Ducker PL£109.95.
Miracle Whip TL£129.95.

AUTO

AT-1000 Pro



1KW Auto ATU - 1.8-54MHz - 1.8 secs
Tune - Approx SWR Rating of 10:1

£549.95

LDC
ELECTRONICS

LDG Z-100



100w Auto ATU -
1.8-54MHz - 0.5 - 6 secs

£126.25

DM-7800 *NEW*



Dual meter system made
exclusively for the IC-7800. This will
give you a true analogue meter

£136.95

FT-METER



Plug-and-play FT-meter,
specifically designed for the
Yaesu FT-1807 and FT-807.
Gives you an analogue meter

£42.95

LDG AT-100Pro



100w Auto ATU - 1.8-54MHz
1-5 seconds Tune - 2 Pos Ant switch

£199.95

LDG baluns



1:1 or 4:1 Balun - Covers 1.8 - 30MHz
Power rating 200w

£32.95

LDC
ELECTRONICS

TUNERS

The world's best Auto Tuners!

TONNA

Tonna 20505 6m 5el	£109.95
Tonna 20809 2m 9el	£89.95
Tonna 20811 2m 11el	£104.95
Tonna 20817 2m 17el	£121.95
Tonna 20909 70cm 9el	£56.95
Tonna 20919 70cm 19el	£72.95
Tonna 20921 70cm 21el	£89.95
Tonna 20635 23cm 35el	£79.95
Tonna 20655 23cm 55el	£109.95
Tonna 20745 13cm 25el	£62.95

West Mountain Radio

RIGblaster Pro	£284.95
RIGblaster Plus Serial	£149.95
RIGblaster Plus USB	£149.95
Nomic 8P	£84.95
Nomic RJ	£64.95
M4-CBL RG45/4Pin lead	£18.95
RIGRunner 10way 12v distribution board	£119.95



DIAMOND

HF10FX 10m Mobile	£39.95
HF15FX 15m Mobile	£39.95
HF20FX 20m Mobile	£39.95
HF40FX 40m Mobile	£39.95
HF80FX 80m Mobile	£44.95
CR8900 10/6/270	£97.95
CP6 Base 8m-80m	£339.95
X50 Base 270	£72.95
X200N Base 270	£114.95
X300 Base 270	£139.95
X700H Base 270	£329.95

AMERITRON

AL-811XCE 10-160m 600w	£939.95
AL-811HXCE 10-160m 800w	£1099.95
ALS800X Solid State 10-160m 600w	£1629.95
AL-1500XCE 10-160m 1.5KW	£3679.95
AL-1200XCE 10-160m 1.5KW	£3639.95
AL-82XCE 10-160m 1.5KW	£2799.95

RADIO

CW-160 160-10m (252ft)	£164.95
CWS-160 160-10m (133ft)	£159.95
CW-80 80-10m (133ft)	£129.95
CWS-80 80-10m (66ft)	£149.95
CW-40 40-10m (66ft)	£119.95
CW-40+ 40-10m (66ft)	£139.95
CW-20 20-10m (34ft)	£99.95
G5RV+ 80-10m	£79.95
G5RV Fullsize	£34.95
G5RV Halfsize	£24.95

SGC

SGC-230 200Watts

£499.95



SGC-230 HF	£499.95
SGC-230 HF	£1599.95
SGC-235 HF-500w	£1329.95
SGC-237 HF+6m	£334.95
SGC-237 PCB	£614.95
SGC-237 PCB	£319.95
SGC-239 HF	£219.95
MAC-200	£309.95

Rotators



G-2800SDX Rotator	£999.95
G-450C Rotator	£299.00
G-550C Rotator	£334.00
G-650C Rotator	£349.00
G-1000DXC Rotator	£399.00
G-5500C Rotator	£499.00
AR-35X Hy-Gain rotator	£109.95
G-250 - Rotator	£149.95

Feeders & Wire

RG-213 Military Spec High grade 50 Ohm coaxial Cable	£89.95 per 100m Drum
RG58U	£0.70 per Metre
RG8 Super	£0.90 per Metre
RG213	£1.30 per Metre
W103 Westflex	£1.95 per Metre
RG-8 75 Metre Drum	£60.95

Flexweave 50m Flex	£29.95
Flexweave-PVC-50 50m	£39.95
Enamelated Copper Wire 50m	£17.95
Hard Drawn Copper Wire 50m	£24.95

Rotator Cable: - Color coded Cable	
3 core	£0.60 per Metre
7 core	£1.00 per Metre
8 core	£1.50 per Metre

DC Connecting Cable	
5A DC Cable	£0.50 per Metre
10A DC Cable	£0.75 per Metre
20A DC Cable	£1.00 per Metre
25A DC Cable	£1.10 per Metre

TGM Antennas Mini Beams

* Call for prices on TGM upgrade kits.

MQ-24SR 6-20m 2el	£469.95
MQ-34SR 6-20m 3el	£589.95
MQ-1 6-20m 2el	£399.95
MQ-26 6-20m 2el	£509.95
MQ-26SR 6-20m 2el + EH	£549.95
MQ-36SR 6-20m + Dir	£729.95

CUSHCRAFT

X-7 - 20/15/10 7EL Yagi	£1199.95
A3S - 20/15/10 3EL Yagi	£599.95
A4S - 20/15/10 Yagi	£739.95
A3WS - 12/17 3EL Yagi	£499.95
ASL-2010 13-32MHz Log	£899.95
MA5B - Mini Beam	£479.95
D-3 - 20/15/10 Dipole	£299.95
R-6000 - 6Band Vertical	£399.95
R-8 - 40-6m Vertical	£559.95
MA5V - 10/20m Vertical	£279.95

Second Hand List.

Amplifiers

Mirage B-108 2m Linear Amplifier	£129.00
ACOM 1000 160-6m amplifier	£1,699.00
Tokyo HY-Power HL-37VX RF Power Amplifier with FET	£69.00
Alinco ELH-730G 30W output linear amplifier	£59.00
Yaesu FL-2050 amp	£99.00
Nietzsche NB-30W - RF Amplifier	£59.00
Analysers + SWR meters	
Comet CD-270D Meter	£49.00
Daiwa SW-110A 1.8-150MHz 20W and 200W Power Meter	£40.00

Antenna Tuners

Kenwood AT-230 ATU	£169.00
Yaesu FC-30 Antenna Tuner Unit	£169.00

CB

Midland ALAN 42 Multi 80ch Handheld	£79.00
-------------------------------------	--------

DAB Radio

Gemini 49 Digital Radio	£40.00
-------------------------	--------

Data Comms

Kamtronic KAM Multimode TNC	£140.00
-----------------------------	---------

Frequency Counter/finder

CUB Optoelectronics MINI Counter	£119.95
----------------------------------	---------

Handheld Transceivers

Kenwood TH-G7IE Dualband Handie	£129.00
Kenwood TH-K2ET 2m Handie with keypad	£99.00
Yaesu FT-41R Handheld Transceiver	£120.00
Icom IC-T8E	£159.00
Yaesu VX-5R Tri-Band Handy	£149.00
TH-K4ET Kenwood FM 5W 70cm Handy - with keypad	£99.00
VX-5E Yaesu 2m/70cm FM Dualba	£145.00
DJ-596EMKII Alinco 2m/70cm FM Handy with Digital Opt	£99.00
Yaesu VX-3E Ultra-compact 2 m/70 cm Handheld FM Tran	£89.00

HF Transceivers

Yaesu FT-920AF HF / 6M Base	£899.00
Kenwood TS-50S	£399.00
Kenwood TS-570D HF Transceiver	£525.00
Yaesu FT-101ZDMKII HF Transceiver with FM fitted	£399.00
Yaesu FT-920	£799.00
Kenwood TS-850S /AT	£899.00
Icom IC-740 HF Transceiver	£389.00
Yaesu FT-100D Multiband Transceiver	£425.00
Yaesu FT-767GX HF, 6m & 2m & 70cms transceiver	£699.00
Yaesu FT-990 /AC	£799.00
Kenwood TS-690S HF -6m Transceiver	£449.00
Alinco DX-77E HF Transceiver	£379.00
Kenwood TS-870S HF Transceiver	£899.00
Yaesu FT-1000MP Mark -V Field	£1,199.00
Icom IC-7400 HF, 6m & 2m Transceiver	£899.00
Kenwood TS-570DGE	£549.00
Yaesu FT-1000 "CLASSIC" HF Transceiver	£1,399.00
Yaesu FT-900/AT HF Transceiver	£475.00
Kenwood TS-450S /AT HF Transceiver	£425.00
Icom IC-718 HF Transceiver	£359.00
Icom IC-718 HF All Band Transceiver	£389.00
Icom IC-746 HF/6m Transceiver	£589.00
Yaesu FT-840 HF Transceiver	£329.00
Kenwood TS-140S HF Transceiver	£299.00
Icom IC-735 HF all mode Transceiver	£299.00
Yaesu FT-1000MP / AC HF Transceiver	£899.00
IC-756PRO-MKIII Icom HF + 6m Trx	£1,399.00
TS-2000 (Black Version)* 60th Anniversary Model*	£1,149.00
Kenwood TS-430S HF Transceiver 100W output	£275.00
Yaesu FT-757GX Mkl	£275.00
IC-7400 HF, 6m & 2m transceiver	£899.00
IC-756PRO-MKIII Icom HF + 6m Trx	£1,499.00
Kenwood TS-870S HF Transceiver	£799.00
Kenwood TS-440SAT HF Transceiver	£399.00
Kenwood TS-850S /AT	£899.00
Kenwood TS-570DGE	£549.00
Alinco DX-77E HF Transceiver	£379.00
Icom IC-746 HF/6m Transceiver	£589.00
Kenwood TS-570D HF Transceiver	£525.00
Icom IC-7800 mk 2 with roofing filters	£5,395.00

Mics and Speakers

SP-23 Kenwood Base Speaker	£50.00
Kenwood MC-85 Base Mic	£99.00
Yaesu MV-1 Remote Control Mic	£60.00
MFJ-382 Deluxe Amplified ClearTone Speaker	£30.00
SMC-34 Speaker/Microphone with Volume Control	£20.38
HM-133 Remote Control Microphone for IC-E208	£53.00
MC-90 Desk Mic for DSP	£149.00
Other	
AKD 6001 6m FM Trx	£115.00
Kenwood MB-201	£20.00
Standard C-156E 2m Handheld	£125.00
Yaesu NC70 Battery Charger	£60.00
Daiwa CNA-1001	£149.00
M/Modes 144/100	£119.00
Snooper S5-R Safety Alert System	£119.95
MML432-30L	£89.00
Kenwood DRU-3A Digital Recording Unit	£65.00
Alinco DJ-X3	£89.00
FRT-7700	£69.00
Comet CF-BPF6	£25.00
EDC-16B adapter	£9.99
SMC 150PL Dummy Load	£29.00
Kenwood YG-455C IF Filter	£65.00
Kenwood VS-1 Voice Synthesizer	£39.00
OptoElectronics X Sweeper	£1,199.00
EBC-9 Under Dash Bracket for DX-70TH-DX-701 - No Scr	£18.00
Yaesu FV-101DM Digital Memory VFO	£199.00

Icom ut-102 Voice Synthesizer Unit	£25.00
MFJ-781 DSP Filter	£89.00
AOR ARD9000 Digital Voice Interface	£129.00
Revex W540 140 - 525MHz 200W	£40.00
Kenwood TH-47E 430-440 MHz	£79.00
FL-223 9MHz Filter SSB narrow 1.9kHz	£40.00
Icom PS-85 Icom 20A 13.8V Switch Mode	£130.00
KSC-14 Fast Charger for TH-22E	£76.55
MB-62 Mobile Mounting Bracket (Main) for IC-706, IC-14	£14.74
Kenwood YK-455C-1 CW filter for use with TS-140 etc	£30.00
EM-8200 External Memory Card for AR-8200-8200-S2	£40.00
FM-UNIT 100 - for FRG-100	£39.00
Kenwood YK-88SN SSB Filter	£40.00
YF-114SN 2nd IF Filter 8.2/2.0kHz for FT1000MP/FIELD	£40.00
YF-110SN 3rd IF Filter 455/2.0kHz for FT1000MP/FIELD	£50.00
FT-290/790MKI Carry Case	£15.00
SC-8200 Soft Case for AR-8200-8200-S2	£10.00
Kenwood YG-455C-1 - CW Crystal Filter	£80.00
Kenwood YG-455CN-1 - CW Crystal filter	£100.00
Kenwood / Trio BPF-2A HF filter	£25.00
DCI-145-2-H 2m Band Pass Filter	£129.00
FL-102 Filter 9MHz AM 6kHz for IC-775-706-746-756	£35.00
FL-257 455kHz Filter SSB wide 3.3kHz	£99.00
FL-103 9MHz Filter SSB wide 2.8kHz	£40.00
VS-3 Voice Synthesizer for TS-2000 & TS-570	£30.00
YF-110CN 250Hz CW Narrow Crystal Filter for FT1000MP	£60.00
MF-500 Collins Mech 500Hz CW Filter for AR-5000-7030	£52.17
YF-122CN Collins CW Filter 300Hz/1kHz for FT857	£99.95
FL-52A 455kHz Filter CW/RTTY narrow 500Hz	£99.00
YF-114CN 2nd IF Filter 8.2/250Hz for FT1000MP/FIELD	£45.00
Icom FL-32A - CW narrow filter 500Hz	£30.00
Kenwood FM-430 - fm unit for TS-430 / TS-430S	£40.00
YK-88A - Trio/Kenwood AM Filter	£34.78
Icom FL-32 - CW filter 9MHz	£40.00
FL-101 9MHz Filter CW narrow 250Hz	£60.00
Icom FL-44 - SSB Filter 455kHz	£80.00
ICOM UT-66 - Voice synthesizer for IC-775DSP	£60.00
PMR446	
Challenge PMR160 - 2 x 446Mhz handheld transceivers	£25.00

Power supplies

PS-33T Kenwood 13.8V 20.5A PSU	£159.00
Microset PT 135 PSU	£120.00
Yaesu FP-757HD Power Supply	£139.00
Kenwood BO-9 Base Unit	£39.00
Yaesu FP-757HD Power Supply	£139.00
PT-50A Microset 50A 13.5V PSU	£272.13
PT-1012 Microset 12A 13.5V PSU	£108.65

Receivers

Fairhaven RD-500VX Comm Rx	£499.00
Fujion F-2000A Finder	£99.00
Icom IC-R72 Receiver	£399.00
Target HF3 HF3 RX	£99.00
Yaesu FRG-100 HF Receiver	£299.00
Yaesu VR-500 Receiver	£119.00
Alinco DJ-X2000 Intelligent Receiver	£230.00
Realistic DX-394 HF Receiver	£99.00
Trio (Kenwood) R-2000	£225.00
Icom IC-R8500 Receiver	£999.00
AOR AR-8600MkII	£499.00
Kenwood R-5000 Communications Receiver	HF £450.00
Alinco DJX30 Scanning Receiver 100kHz - 1.3GHz	£140.00
Kenwood VC-20 VHF Converter	£175.00
Scanners	
Bearcat UBC-278 CLT Scanner	£99.00
Icom IC-R10 Hand held Scanner	£179.00
Icom IC-R3 Hand held Scanner	£250.00
Yupiter MVT-7000	£129.00
Yupiter MVT-225	£159.00
Bearcat UBC-3300XLT Scanner	£129.00
AOR AR-8000	£189.00
AOR AR-8200Mk3 Scanner	£299.00
Realistic Pro-43 Scanner	£89.00
Yaesu VR-5000 Scanning Receiver	£389.00
Yaesu VR-500 100kHz-1300MHz Scanner	£119.00
IC-7400 Icom Scanner Wideband	£259.95
UNIDEN UBC-3000 Hand Scanner	£129.00
PSR-282 GRE Handheld Scanner	£50.00
AOR 8200 MK I	£220.00
Albrecht AE105H - "Sport scan" scanner	£59.00
Uniden UBC-180XLT scanning receiver	£99.00
VHF/UHF Transceivers	
Kenwood TM-255E 2m Mobile	£329.00
Icom IC-490E 70cms Mobile	£250.00
Kenwood TR-9000 2m Multi mode	£220.00
Kenwood TS-271E	£165.00
FT-290RMI 2m Multi mode	£150.00
Yaesu FT-847 HF-6-2-70 Base	£899.00
Yaesu FTV-1000 200 W Transverter	£450.00
Yaesu FT-790	£159.00
Yaesu FT-736R 2m/70cm Base Multimode	£599.00
IC-7400 HF, 6m & 2m transceiver	£899.00
Kenwood TR-751E 2m Multi-mode transceiver	£275.00
Yaesu FT-290MkII 2m Multi-mode transceiver	£250.00
Yaesu FT-690R II 6m transceiver	£275.00
Yaesu FT-736R 6m, 2m & 70cm Base	£799.00
Yaesu FT-480R 2m Transceiver	£220.00
Yaesu FT-1500M 2m FM transceiver	£109.00
Kenwood TS-790E Dual-Band Base / Mobile Transceiver	£799.00
Yaesu FT-857D Multi-band Mobile	£389.00
IC-E208 2m / 70cm FM Mobile	£189.00
Kenwood TR-251E 144-146 MHz	£120.00
Icom IC-229H 144-146 MHz	£119.00
ICOM IC-2200H 144-146	£175.00
The TINY-2 MK-II - With Open Squelch Board	£109.00
Yaesu FT-2500M Amateur VHF	£99.00
AKD 2001 Amateur VHF FM	£69.00
Yaesu FTM-10E Transceiver	£199.00
Kenwood TR-751E VHF Transceiver	£275.00
The TINY-2 MK-II versatile platform - Basic	£89.00
FT-90R - Transceiver	£199.00
ICOM IC-25ET - Amateur VHF Transceiver	£79.00

bhi

ANEM amplified module.....	£122.49
1042 6-way switch box.....	£19.95
NEDSP-1061-KBD DSP module.....	£99.95
NEDSP-1062KBD Noise Module.....	£104.95
NEIM1031 Noise Module.....	£129.95
NES10-2 MK II speaker.....	£99.95
1090 Radiomate Keypad.....	£89.95

The First Practical Wireless 70MHz Low Power Contest

The 2009 Contest Introduction

Colin G6MXL explains the rules.

The 1st Annual *Practical Wireless 70MHz Low Power Contest* takes place on **Saturday June 13th 2009 from 1100 to 1700 UTC**. This is the day immediately before the *PW 144 MHz QRP Contest*. The date has been chosen to avoid clashing with some major 50MHz contests and the *PW 144MHz QRP Contest*, as mentioned which takes place the following day. Hopefully entrants will be able to take advantage of some good propagation on both days!

The rules for the new contest are based on the popular *Practical Wireless 144MHz QRP Contest*, but there are a number of differences, notably the time and maximum power limit. These rules in subsequent years may change to reflect feeding ideas back from those participating.

For those new to the 4m band, the *Practical Wireless 70MHz low power contest* is a perfect introduction to the friendly nature of contesting to be found on the band. By choosing a date in mid-June, hopefully there will be some Sporadic E (Sp-E) propagation allowing some long distances to be worked.

The 10W power limit has been chosen to allow UK Foundation Licence holders to compete on an equal basis with other entrants. The limit of 10W is also a power level to be found on many ex-Private Mobile Radio (PMR) transceivers, and on many transverters. It's also a power level that can be sustained using batteries for several hours.

Equipment

The choice of equipment at 70MHz is somewhat limited in comparison with 144MHz. But please don't let this put you off, as 70MHz is a band where frequency modulation (f.m.) and amplitude modulation (a.m.) modes can be used to make some quite long distance

contacts. Indeed, relatively cheap ex-PMR equipment running a.m. or f.m. is used by many stations to great effect on the band.

Transverters are another popular way to get on the band, using a main rig, usually on 28MHz and, on transmit, convert the signal up to 70MHz. On receive the transverter converts the 70MHz signal back down to 28MHz.

A few transverters have also been made to enable a main rig on 144MHz to use the 70MHz band. Note that transverters usually require a drive level much less than the full output power of most h.f. and v.h.f. transceivers, sometimes as low as a few milliwatts.

Suitable Antennas

With comparable antennas needing to be a little over twice the size of those on 144MHz, many stations will perhaps be using nothing more than a simple dipole or quarter-wave vertical. Those stations with Yagi antennas are likely to have fewer than six elements.

For operation on a.m. and f.m., vertically polarised antennas are generally used. For operation on single sideband (s.s.b.) using upper sideband (u.s.b.) and c.w. most stations use horizontally polarised antennas.

Operating On Four

For those used to s.s.b. and c.w. on other bands, I would suggest spending some time on f.m. and a.m. on 70MHz. You could be in for quite a surprise at just how many stations are using these modes.

If you are new to 70MHz, the one thing that you may find different to other bands is that slow QSB (fading) is a common occurrence on the band. You may find that stations disappear for a minute or two and then re-appear.

Entrants Opinions & Views

By basing the rules on the long established *Practical Wireless 144MHz QRP Contest*, I'm hoping that in time the *PW 70MHz Low Power Contest* will become just as popular. Nevertheless, the characteristics of the band



Editor: After a very great deal of hard work and dedicated research, **Colin Redwood G6MXL** – the Organiser and Adjudicator – introduces the rules for the very first *Practical Wireless 70MHz contest*. On behalf of PW readers and keen 70MHz operators who've been waiting for the announcement it's my very great pleasure to thank Colin for all his efforts. Over to you Colin! **Rob G3XFD.**

are different. So the opinions and views of entrants – **your opinions!** – are welcome, including on the scoring method.

Scoring The Contest

A key part of the rules to get right is the scoring! For this year at least, the scoring will be the same as the *PW* 144MHz QRP contest, namely one point per QSO, and each Square a Multiplier. This simple scoring enables entrants without access to computer scoring software to enter the contest.

Question may be asked such as , “Should we stick with 1 point per QSO, or move to one point per kilometre? Should we stick with Squares as multipliers, or should we change to DXCC Country multipliers instead of Squares or in addition to Squares; or perhaps we should drop multipliers altogether?

Question 1

Scoring	1 point per QSO	Don't Mind	1 Point per km
Should the <i>PW</i> 70MHz Contest Continue with one point per QSO scoring, or change to one point/km?			

When you're considering letting me know your opinions, please rank the following as your preference for multipliers (4 is your best preference, 1 is your least preference).

Question 2

Multipliers

Rank the following as your preference for multipliers (4 is your preference, 1 is your least preference).

Option	Rank
No multipliers	
One multiplier per square (no change - like this year)	
One multiplier per DXCC country and No multiplier per square	
One multiplier per DXCC country PLUS One multiplier per square	

Please note that changes will only be made **if** there is a clear majority in favour of change from all geographic areas.

Entering The Contest

After the contest, please submit an entry! Although electronic entries via E-mail are preferred, the 'computer-phobics' among you will no doubt be pleased to know that you can easily submit an entry without going anywhere near a computer if you wish!

The preferred form of a log is a computer file sent by E-mail. This may be a file generated by logging software such as SDV which can be downloaded <http://www.ei5di.com> provided it contains all the information listed above.

Important note: New for both the 70 and 144MHz contests this year is a spreadsheet for logs. It can be downloaded from the *PW* Contest web site at <http://www.pwcontest.org.uk> Submitting logs using the spreadsheet will really assist the adjudicator.

Files in any other suitable format (plain text is fine provided each of the items above is separated by a separating character such as a comma or tab) can also be accepted.

All entrants should please note that;

- the contest web site is www.pwcontest.org.uk
- E-mailed entries should be sent to contest@pwpublishing.ltd.uk
- Postal entries should be sent to **Colin Redwood G6MXL, 53 Woodpecker Drive, Poole, BH17 7SB.**
- No matter how you submit your entry, please note that it must be **received by 30th June 2009. Late entries will not be accepted.** If you are entering by post, you are recommended to use first class post.
- **Please clearly mark your entry for the 70MHz contest.**

Mark That Diary!

So, make a note in your diary now that the first *Practical Wireless* 70MHz Low Power contest takes place on Saturday 13th June 2009. Don't forget to charge your batteries a day or two before, and after the contest in readiness for the *PW* 144MHz QRP contest the next day, and make a note in your diary to remind yourself to submit your entry to be received by myself **on or before Tuesday June 30th!** Let's hope for some good propagation on the day so that we can all have a really enjoyable time. Good luck everyone!

The 1st Practical Wireless 70MHz Low Power Contest

The 2009 Rules

1. General: The contest is open to all licensed Radio Amateurs, fixed stations or portable, using s.s.b., c.w., a.m. or f.m. in the 70MHz (4m) band. Entries may be from individuals or from groups, clubs, etc. The duration will be from 1100 to 1700 UTC on Saturday 13th June 2009.

All stations must operate within the terms of their Licence and only transmit within the 4m allocation they are licensed to transmit in. Stations using transverters are reminded to be

particularly careful to ensure that they don't transmit out of band.

Subject to licence conditions, split frequency operation is permitted for the purpose of working stations in countries with different 4m allocations. Cross band contacts where either station is NOT operating between 69.0 MHz and 71.0 MHz, will not count for points.

Entrants must observe the band plan for their country. Entrants must avoid using any frequency that is obviously in use for non-contest purposes. **The 4m band**

is not an exclusive amateur band in many countries. Contest stations must allow other users (including non-amateur users) of the band to carry out their activities without hindrance.

The station must use the same callsign throughout the contest and may not change its location. Special event callsigns may not be used. Entrants not operating as a fixed station must use the /P callsign suffix.

2. Contacts: Contacts will consist of the exchange of the

following minimum information:
(i) callsigns of both stations (including any /P suffix)
(ii) signal report, standard RS(T) system
(iii) serial number: a 3-digit number incremented by one for each contact starting at 001 for the first contact.
(iv) locator (i.e. full 6-character IARU Universal Location for the location of the station).

Information must be sent to, and received from, each station individually, and contacts may not be established with more than one station at a time.

- Simultaneous transmission on more than one frequency is not permitted.

If a non-competing station is worked and is unable to send his full universal locator, their location may be logged instead. However, for a square to count as a multiplier (see rule 4), a full 6-character locator must have been received in at least one contact with a station in the square.

Contacts via repeaters or satellites or using digital modes (including DSTAR) are not permitted.

3. Power: The output power of the transmitter final stage must not exceed 10Watts p.e.p. If the equipment in use is usually capable of a higher power, the power shall be reduced and measured by satisfactory means.

4. Scoring: Each contact will score one point. The total number of points gained in during the contest will then be multiplied by the number of different locator squares in which contacts were made (a "square" here is the area defined by the first four characters of the universal locator).

Example: 52 stations worked in IO81, IO90, IO91, IO92 and JO01 squares;
final score = 52 x 5 = 260.

Only one contact with a given station will count as a scoring contact, even if it has changed its location, e.g. gone /M or /P. If a duplicate contact is inadvertently made, it must still be recorded in the log, and clearly marked as a duplicate (not necessary in computer logs submitted by E-mail).

5. The Log: Logs may be submitted by E-mail or by post. In either case the log must contain the following information for each contact:
(i) time (**UTC - NOT BST**)
(ii) callsign of the station worked (**including any /P suffix**)
(iii) report sent
(iv) serial number sent
(v) report received
(vi) serial number received
(vii) locator received (or location)

The preferred form of a log is a computer file sent by E-mail. This may be a file generated by logging software such as SDV which can

be downloaded from <http://www.ei5di.com>, provided it contains all the information listed above, or a file in any other suitable format (plain text is fine provided each of the items above is separated by a separating character such as a comma or tab).

Alternatively you can download a spreadsheet from the PW Contest web site at <http://www.pwcontest.org.uk>

Give the file a name including the station call sign (e.g. g6mxl-p.log), and send as a standard E-mail attachment to contest@pwpublishing.ltd.uk

If a computer log file is not available, a paper log may be sent by post. This must be clearly written on one side of A4 sized paper only, ruled into columns for each of the items listed above. Underline or highlight the first contact of the locator squares worked. At the top of each sheet, write:

- callsign (**including /P suffix**) of your station
- your locator as sent
- sheet number and total number of sheets (e.g. "Sheet no. 3 of 5")

Log sheets and covering information sheets which may be used for paper-based entries are available for downloading from the contest web site www.pwcontest.org.uk

6. Entries: The covering information listed below must be provided with each entry. For the first year, there will NOT be an online facility for submitting cover sheet information for the 70MHz contest.

The information may be written in the E-mail message to which the log file is attached, or included in the header records of contest logging file. For entries sent by post, it should be written on a separate sheet of A4-sized paper.

The information required for every entry is:

- name of the entrant (or of a club etc. in a group entry as it is to appear in the results table and on the certificate
- callsign used during the contest **including any /P suffix** (e.g. G6MXL/P)

- name and address for correspondence
- location of the station during the contest
- full 6-character locator as sent during the contest
- whether single or multi-operator (a single-operator is an individual who received no assistance from any person in operating the stations, which is either his/her permanent home station or a portable station established solely by him/her); if multi-operator include a list of operators' names and callsigns
- total number of contacts and locator squares worked (not required for a log sent as a computer file)
- list of locator squares worked (not required for a log sent as a computer file)
- a full description of the equipment used including transmitted p.e.p. output power
- if the transmitting equipment is capable of more than 10W p.e.p. output, a description of the methods used (i) to reduce and (ii) measure the output power
- antenna used and the approximate station height in metres above sea level (a.s.l.).

Entrants must clearly mark their log as an entry for the 70MHz contest.

Failure to supply the required information may lead to loss of points or disqualification. The following declaration must be included in the E-mail text or written and signed by the entrant: "I confirm that the station was operated within the rules and spirit of the event, and that the information provided is correct".

Entries & Other Information

Entries by E-mail must be sent to contest@pwpublishing.ltd.uk
Paper entries should be sent to: **Practical Wireless Contest, c/o Colin Redwood G6MXL, 53 Woodpecker Drive, Poole, Dorset BH17 7SB. Entries must be received not later than Tuesday 7th July. Late entries will be disallowed.**

Any other general comments about the station, the contest and conditions during it are welcome, written on a separate piece of paper, (written on a separate sheet

of paper in the case of entries sent by post). Photographs of the station are also invited. Please note photographs cannot be returned and may be used for publication in Practical Wireless or on the www.pwcontest.org.uk website. If these are not available by the time the entry is submitted they may be sent later, by E-mail or post, **to arrive by 11th August 2009.**

The results will be published later this year in Practical Wireless.

7. Miscellaneous: When operating portable, obtain permission from the owner of the land before using the site. In particular observe any restrictions on access associated with Bird Flue, Blue Tongue and Foot & Mouth etc. Always leave the site clean and tidy, removing all litter. Observe the Country Code.

Take reasonable precautions to avoid choosing a site which another group is also planning to use. It is wise to have an alternative site available in case this problem does arise.

Make sure that your transmitter is properly adjusted and is not radiating a broad or poor quality signal, e.g. by over-driving or excessive speech compression. On the other hand, be aware that your receiver may experience problems due to the numerous strong signals it will have to handle, and that this may lead you to believe that another station is radiating a poor signal. Before reaching this conclusion, try heavy attenuation at the received input. The use of a high-gain r.f. pre-amplifier is likely to worsen strong-signal problems, so if you do use one, it is best to be able to switch it off when necessary.

8. Adjudication: Points will be deducted for errors in the information sent or received as shown by the logs. Unmarked duplicate contacts in paper-based logs will carry a heavy points penalty. Failure to supply the complete information required in rule 6 may also lead to deduction of points. A breach of these rules may lead to disqualification. In the case of any dispute, the decision of the adjudicator will be final.

Practical Wireless 70 MHz Low Power Contest 2009 Cover Sheet

The following information **must be provided**, as required by Rule 6.

Please ensure that the callsign including any suffix (e.g. /p) and the locator are the ones that you used during the contest.

- (a) Name of entrant, club or group, as it is to appear in the Results List:
- (b) **Callsign including any /P suffix (e.g. G6MXL/P) used during contest:**
- (c) Name and address for correspondence:
- (d) Details of location of station during contest:
- (e) **Locator (6 characters), as sent during contest (e.g. IO80XR)**
- (f) Single operator / multi-operator (please specify):
If multi-operator, please list names and callsigns of operators:
- (g) Total number of contacts:
Total number of locator squares worked:
- (h) Locator squares worked. Highlight or cross with an X each square worked:

IO58	IO68	IO78	IO88	IO98	JO08	JO18	JO28	JO38	JO48
IO57	IO67	IO77	IO87	IO97	JO07	JO17	JO27	JO37	JO47
IO56	IO66	IO76	IO86	IO96	JO06	JO16	JO26	JO36	JO46
IO55	IO65	IO75	IO85	IO95	JO05	JO15	JO25	JO35	JO45
IO54	IO64	IO74	IO84	IO94	JO04	JO14	JO24	JO34	JO44
IO53	IO63	IO73	IO83	IO93	JO03	JO13	JO23	JO33	JO43
IO52	IO62	IO72	IO82	IO92	JO02	JO12	JO22	JO32	JO42
IO51	IO61	IO71	IO81	IO91	JO01	JO11	JO21	JO31	JO41
IO50	IO60	IO70	IO80	IO90	JO00	JO10	JO20	JO30	JO40
IN59	IN69	IN79	IN89	IN99	JN09	JN19	JN29	JN39	JN49
IN58	IN68	IN78	IN88	IN98	JN08	JN18	JN28	JN38	JN48
IN57	IN67	IN77	IN87	IN97	JN07	JN17	JN27	JN37	JN47
IN53	IN63	IN73	IN83	IN93					

Listing any squares worked which are not above:

- (i) Description of equipment used:
Transmitter p.e.p. output power:
- (j) If the transmitter is capable of more than 10W p.e.p. output,
State method used to reduce output power:
State method used to measure output power:
- (k) Antenna used: Approximate height a.s.l.: (m)

Contact phone number (optional) and/or E-mail address (optional) – these will not be published:

Follow it up with this declaration

"I confirm that the station was operated within the rules and spirit of the event, and that the above information is correct."

Then sign and date the form, which must be sent with the log sheets directly to the contest adjudicator at the address given in the contest Rules, published in the May 2009 issue of *Practical Wireless*. Entries must arrive by post or E-mail to arrive no later than **June 30th 2009**.

Additional comments about the station, the contest, conditions during it, etc. are welcome.

You can obtain copies of the cover sheet and the log sheet, both electronic and paper are available from the *PW* Offices (marking the envelope '70MHz contest paperwork'), or via E-mail to contest@pwpublishing.ltd.uk using the same text in the subject line.

The 1st Annual ***Practical Wireless* 70MHz Low Power Contest** takes place
on **Saturday June 13th 2009 from 1100 to 1700 UTC.**

LAM COMMUNICATIONS

Specialist Dealers in New and Used Equipment Located within 1/2 mile of junction 36, M1 Motorway

The North's Leading Radio Emporium
52 Sheffield Road, Hoyland Common, Barnsley, S74 0DQ, South Yorkshire
www.lamcommunications.net
sales@lamcommunications.net
Tel: 01226 361700

NEW PRODUCTS NEW PRODUCTS NEW PRODUCTS

LAMCO DU-1500

HF 160-10 inc WARC 1.5KW
ATU, Top Quality, Handbuilt
ONLY £399.95



NEW PRODUCTS NEW PRODUCTS

LAMFOX JS-270

3 ele on 2m, 5 ele on 70cms.
single feed, base/portable beam
ONLY £79.95



KENWOOD

Listen to the Future

TS-2000 HF/50/145/430Mhz @ **£1369.95**

TS-2000X HF/50/145/430Mhz
with the 23cm module fitted @ **£1739.95**

TS-480 SAT HF/6 100 watts,
includes ATU @ **£699.95**

TS-480 HX
HF/6 200Watt High
power version, No
ATU @ **£769.95**



TM-D710E
145/430Mhz, 50 watts, APRS ready with built in
TNC, EchoLink ready @ **£399.95**

TM-V71E
145/430Mhz Dual bander, 50watts, wide band
receive @ **£269.95**

THF-7E 145/430Mhz Handheld Wide band
receive inc SSB @ **£209.95**

COMING SOON ICOM 7600



PRICE £CALL

ICOM
Authorised Dealer
HF- VHF- UHF- D Star
LAMCO's have all
ICOM Rigs in Stock
CALL NOW

IC-7800 Flagship HF
160-6M Dual Receiver base
station @ **£6599.95**



IC-7700 Single receiver
version of the 7800 HF160-6M @ **£4999.95**

IC-756 PRO 3
HF160-6M @ **£1999.95**



IC-7400
HF160-6M + 2M @ **£1329.95**

Package with the SM 20 desk mic
and SP 21 speaker @ **£1499.95**

IC-7200
HF160-6M 100w base or portable @ **£779.95**

IC-718 HF160-10M @ **£499.95**

IC-208 145/430 + Wide RX @ **£259.95**

IC-E90 includes 6/4/2/70 @ **£259.95**

IC-910H 2m/70cm Base @ **£1279.95**

IC-910HX 2m/70cm Base
including 23cm module @ **£1449.95**

IC-7000 HF160-6M+2m/70cm @ **£939.95**

IC-706 MKIIG
HF160-6M+145/430Mhz, Mobile @ **£729.95**

IC-703 HF160-6MQRPA+ATU @ **£539.95**

IC-2820
50W VHF-UHF, D-Star complete @ **£539.95**

IC-E91 'Going Digital' @ **£239.95** + the UT

121 digital unit, 'Special Offer' price @ **£359.95**

IC-E92D waterproof dual band
VHF-UHF handheld @ **£369.95**

HK-175GPS speaker-mic @ **£219.95**

Icom PS-125 25 Amp PSU @ **£319.95**

DIAMOND ANTENNAS Famous for Quality

Diamond X-30 145/430Mhz
N-type (D-STAR compatible) @ **£74.95**

Diamond X-50 145/430Mhz
N type (D-STAR compatible) @ **£74.99**

Diamond X-200 145/430Mhz
N-type (D-STAR compatible) @ **£114.95**

Diamond X-300 145/430Mhz
N type (D-STAR compatible) @ **£139.95**

Diamond V-2000 50/145/430Mhz
(D-STAR compatible) @ **£119.95**

Diamond X-510 145/430Mhz
N type (D-STAR compatible) @ **£169.99**

Diamond CP6 HF Vertical
80,40,20,15,10,6M @ **£319.95**

POWER SUPPLIES



MP-925 25amp transformer PSU @ **£99.99**

MP-8230 23amp switchmode PSU @ **£69.99**

MP 250A, 25 Amp Power Supply @ **£89.99**

MP-9626 'The Brick' @ **£299.95**

Diamond GSV-3000
Transformer Power Supply @ **£219.99**



Watson W 25 AM
25 amp Power Supply @ **£ 89.99**

Watson W 30 AM
30 amp Power Supply @ **£119.99**

YAESU

Choice of the World's top DX'ers

FT-950 HF 160-10 + 6M

All modes, 100 Watts, DSP @ **£999.95**

FT-450AT HF 160-10 + 6M All modes, 100

Watts, DSP including internal ATU @ **£CALL**

FT-897 D HF 160-10 + 6M

All modes, 100 Watts @ **£599.95**

Battery deal @ **£CALL**

ATU & Power supply deal @ **£CALL**

FT-857D HF/50/145/430Mhz @ **£529.95**

FT-817ND the ultimate portable rig HF/50

145/430MHZ all mode QRP @ **£399.95**

FT-8900 10/6/2/70

dual receive + DTMF 50watts @ **£299.95**

FT-7800

145/430Mhz + DTMF 50watts @ **£199.95**

FT-60 5watts

145/430 Mhz handheld @ **£CALL**

ANTENNA TUNERS



MyDEL CG3000 ATU @ **£269.95**

1.8 - 30 Mhz minimum wire length 8 meters,
10 - 200W PEP, SWR: <2:1, 12V Auto tuning 2 sec
(1st tune).>1 sec to memory 200 Memories

Remote switch optional @ **£ 39.99**

CG5000MKII 500W as above @ **£499.99**



Z100 100W

auto ATU160-6m @ **£139.95**

AT100PRO

100 W 160-6m @ **£189.95**

AT200PRO 200 W 160-6m @ **£209.95**

Z-11PRO

portable QRP100 watts ATU @ **£154.95**

IT100 (AT7000)

for the Icom IC7000 rig @ **£149.95**

AT897 100 watts 160-6m @ **£179.95**



A range of MFJ products

catered for!.....

Call LAMCO for availability



R U Skint? Need CASH?

Then Visit

junksale.co.uk

The Premier Radio Website for UK & Europe Powered by Junksale Ltd

-Buy-Sell-Exchange-Wanted-Buy-Sell-Exchange-Wanted-

Save Me A Bit!

As a keen Radio Amateur who builds his own circuits from time to time, I always have the soldering iron hot and to-hand. But when it's switched on for long periods of time without use, because it's a non-thermostatically controlled version (an Antex XS) it soon burns out any bit fitted, which then needs to be replaced.

To reduce the overall cost of replacing the soldering iron's bit, the circuit described in this article will extend the life of any bit that's fitted to the iron. Note however, that extra care must be taken with this circuit because it involves mains electrical wiring! Be safe, and be sure before using it.

Simplicity Itself

The project is simplicity itself, involving only a diode and a two-pole, centre-off switch. The

version, I built has a 13A socket, and uses a small neon bulb to indicate the power status. By adding these and attaching the soldering iron stand to the main insulated plastic box results in a compact and integrated unit.

The mains 13A socket, while not obligatory, does allow control of different irons as required. The diode used is a simple 1N4007, which is rated at 1A and so should cope with almost any type of non-temperature controlled iron. The Antex XS iron for instance, takes only 25W, or less than 0.1A at mains voltage. The switch used should be rated at 250V/1A minimum.

Have a look at the circuit of **Fig. 1**. When the switch is in the centre (off) position both lines are disconnected from the load such as a soldering iron. If the switch is pushed to the left, (making contact),



the iron receives the full mains supply and warms up quickly. So, using this switch the soldering iron can reach working temperature quickly.

If a diode is inserted (switched to the right) in the supply to a resistive load, such as a soldering iron, then only alternate half waves of the mains waveform will be passed to the load. The iron will therefore run at a much reduced temperature. So, when left for long periods in the low-power mode, the tip's useful life is extended and the iron is constantly available for use within a few seconds.

Using a neon bulb gives an indication of the low-power mode, as only one 'finger' (element) of the neon will light, as opposed to both sides when on

full mains. By making the power selection with a switch that has a centre-off position, the unit can be left permanently plugged in and switched to either mode as required.

By using an insulated plastic box, **Fig. 2**, to contain the circuitry will ensure maximum safety with mains voltages under any circumstances. Furthermore, the unit 'fails safe' whatever happens to the diode. Often when diodes fail, they become a short-circuit. If this happens the iron receives only full power, as it's designed for. But if the diode becomes open circuit, no power can be delivered at all to the iron in this position of the switch. Either way, no damage will ensue.

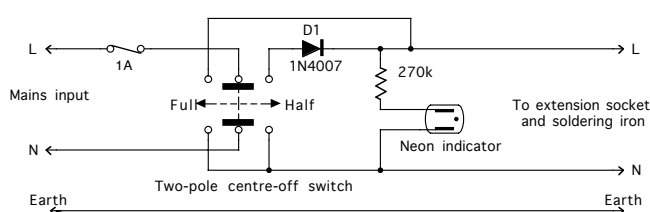


Fig 1: The simple but effective circuit of Geoff's soldering iron saver.

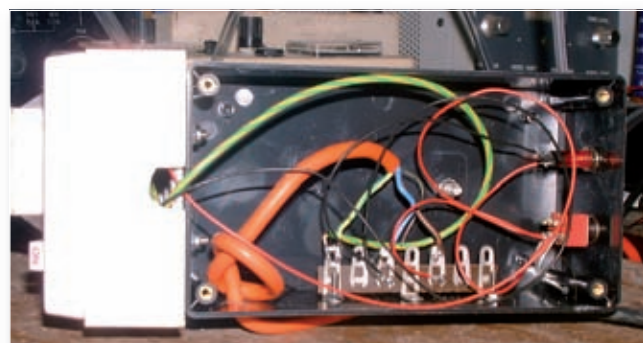


Fig. 2: Looking inside the insulated box containing the few components that go to make up the circuit.

Geoff Theasby G8BMI describes his soldering iron saver circuit that not only extends the bit's life – it saves a bit of money too!

Round the Rockies with a Hand-Held Transceiver

Once our children had grown up and organised their own holidays my wife **Ruth** and I took our holidays in cities. We visited various museums, art galleries, and interesting sites around the world, but contact with the people was limited to waiters and tour guides. When the opportunity arose to visit British Columbia and stay with **Mary Davies** an old friend, the idea of operating on 144MHz and making contact with the local Amateurs came to mind.

The two metre band was chosen because I could use a small hand-held transceiver and operate through whatever repeater was within range. However, there were three obstacles to be overcome before I could enjoy my hobby abroad – these were; bureaucracy, technicalities, and security.

Getting permission to operate in Canada was straightforward, and I E-mailed the appropriate Canadian Government department at **spectrum.amateur@ic.gc.ca** with details of the dates and places where I hoped to operate and attached a copy of my UK Amateur Radio licence (see end for details). A short time later I received by E-mail the necessary authority to operate as **VE7G3NRT** and there was no charge, and no hassle! Incidentally, VE7 is the callsign prefix for British Columbia.

The technical bit is harder because the 144MHz band in Canada extends to 148MHz and the repeaters operate in the top 2MHz. Oh, and of course, the battery charger has to work on 110V 60Hz a.c.

Modifying A Transceiver?

I planned to use my Yaesu FT-50R hand-held transceiver. Most transceivers sold in the United Kingdom are pre-wired to only operate in the authorised Amateur bands, but for some reason my hand-held was capable of transmitting from 144 to 148MHz!

The cost of modifying a handheld to extend coverage to 148MHz is about £25, but this assumes the rig is modern enough to be modified by software or by simple internal wiring changes.

The second difficulty was obtaining a 110V 60Hz battery charger. I spoke to the UK representative of a well known amateur radio manufacturer (Yaseu) who



thought it would be difficult in the UK to get a charger for my rig – or indeed any other rig. This was getting very difficult, especially when I found out my wife's hair dryer worked on 230/110V at the slide of a switch!

However, the solution was to buy an USA/Canadian to UK step-up transformer. Maplin for example, offers a unit for about £25. So, the bureaucratic and technical difficulties were overcome and next to consider was **airport security!**

Airport Security Checks

In the summer of 2005 my wife and I spent a week in my friend's cottage near Bergerac in the south of France. I took my FT-817, my antenna tuning unit (a.t.u.) and various bits of wire. The week of my holiday coincided with the London Transport bombings and on returning home through Bergerac airport my suitcase was taken off the X-ray machine for examination. My explanation that I was a Radio Amateur was accepted and we returned home without any further problems.

However, the incident troubled me, for if a little airport such as Bergerac can pick-up my Amateur gear – what could happen at a larger airport (especially en-route to North America?). How I got through Stansted airport on the way out – without being stopped is a mystery!

About two weeks before we were due to depart for Canada an alleged plot to take liquid bomb materials onto aircraft was announced. All thoughts of taking Amateur Radio equipment on to a passenger aircraft

Bob Harry G3NRT enjoyed a Western Canadian holiday and remembers how friendly and welcoming the Canadians are to Radio Amateurs!

went out of my mind. It could cause all sorts of problems from confiscation of my equipment to delays and the possibly of missing our flight.

So, I decided not to take my handheld, but to borrow one once I was in British Columbia. I should explain that **Mary Davies** – the friend we were visiting – was the widow of **Roger Davies VE7ERL**. Mary of course knew the local Amateurs and she was able to arrange the loan of a 144MHz handheld for me to use on arrival.

After a few days in Vancouver we flew 560km (350 miles) east to Cranbrook where Mary met us and drove us 32km (20 miles) to her home perched above the town of Kimberley.

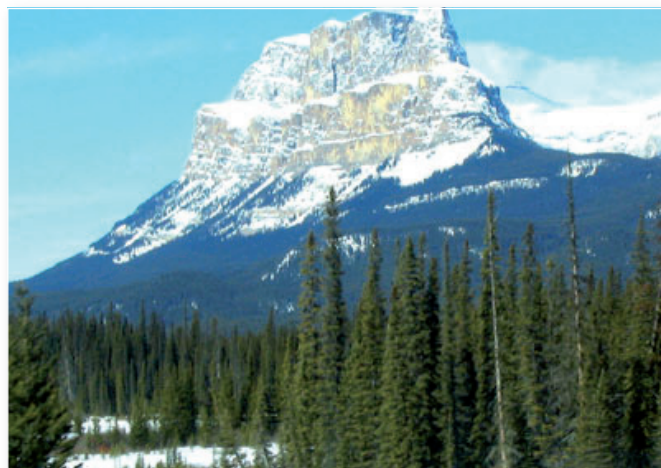
Kimberley has about 6000 inhabitants and spectacular views of the Rockies. There was a light dusting of snow on the mountains, which added to the effect, which could be seen clearly from the living room window. What a QTH!

The following morning Mary drove me down to the local coffee shop where I met **Lance Cuthill VE7LOC** he held a cardboard box containing the handheld – an Icom IC-2GAT, a microphone and a battery charger!

That evening I had my first contact, with **Ken MacDonald VE7NEK**, and a visit to Mary's back garden where we saw a bear and her two young cubs! It was September and the bears were active, eating as much as possible before their winter hibernation. I mentioned this event on 2m and soon everybody on the repeater knew about the visit. I thought here was another role for Amateur Radio – a bear watch – to keep people informed of any activity.

Although only about 1.5m (5ft approximately) high, the black bears can be dangerous. We heard that 10 bears had been shot in Kimberley that season, but the people seem ambivalent about the animals, and some people don't like them being killed. So an Amateur Radio bear watch was likely to be unpopular!

I then heard **VE7TAP** on the local repeater and gave him a call, but no reply. I then heard him on another occasion but still no response. May be he didn't like obvious visitors? However, a local Amateur explained that VE7TAP was the voice identifier of the repeater! Once I had recovered from my embarrassment, I thought 'Why do we use Morse code to identify UK repeaters, especially when there's no longer any need to read Morse for an Amateur Radio licence?'



Holiday Ends

Our holiday was coming to an end and it was time for Mary to drive us to Calgary airport. We drove across a countryside of steep-sided valleys covered with fir trees and streams until we crossed Crowsnest Pass at 1386m (approximately 4500ft) and into the province of Alberta where the repeaters VE6CNP, VE6HRP and VE6HRB were heard at good strength. All these repeaters are voice activated and don't require any kind of tone to 'open' them.

Sadly, there was no activity on the repeaters, and as we descended into Alberta the country changed abruptly to a flat land of yellow corn stubble – we were in the Canadian Prairies – with hardly a house in sight. It was no surprise the band was quiet. They say in these parts that if your dog runs away you'll still see him running three days later!

Amateur Radio added immensely to our holiday. I'm particularly grateful to the local Amateurs who made us welcome in person and on the air, especially to Lance VE7LOC for the loan of the handheld, and Mary for her hospitality.

Contacting The Canadian Licence Authority

If you don't have access to E-mail you can write to: -

Industry Canada

Amateur Radio Service Centre

PO Box 9654 Postal Station T CSC

Ottawa

Canada K1G 6K9



AIRWAVES 2009
Including AIRWAVES EUROPE
THE COMPLETE HF / VHF / UHF
AVIATION FREQUENCY DIRECTORY
PHOTAVIA PRESS

STOP PRESS

Two new books in stock NOW!



CALLSIGN 2009
THE CIVIL AND MILITARY
AVIATION CALLSIGN DIRECTORY
PHOTAVIA PRESS

Airwaves 2009

THE COMPLETE CIVIL AND MILITARY HF / VHF / UHF AVIATION FREQUENCY DIRECTORY

The UK's most comprehensive and up to date airband frequency directory. For the first time, Airwaves 2009 includes a new European section containing the air traffic control centre and airfield frequencies for 18 European countries.

This is the 16th published edition of AIRWAVES. As always, the frequencies, maps and other information have been fully updated for 2009. There has been an above average number of frequency changes in the past year, with a significant number of new frequencies added.

Only £11.50 plus P&P

Callsign 2009

THE CIVIL AND MILITARY AVIATION CALLSIGN DIRECTORY

The new 15th edition of our very popular Civil and Military Aviation Callsign Directory. Fully updated for 2009 with a large number of additions, amendments, confirmations and deletions. There has been a full overhaul of the two databases in the past year to ensure that all the information is as current as possible.

Produced in A5 size, it is wire spiral bound for ease of use and contains thousands of Civil and Military Aviation Callsigns. As far as we are aware this is the most comprehensive Aviation Callsign Directory available in Europe.

Only £11.50 plus P&P

See the PWP Bookstore on page 79 for ordering details.



club news

Please remember to include full details of your club, E-mail and telephone contact details and the postcode of your meeting venue - it helps potential visitors to find you!

Send all your club info to

PW Publishing Ltd.,
Arrowsmith Court,
Station Approach,
Broadstone,
Dorset BH18 8PW
E-mail: newsdesk@pwpublishing.ltd.uk

BEDFORDSHIRE

Shefford & DARS

David Lloyd. Tel: (01234) 742757

www.sadars.org.uk

The Shefford and District Amateur Radio Society meets every Thursday at the Community Hall, Amphil Road, Shefford, SG17 5BD (next to the Chip shop). See web site for our full programme.

BERKSHIRE

Reading & DARC

Pete Milton. Tel: (01189) 695697

www.radarc.org

The Reading & District Amateur Radio Club meets on the second and fourth Thursday of the month at Woodley Pavilion, Woodford Park, Haddon Drive, Woodley, Berkshire RG5 4LY.

CAMBRIDGESHIRE

Huntingdonshire ARS

Gerald G8AKL Tel: 01487 740794

E-mail: hunts.hams@yahoo.co.uk

www.hunts-hams.co.uk

Huntingdonshire ARS meets at the Medway Centre, Medway Road, Huntingdon PE29 1SF. Meetings are from 7.30pm until 10pm on the 2nd & 4th Thursday of the month.

CHESHIRE

Chester & DRS

Barbara Green Tel: 07957 870770

E-mail: barbara@rutland.go-plus.net

www.chesterdars.org.uk

The Chester & District Radio Society meets on Tuesday evenings at the Burley Memorial Hall, Common Lane, Waverton, Chester CH3 7QN.

HALTON RC

Sam. Tel: (01928) 714231

<http://g7wfs.sytes.net/hrc/index.htm>

The Halton Radio Club meets in The Play Centre, Norton Hill, Windmill Hill, Runcorne WA7 6LJ every Thursday from 7.30 to 9.30pm. There's plenty of parking and full disabled access.

Macclesfield & DRS

Adie Dodd. Tel: 0795 7765511

www.gx4mws.com

The Macclesfield & District Radio Society meets every Monday at the Pack Horse Bowling Club, Westminster Road, Macclesfield SK10 3AT at 8pm. Licence courses are run year round and visitors are always welcome.

Stockport RS

David Simcock. Tel: 0161 456 7832

E-mail: secretary@gx4mws.com

www.stockportradiosociety.co.uk

The Stockport Radio Society meets on the first and third Tuesdays at the Bramhall Air Scouts HQ, Leewood Hall, Benja Fold off Ack Lane East, Bramhall, Stockport SK7 2BX. May 5th NFD Preparation Evening.

Warrington Amateur Radio Club

Paul Carter. E-mail: g7odj@warc.org.uk

www.warc.org.uk

The Warrington Amateur Radio Club meets every Tuesday at 8pm at the Grappenhall Youth and Community Centre, Bellhouse Lane, Grappenhall, Warrington WA4 2SG.

CORNWALL

Cornish RAC

Ian Williams. Tel: (01872) 561058

E-mail: ianporsche964@aol.com

www.cornishradioamateurclub.org.uk

The Cornish Radio Amateur Club meets at the Church Hall, Church Road, Perranarworthal, Truro TR3 7QE on the first Wednesday of every month

at 7.30pm. There is also a Computer Section that meets at the same venue and time on the second Monday of every month, except December.

Newquay and District ARS

Joe Bell. Tel: 01726 891557

E-mail: joe_bell@btinternet.com

www.btinternet.com/~kevin.francks/index.html

The Newquay and District ARS meets every other Thursday at Treviglas Community College, Bradley Road, Newquay, TR7 3JA with either arranged talks on the evening or just a general chit chat amongst members. Also the club offers training towards the Foundation Exam on club nights and then the opportunity to take the Foundation Exam.

Poldhu ARC

Keith Matthew. Tel: (01326) 574441

E-mail: g0wys@yahoo.co.uk

www.gb2gm.org

The Poldhu Amateur Radio Club meets at The Marconi Centre, Poldhu Cove, Nr Mullion, Cornwall TR12 7JB. Tel: 01326 241656.

COUNTY DOWN

Bangor and District ARS

Mike. Tel: 028 4277 2383

<http://www.bdars.com>

The Bangor and District Amateur Radio Society meets on the first Thursday of every month in 'The Boathouse', Harbour Car Park, Groomsport BT19 6JP at 8pm. May 7th Computer logging, a talk by Pete G14VIV. Our 2009 rally is to be held on Sunday June 14th (a new date, we have had to move it from 21st), At 12 Noon In "The Country Club", Crawfordsburn. Admission £2 including two raffle tickets! Trade Stands, Bring and Buy, Ballot and a good selection of radio and computer traders will be in attendance. Special interest groups will have their own stands. The ever popular FREE bring and buy will be running as normal

COUNTY DURHAM

Bishop Auckland RAC

Mark Hill. Tel: (01388) 745353

<http://barac.m0php.net/>

The Bishop Auckland Radio Amateur Club meets every Thursday at 8pm in the Village Community Centre, Stanley Crook, Co. Durham DL15 9SN. Tuition for Foundation, Intermediate and Advanced licences is available. The club is registered as an RSGB exam centre.

Great Lumley AR&ES

David Barclay. Tel: 0191 3888113

E-mail: m0bpm@btinternet.com

The Great Lumley Amateur Radio & Electronics Society meets in the Community Centre, Front Street, Great Lumley, Chester-le-Street, Co. Durham DH3 4JD on Wednesday nights from 7 to 9pm.

DERBYSHIRE

South Normanton Alfreton and District ARC

A J Highton. Tel: (01773) 783658

E-mail: Snadarc@aol.com

www.snadarc.com/

The South Normanton Alfreton and District Amateur Radio Club meets in the Village Hall, Community Centre, Market Street, South Normanton, Derbyshire DE55 2EJ.

DEVON

Exmouth ARS

Mike G1GZG. Tel: 01395 274172

E-mail: micael.newport1@btinternet.com

The club meets on the 1st and 3rd Wednesdays of each month at 'The Scout Hut', Marpool Hill,

Exmouth Devon EX8 1TD.

Exeter ARS

Paul Cheshire. Tel: 01392 660246

E-mail: pchesh-29@hotmail.co.uk

The Exeter Amateur Radio Society meets on the 2nd and the 4th Monday at 7.30pm in the Moose Centre, Spinning Path Lane, Blackboy Road, Exeter EX2 5RP. Tuition for Foundation, Intermediate and Advanced licence is available. The club is registered as an RSGB examination centre.

Torbay ARS

Dave Helliwell.

E-mail: g6fsp@tars.org.uk

www.tars.org.uk

The Torbay Amateur Radio Society meets Fridays at 7.30pm in the Teignbridge District Scout Headquarters, Wolborough Street, Newton Abbot, Devon TQ12 1JR.

DORSET

Blackmore Vale ARS (BVARs)

Nick Perrin Tel: (01747) 838936

E-Mail: bnperrin@theiet.org

www.radioclubs.net/bvars/

BVARs meets in The Youth Club, Coppice Street, Shaftesbury Dorset SP7-8PF each Tuesday evening at 7.30pm. The Club callsign is G4RBV. The main meeting is the second Tuesday of the month and details of events and full details of the Club can be found on the website. April 14th: It's the BVARs AGM. At 7.30 p.m. 9th May : The Blackmore Vale Amateur Radio Society (BVARs) will participate in the 'Mills On The Air' weekend from the Sturminster Newton Mill Sturminster, Dorset with the prospective call-sign GB2SNM. Visitors very welcome as the Mill also has an Open Day. Watch the club website for more details:-

Bournemouth RS

John. Tel: 07719 700 771

www.brswebsite.org.uk

The Bournemouth Radio Society meets on the first and third Friday of each month at the Kinson Community Centre, Pelhams Park, Millhams Road, Kinson, Bournemouth BH10 7LH. Meetings take place in Room 5 at 8pm and members assemble in the bar from 7.30pm. Visitors are always welcome.

Poole Radio Society G4PRS

'Tex' G1TEX Tel: 07966 460 552

www.g4prs.org.uk

Meetings are every Friday at 19:30 for 20:00 at the The Old Chapel Hall, Cabot Lane, Creekmoor, Poole BH17 7BX, the second Friday meeting of each month is the formal evening, all others are basically shack and Natter nights. The Intermediate class is presently fully booked and well underway!

DUMFRIES & GALLOWAY (Scotland)

The Wigtownshire Amateur Radio Club

Ellis Gaston Tel: 01776 820413

Web: www.gm4riv.co.uk

The club meets every Thursday from 19:00 Hrs at the The Aird Unit, Stranraer Academy, Stranraer, DG9 8BQ, South West Scotland. Mar 12th Shack PSK Natter Night, 19th Shining a light on Darkest Borneo by Tam Wylie GM4FDM a DXPedition nd on the 26th, it's a Shack PSK Natter Night.

EAST SUSSEX

Brighton RC

Reg Moores. Tel: (01273) 503869

The Brighton Radio Club meets on the second and fourth Tuesdays of each month at the Vallance

Community Centre, Conway Court, Sackville Road, Hove BN2 3WR at 7.30pm. Anyone wishing to know more are welcome to come along to a meeting, entrance is free.

Hastings E&RC

Gordon Sweet. Tel: (01424) 431909

E-mail: gordon@gsweet.fsnet.co.uk

www.herc.uk.net or

<http://g4cus.mysite.wanadoo-members.co.uk/>

The Hastings Electronics & Radio Club meets on the third Wednesday at the Taplin Centre, Upper Maze Hill, St Leonards on Sea TN38 0LQ at 7pm.

ESSEX

Braintree & DARC

Keith. Tel: (01376) 329279

www.badars.org.uk

The Braintree & District Amateur Radio Society meets on the first and third Monday of the month in The Clubhouse, Braintree Hockey Club, Church Street, Bocking CM7 5LJ.

Colchester RA

www.g3co.com.co.uk

The Colchester Radio Amateurs meets at 7.30pm on alternate Thursdays at St Helena School on alternate Thursdays at St Helena School and The Colchester Institute, Sheepen Road, Colchester, Essex CO3 3LE. Members and non-members welcome.

Chelmsford ARS

Martyn Medcalf. Tel: (01245) 469008

E-mail: info2007@g0mwrt.org.uk

www.g0mwrt.org.uk

The Chelmsford Amateur Radio Society meets on the first Tuesday of each month in the Marconi Sports & Social Centre, Beehive Lane, Great Baddow, Chelmsford CM2 9RX at 7.30pm. - All welcome. April 25th CARS will be operating from Sandford Mill for International Marconi Day. May 5th "Honey Bees and a Connection to Amateur Radio" by Geoff Mills G3EDM, Saturday and Sunday 9th/10th May CARS operating from Stock Windmill using GB5SM, June 2nd there's a Table Top Sale organised by Colin Page G0TRM.

Loughton & Epping Forest ARS

Marc Litchman. Tel: 020 8502 1645

E-mail: info@lefars.org.uk

www.lefars.org.uk

The Loughton & Epping Forest ARS meet Friday fortnightly at All Saints House, Romford Road, Chigwell Row, Essex IG7 4QD between 7.45 and 10pm. All visitors will be made most welcome.

South Essex Amateur Radio Society

Contact: Dave (G4UVJ) 01268 697978

E-mail: southessex.ars@btinternet.com

www.southessex.ars.btinternet.co.uk

Local Network: 145.225MHz
Meet second Wednesdays of each month at South Benfleet Primary School, High Rd, South Benfleet, Essex SS7 5HA. (Entrance: 51°33'10.45N 0°33'39.65E), (Opp. Smiths Wood Yard). All welcome. May 13th: Station on the Air. June 10th: Palestine Police; a talk by Peter G4OAD.

FIFE (Scotland)

Glenrothes&DARS GM4GRG

D Francis MM0DYX Tel: 01383 823878

Meet Wednesdays at the Football Pavilion, Station Rd. Thornton Fife. Club Chairman Ken GM3YBQ runs courses at all licence levels.

GLOUCESTERSHIRE

Cheltenham ARC G5BK (CARA)

Derek G3NKS 01242 241 099

E-mail: g3nks@blueyonder.co.uk

www.caranet.co.uk

The club meetings are held on the first Friday of each month, starting at 8p.m. at Prestbury Library, The Burgence, Cheltenham, Gloucestershire, GL52 3DN.

Gloucester Amateur Radio and Electronics Society

Anne 2E1GKY/M3GKY 01452 548478 (After 10am)

E-mail: hamreed@blueyonder.co.uk
www.g4aym.org.uk

Meet at Churchdown School, Winston Road, Glos. GL3 2RB, every Monday evening at 7.30pm until 10pm except for Bank Holidays when we operate from a local escarpment. May 4th Escarpment Operating-Crickley Hill-2.4pm Approx. 11th General Natter Night/Workshop, 18th Operating Club Equipmen, 25th Escarpment Operating-Crickley Hill-2.4pm Approx.

GWNEDD (Mid-Wales)

Merion ARS

Tel: John 07824 562656

E-mail: tawelfan@talk21.com

http://meironars.multiply.com/

Meirion amateur radio society meet on the first Thursday of each month at The Royal Ship Hotel in Dolgellau Gwynedd LL40 1AR at 19.30. Visitors and new members are very welcome. Regular talks are organized and all the details for meetings and special events can be seen on the club website.

HAMPSHIRE

Andover Radio Amateur Club.

Martin M0MWS. Tel: 01980 612070

E-mail: martinsmith@kukltd.co.uk

www.arac.co.uk

The Andover Radio Amateur Club meets on the first and third Tuesdays in the month at the Club venue in The Village Hall at Wildern, SP11 0JE. Map Ref SU350510 at 19.30 hours.

Fareham & District ARC

Alastair Sinclair Tel: 01329 235397

E-mail: secretary@fareham-darc.co.uk

www.fareham-darc.co.uk/

The Fareham & District Amateur Radio Club meets on Wednesdays evenings from 7.30pm in the Fareham Sailing & Motor Boat Club, The Boathouse, Lower Quay, Fareham. PO16 0RA

Farnborough & District Radio Society (FDRS)

Derek G3OFA

E-mail: mail@fdrs.org.uk

www.fdrs.org.uk

Meets every 2nd and 4th Wednesday in the month at 7.30 for 8.00 pm in the Farnborough Community Centre, Meudon Avenue, Farnborough, Hampshire, GU14 7LE Visitors and new members are always most welcome. April 23rd **Skittles evening** at The Foresters Arms, 173 London Rd, Bagshot, GU19 5DH Note this is on a Thursday. May 13th, An evening with Kevin G7BCS. 27th Hernia cup - FDRS hosting event. June 10th The shipping forecast, a talk by Julian 2E0XPJ.

Horndean & District ARC

Stuart Swain. Tel: (02392) 472846

E-mail: g0fyx@msn.com www.hdarc.co.uk

The Horndean & District Amateur Radio Club meets on the first and fourth Tuesdays each month in the Lovedean Village Hall, 160 Lovedean Lane, Lovedean, Hants PO8 9SF at 7.30pm. Visitors are always very welcome. Their Bring-and-buy sale which was to take place on that earlier this year will now take place on Tuesday May 26th.

Isle Of Wight Radio Society

Tony Pegg Tel: 01983 868 978

e-mail tony.pegg1@btinternet.com

www.g3sky

The IWRS meets every Friday evening 7.00pm-10pm at Haylands Farm, Salters Rd. Ryde PO33 3HU. Visitors very welcome. The club runs courses for Foundation, Intermediate and advanced licenses. The club is registered as an RSGB exam centre

Lymington Community Association Radio Club

Keith G8MZF Tel: (01590) 672337 (work)

(02380) 849395 (evenings)

Email: lymcomass@aol.com

The club meets at Lymington Community Centre, New Street/Cannon Street, Lymington SO41 9BQ, on Friday nights. Talk-in on the night on or near 145.550 club call MOLCC. All are welcome. Start time hopefully 7.30pm bar open from 7.00pm. Plenty of free parking nearby.

HERTFORDSHIRE

Verulam Amateur Radio Club (St Albans)

Norman. Tel: 07773 628912

E-mail: g1bsz@aol.com (sec)

www.radioclubs.net/verulam

The club normally meets every 3rd Tuesday of the month 800pm at Aboyne Lodge School. Etna Road, St Albans, AL3 5NL. New members and visitors are always very welcome. Regular talks, events, Foundation, Intermediate courses exams are held. Club nets also take place every Sunday 12.00noon 40m (7.150MHz), then 14.00pm 2m (145.375) and on Tuesday 19.45pm 160m (1.975) then 20.00pm 2m (145.375). For further information about the club and events please see the website.

HUMBERSIDE

Hull & District ARS

Keith 2E0BRQ Tel: (01482) 217776

Raymond Tel: (01482) 376835

E-mail: penibs@penibs.karoo.co.uk

or: m3shw@yahoo.co.uk

The Hull & District Amateur Radio Society meets every Friday at the Walton Leisure Centre, Walton St., Goathland Close, Walton Street, Hull HU3 6JB. We're starting a new foundation course in April which will be starting on the 4th. Anyone that's interested, should contact Ray on 01482 376835 / Keith on 01482 217776 or turn up on a Friday night.

JERSEY

Jersey Amateur Radio Society - GJ3DVC

Rob Luscombe (secretary) 2J0RZD

Tel: 07797 923916

E-mail: gj3dvc@gj3dvc.org.je

http://www.radioclubs.net/gj3dvc/

The Jersey Amateur Radio Society meets every Friday at 7.30pm at The German Signal Station, Rue Baal, La Moye, St. Brelade, Jersey, JE3 8HQ, also on a Wednesday evening from time to time to maintain, alter and improve the shack, antennas etc. and also for club training. Coffee and car parking available, visitors are always welcome, shack rental available. See our website for further information.

KENT

Bredhurst RATS

www.the-brats.co.uk

The Bredhurst Radio Amateur & Transmitting Society meets on Thursdays at the Parkwood Community Centre, Rainham, Gillingham, Kent ME8 9PN at 8.30pm. If you are interested in joining the club, write to: Membership, The BRATS c/o The Club Room, The Parkwood Community Centre, Long Cattis Road, Rainham, Gillingham, Kent, ME8 9PN.

Hilderstone Radio & Electronics Club

Mike Howland E-mail: g4mix@waitrose.com

www.g0hrs.org.uk

Meetings now at The Science Block, Chatham House School, Chatham Street, Ramsgate, CT11 7PP on 2nd and 4th Friday of the month at 7.30pm.

Bromley & DARS

Graham

E-mail: bdars@grahamc.net

www.bdars.org

The Bromley & District Amateur Radio Society meets in The Victory Social Club, Kechill Gardens, Hayes, Kent BR2 7NH (off B265, Hayes Lane, Bromley) on the third Tuesday of the month at 7.30pm.

LANARKSHIRE (Scotland)

Mid-Lanark ARS

Dennis: Tel 07505529335

Email: mm0dnx@yahoo.co.uk

www.mlars.org.uk/

The Mid-Lanark ARS meets on Friday evenings at the Newarthill Community Education Centre, 288 High Street, Newarthill, Motherwell ML1 5JU. Visitors and new members are very welcome. The club has HF and VHF shacks for use on club evenings. Courses for foundation, intermediate and full licences are also run at the club. See web site for details of our upcoming meetings.

LANCASHIRE

Oldham RC

Christopher Cunliffe. Tel: 07749347142

E-mail: secretary@oarc@btinternet.com

www.oarc.org.uk

The Oldham Radio Club meets on Thursdays at Royton Air Training Corps, Hillside Avenue, Royton, Oldham OL2 6RF at 7.30pm.

Ellenroad RC

David. Tel: (01706) 358650

E-mail: info@ellenroadradioclub.org.uk

http://www.ellenroadradioclub.org.uk/info.htm

The Ellenroad Radio Club (ERC) meets every Monday evening from 7 to 9pm at the Ellenroad Steam Museum, Elizabethan Way, Newhey, Rochdale OL16 4LG. The museum houses the UK's only fully-working cotton mill engine, complete with its 220ft high chimney. Newcomers are always welcome and made to feel at home.

Morecambe Bay ARS

Martin Hazel Tel: 01524 848193

Email: martin@mbars.internationalham.com

http://mbars.internationalham.com

Morecambe Bay Amateur Radio Society meet at the Trimpell Sports and Leisure Club, Out Moss Lane Morecambe, every Tuesday evening from 1930. They also have a new website at all of their events calendar for the next year is to be found there.

Thornton Cleveleys ARS (G4ATH, & G6GMW)

John Tel: 01253/399377,

E-mail: m3waz@hotmail.co.uk

www.tcars.org.uk

Meet Monday evenings at the Frank Townend Center, Kensington road, Cleveleys, Lancashire FY5 1ER. April meetings are: 13th Tech night Slow scan TV, Ted G3WBB, on the 20th it's Video of Old Radios and on the 27th there's an Auction organised(?) by Mick G4EZM. May 4th Natter night, 11th Aerials by John M3WAZ, 18th DVD Wellington Bomber a show by John G4FRK, 25th Field day Discussion.

LEICESTERSHIRE

Loughborough & District ARC

Chris Walker. Tel: 01509 504319

E-mail: g1etz@aol.com

www.radioclubs.net/ladarc

Loughborough & District Amateur Radio Club meets at the Glenmore Community Centre, Thorpe Road, Shepshed, LE12 9LU on a Tuesday evening from 7.30pm. The clubs programme of events can be found on our websites. Visitors and new members most welcome.

LINCOLNSHIRE

Spalding & DARS

Graham Boor. Tel: 07947764481

E-mail: secretary@sdars.org.uk

www.sdars.org.uk

The Spalding & District Amateur Radio Society meets at the Castle Sports Swimming Complex, Spalding PE11 1QF on Fridays at 7.30pm.

Stenigot "Chainhome" Amateur Radio Club

Steve Burke M5ZZZ Tel: 01507 600202

E-mail: m5zzz@btinternet.com

www.stenigotchainhomearc.co.uk

Meetings are held on the third Friday of the month commencing 19.30 at Gayton le Marsh Village Hall, Gayton le Marsh, Lincolnshire. LN130NW.

LONDON

Cray Valley Radio Society

Bob Treacher. Tel: 020 8265 7735

www.cvr.org

The Cray Valley Radio Society meets on the first and third Thursdays of the month at the Progress

Hall, Admiral Seymour Road, Eltham, London SE9 1SL at 7.30pm for 8pm.

Edgware & District Radio Society

Michael G4RNW Tel: 020 8950 0658

E-mail: michael.stewart5@ntlworld.com

Edgware & District radio Society meet at the Watling Community Centre, 145 Orange Hill Road, Burnt oak, Edgware HA8 0TR. Meetings are: April 23rd Current Operating Practices, May 14th Setting up a station and on the 28th. Building a simple circuit.

Radio Society Harrow

Linda Casey Tel: 020 8386 8586

E-mail: lcasey@imperial.ac.uk

www.g3efx.org.uk

The Society meets on Friday at 20.00 on the 2nd and 4th weeks of every month, at The Elsie Fisher Room, St Lawrence Centre, St. Lawrence Church, 2, Bridle Road, Eastcote, Pinner HA5 2SJ. All welcome! We also run exam courses - see website for details

Southgate ARC

David Sharp. Tel: 01992 422622

E-mail: david.sharp1@tesco.net

The Southgate Amateur Radio Club meets on the second Wednesday of the month at Hazelwood Lawn Tennis and Squash Club, Ridge Avenue, Winchmore Hill, London N21 2AJ at 7.30 for 8 pm.

Wimbledon and District ARS

Jim Bell M0CON

Tel: 020 8874 7456

E-Mail: jamesm0con@o2.co.uk

http://www.gx3wim.org.uk

The Wimbledon & District Amateur Radio Society welcomes new comers to our meetings whether they are licensed or not. We hold our meetings the second and last Friday of each month at Martin Way Methodist Church, Buckleigh Avenue, Merton Park, London SW19 9JZ. The church is on the corner of Martin Way and Buckleigh Avenue.

THE LOTHIAN (Scotland)

Cockenzie & Port Seton ARC

Bob Glasgow. Tel: (01875) 811723

E-mail: gm4uyz@cpsarc.com

www.cpsarc.com/news.php

The Cockenzie & Port Seton Amateur Radio Club meets in the Thortree Inn (Lounge Bar), High Street, Cockenzie, East Lothian EH32 0HP from 7pm till late. Organised talks are held in the Port Seton Community Centre, South Seton Park, Port Seton, East Lothian EH32 0EE. Timings 18.30 to 21.30hrs.

Lothians Radio Society

Tony Sigouin. Tel: 07739742367

E-mail: enquiries@lothiansradiosociety.com

www.lothiansradiosociety.com

The Lothians Radio Society meets on the second and fourth Mondays of the month in the Royal Ettrick Hotel, 13 Ettrick Road, Edinburgh EH10 5BJ from 7pm. Membership costs £12 per year and includes a free BBQ every June!

MERSEYSIDE

Wirral & District ARC

Tom. Tel: 07050 291850

E-mail: secretary@wadrac.com

www.wadarc.com

The Wirral & District Amateur Radio Club meets at the Irby Cricket Club, Mill Lane, Irby CH61 4XQ on the second and fourth Wednesdays of each month. Other Wednesdays are informal (D&W) meetings at a local hostelry.

NORFOLK

King's Lynn ARC

Ray Dowsett, MBE.

Tel: (01553) 671307

E-mail: ray-g3rsv@supanet.com

http://www.klarc.org.uk

King's Lynn Amateur Radio Club meets every Thursday at the Scout HQ, Chequers Lane, West Winch, King's Lynn, PE33 0NY off the A10 at West Winch at 7.30pm.

Norfolk ARC**Mark Taylor. Tel: (01362) 691099****E-mail: narc@g0lgj.co.uk****www.norfolkamateurradio.org**

The Norfolk Amateur Radio Club meets every Wednesday at the Eaton CNS School, Eaton Road, Norwich, NR4 6PP, where it meets weekly, from 7-10pm, usually in 6th form centre at front of school, every Wednesday from 7-10pm. April 15th an Informal / Construction / Workshop (RSGB CC). April 29th Table Top Sale / Construction / Workshop / Bright Sparks. May 6th Visit from Ian Lockyer of Icom UK, 13th Informal / Construction / Workshop (RSGB CC), 20th AGM, 27th Informal / Construction / Workshop / Bright Sparks.

North Norfolk ARC**Tony Smith. Tel: (01263) 821936.****E-mail: g4fai@btinternet.com****www.radioclubs.net/nnarg/**

The North Norfolk Amateur Radio Group meets in the Radio Hut at the Muckleburgh Collection Military Museum, Weybourne, North Norfolk NR25 7EG on Wednesdays and Thursdays from 10am to 4pm and some Sundays from 1 to 4pm. New members always welcome.

NORTHAMPTONSHIRE**Kettering & District Radio Society****Lorna Froggatt. Tel: 0153 676 2523****E-mail: LornaStevellLorna@aol.com**

The Kettering & District Radio Society meets each Tuesday from 7 to 9pm in the winter at The Lilacs Pub, Church Street, Isham, Northants NN14 1HD and in the summer at the Carpetbagger Aviation Museum, Sunnyvale Farm Nursery, Harrington NN6 9PF. Foundation, Intermediate and Advanced courses are held regularly.

SHROPSHIRE**Salop ARS****Richard Golding. Tel : 01743 356195**

The Salop Amateur Radio Society meets in The Telepost Club, Railway Lane, Abbey Foregate, Shrewsbury SY26BT on Thursday between 8 and 10.30pm.

Telford & District ARS**Mike Street. Tel: (01952) 299677****E-mail: mjstreetg3jx@blueyonder.co.uk****www.tdars.org**

The Telford & District Amateur Radio Society meets on Wednesdays at the Little Wenlock Village Hall, Malthouse Bank, Little Wenlock. Telford TF6 5BG at 8pm. May 6th Open House/On the air/Committee, 13th Surplus sale with G8UGL in the chair, 20th ATV with G8VZT, 27th TDARS/P in the field with HF & up.

NOTTINGHAMSHIRE**Workshop Amateur Radio Society (W.A.R.S.)****'Daz' Spence 01623 747314****Email: g3rcw@qsl.net****www.qsl.net/g3rcw/**

Meets every Tuesday at 7:00 pm. Our clubhouse is located at 59 - 61 west street, Workshop, Nottinghamshire. S80 1JP Exams and courses run frequently for all licence levels. Licensed bar & hot food available on club meet nights. Membership fee for the year is £10.

SOMERSET**North Bristol ARC****Dick Elford Tel: (01454) 218362****E-mail: g0xay@aol.com****www.nbarc.org.uk**

North Bristol ARC meet Fridays at 7.30pm at SHE7, Braemar Crescent, Northville, Filton Bristol BS7 0TD. We carry out training for all the Radio Amateurs examination, and our next training course is to be for Intermediate exams.

South Bristol ARC**Len Baker. Tel: (01275) 834282****E-mail: g4rzy@msn.com****www.sbarc.co.uk**

The South Bristol Amateur Radio Club meets every Wednesday evening at the Whitchurch Folkhouse Association, Bridge Farm House, East Dundry Road, Whitchurch, Bristol BS14 0LN.

Yeovil ARC**Gary.****E-mail: g.swain@tesco.net****www.yeovil-arc.com/**

The Yeovil Amateur Radio Club meets at the Red Cross Centre, Grove Avenue, Yeovil BA20 2BE (on the corner where Grove Avenue meets Preston Road).

SOUTH GLOUCESTERSHIRE**Thornbury and South Gloucestershire ARC****Tony. Tel: (01454) 417048****E-mail: tonytsgarc@sky.com**

The Thornbury and South Gloucestershire Amateur Radio Club meets in the United Reformed Church Hall, on the corner of Chapel Street and Rock Street, Thornbury BS35 2BA at 7.30 - 9.30pm. Meetings during April are: 15th - Video Night, 22th - On Air Night, 29th - On Air Night May 6th IOTA a talk by G3SWH, 13th On-air night, 20th Video night, and 27th On-air night.

SOUTH WALES**Barry ARS****Glyn Jones. Tel: (01446) 774522****E-mail: glyndxis@talktalk.net****www.bars.btik.com**

The Barry Amateur Radio Society meets on Tuesdays from 7.30 to 10.30pm in the Sully Sports & Social Club, South Road, Sully CF64 9TG.

SOUTH YORKSHIRE**Axholme Radio Club****John Fennell. Tel: (01427) 872522****E-mail: g4hoy@tiscali.co.uk**

The Axholme Radio Club meets at Hollytree Farm, Westend Road, Sandtoft, Epworth DN9 1LB on Wednesdays at 10am to 4pm, Thursdays at 7 - 9pm and Saturdays from 10am - 4pm (other times by arrangement).

Sheffield ARC**Trevor Wood. Tel: 0114 2216947****E-mail: trevorwood6@yahoo.co.uk****www.sheffieldarc.org.uk**

The Sheffield Amateur Radio Club meets at the SYPT Social Club, Greenhill Main Road, Sheffield S8 7RH every Monday at 7.15pm. All three types of classes are for the Foundation, Intermediate and Advance levels of licensing.

STAFFORDSHIRE**Tamworth Amateur Radio Society****Colin Marks. Tel: (01827) 700893****E-mail: colin.marks2@ntlworld.com**

The Tamworth Amateur Radio Society meets every Thursday at 7.30pm at St Francis Church, Masefield Road, Leyfields, Tamworth B77 8JB.

SUFFOLK**Bury St Edmund's ARS****George Woods G3LPT Tel: 01359 259518****Darren Coe G7SDC Tel: 01284 701732****storno@yahoo.co.uk****www.radioclubs.net/bsears/**

The Club meets on the third Wednesday of the month (except August and December) at the Culford school, Culford, Bury St. Edmunds, Suffolk IP28 6TX at 7.30PM. Visitors are welcome. Please see our web site for further details.

SURREY**Coulsden Amateur Transmitting Society****Steve Conway, G7SYO 01737 353517****E-mail: steve.conway@landg.com****www.sthosc.co.uk/webspace/cats/**

Regular meetings are held on the second Monday in each month at:- St. Swithun's Church Hall, Grovelands Road, Purley, Surrey CR8 4LA at 20:00 to 22:00hrs. On the first Saturday of month at 1715 Crescenda Valley / CATS Net on Echolink Normally via MB7IPL node on 145.2875 MHz.

Sutton & Cheam RS**John Puttock. Tel: 020 8644 9945****E-mail: info@scrs.org.uk****www.scrs.org.uk**

The Sutton & Cheam Radio Society meets on the third Thursday of the month at 7.30pm in Sutton United Football Club, The Borough Sports Ground, Gander Green Lane, Sutton, Surrey SM1

2EY. In addition to monthly meetings, licence training courses are held at regular intervals in Banstead Surrey.

TYNE & WEAR**Angel of the North RARC****Nancy Bone. Tel: 0191 477 0036****E-mail: nancybe2001@yahoo.co.uk****www.anarc.net**

The Angel of the North Radio Amateur Radio Club meets every Monday 7 to 9pm at Whitehall Road Methodist Church Hall at the corner of Whitehall Road and Coatsworth Road, Bensham, Gateshead NE8 4LH. The entrance to radio club room is through door at the side of building next to the car park. The car park entrance is on Whitehall Road. Meetings for April: 13th No Meeting! 20th Geoff Darby will give a talk about the Worked All Britain awards. and on the 27th it's come in and talk and take to the air. All are welcome. May 9th/10th 9-00 am to 5-00 pm National Mills Weekend, 11th come and talk and take to the air, 18th Geoff Darby will give a talk about "RAYNET with a practical example to show how it copes with a disaster".

Tynemouth ARC**Tony Regnart G8YFA. Tel: 0191 280 1981****E-mail: mail@g0nwm.com****www.g0nwm.co.uk**

The Tynemouth Amateur Radio Club meets each Friday from 7 to 9pm at St. Hilda's Church, Stanton Rd, North Shields, Tyne & Wear NE29 9QB. It's known locally as 'the church near the fire station'. April meetings include: 17th Satellite Imaging G8YFA. And on the 24th Operating Night & Morse

WEST MIDLANDS**Aldridge & Barr Beacon ARC****Roy Horton. Tel: (01922) 691646****E-mail: leslie137@btinternet.com****www.g0neq.co.uk**

The Aldridge & Barr Beacon Amateur Radio Club is a daytime club and meets at the Aldridge Community Centre, Middlemore Lane, Aldridge, Walsall WS9 8AN on the first and third Monday of every month at 2pm to 4pm. They have a long wire and a v.h.f. antenna for radio operation using the club callsign G0NEQ.

Midland AX25 Packet Radio Users Group**Miles. Tel: 01384 254199****www.maxpak.org.uk**

The Midland AX25 Packet Radio Users Group, MaxPak, meets on the first Monday of the month at The Sir Robert Peel, 104 Bell Lane, Bloxwich, Walsall WS3 2JS.

South Midlands RS**Don Tel: (0121) 458 1603**

South Midlands RS meet in the West Heath Community Centre, Condoover Rd., West Heath Birmingham B31 3QY. macrh 13th and 20th are construction evenings. 223rd is a 'ragchewing' evening.

Stourbridge and District ARS**John. Tel: (01562) 700513****www.g6oi.org.uk**

The Stourbridge and District Amateur Radio Society meets on Monday evenings, except for Bank Holidays at The Radio Shack, Old Swinford Hospital School, Heath Lane, Stourbridge, West Midlands DY8 1QX at 8pm. We have Open Shack Nights - Tea/Coffee always available, along with an opportunity to get on the air or just a natter with whoever attends

Sutton Coldfield RS**Andy Sherman. Tel: (01827) 875155****E-mail: peugeotnut@hotmail.com****www.hamradio.piczo.com**

The Sutton Coldfield Radio Society Meets on the second and fourth Monday of the month at 7.30pm (no meeting on bank holiday Mondays) in the Sutton Coldfield Rugby Club, 160 Walmley Road, Sutton Coldfield, West Midlands B762QA.

Wythall Radio Club**Chris Pettitt. Tel: (07710) 412 819****E-mail: g0eyo@wythallradioclub.co.uk****www.wythallradioclub.co.uk**

The Wythall Radio Club is based at Wythall House, Silver Street, Wythall, near Birmingham B47 6LZ. They meet every Tuesday at 8pm and meetings are informal and friendly.

WEST SUSSEX**Horsham ARC****Andrew Vine. Tel: (01483) 272456****http://www.harc.org.uk/**

The Horsham Amateur Radio Club meets on the first Thursday of the month at The Guide Hall, Denne Road, Horsham, West Sussex.

Worthing & DARC**Roy or Joyce. Tel: (01903) 753893****www.wadarc.org.uk**

The Worthing & District Amateur Radio Club meets every Wednesday at 8pm in the Lancing Parish Hall, South Street, Lancing, BN15 8AJ. There's a free car park at the rear and full disabled access. Visitors are always welcome.

WEST YORKSHIRE**Denby Dale Amateur Radio Club****Gerald, G3SDY.****Tel: 01484 602905.****www.g4cdd.net/**

The Denby Dale club meet at Pie Hall, Denby Dale, Huddersfield HD8 8RX. On Wednesday April 1st the club holds its spring mini-rally and grand auction of surplus items. Doors open at 7pm. And on April 15th there's a talk and demonstration on multi-band antennas starting at 8pm.

Pontefract & District Radio Club**Colin. Tel: (01977) 677006****E-mail: info@pontefractradioclub.org****www.pdars.com**

The Pontefract & District Radio Club meets every Tuesday from 7pm and Thursday from 8pm at the Carleton Centre, Carleton Grange, Carleton Road, Pontefract, West Yorkshire WF8 3RJ. Meetings for April include: 14th On-The-Air with G3FYQ & G1FYQ calling "CQ-FISTS".

WIGTOWNSHIRE (s.w. Scotland)**Ellis Gaston 01776 820413****www.gm4riv.co.uk**

Wigtownshire ARC meet weekly at The Aird Unit, Stranraer Academy, Stranraer DG9 8BQ. Meetings for April: 16th On Air PSK31, 23rd Stean Garden Railways by Ian Macdonald, and on the 30th On Air with PSK31. Visitors always welcome

WILTSHIRE**Trowbridge & District AR****Ian Carter. Tel: (01225) 864698****E-mail: ian.i.carter@btinternet.com****http://uk.geocities.com/tdarc@btinternet.com**

The Trowbridge & District Amateur Radio Club meets at Southwick Village Hall, Southwick (nearest postcode is BA14 9QN). April 15th it's a natter night. May 6th "Life and Work on Ascension Island - One of Britain's Outposts in the South Atlantic" by Steve White G3ZVW (RADCOM columnist) May 20th, natter night.

WORCESTERSHIRE**Worcester RAA****Martin Carter. Tel: 07976 917987****E-mail: secretary@m0zoo.co.uk****www.wraa.co.uk**

The Worcester Radio Amateurs Association meets on the second and fourth Tuesday at the Hallow Scout HQ, off Main Road, Hallow, Worcester WR2 6PP. Visitors, as always, will find a warm welcome at the new clubhouse, as will potential new members.

Club Secretaries

Please remember to include full details of your club, E-mail and telephone contact details and the postcode of your meeting venue - it helps potential visitors to find you!

KITS, MODULES & AERIALS

PSK31 INTERFACE KIT

As featured in February 2009 issue *Practical Wireless*.
PCB on its own £5.00. PCB and components £21.00.

Complete kit with box and hardware cables and
jack plugs £35.50.



& parts with pot and switch £26.00. With plastic box £39.00, with diecast box £44.00.

LCR BRIDGE with 5 resistance ranges 100, 1K, 10K, 100K & 1M. 3 capacitance ranges, 100pF, 1nF, 10nF and 3 inductance ranges, 1mH, 10mH & 100mH, plus external reference. Scale calibrated 0.01 to 10 times reference value. Optional drilled and labelled plastic or painted diecast box. PCB



OFF-AIR FREQUENCY STANDARD, crystal calibrator unit phase locked to Radio 4 using a two-loop system. Includes a monitor receiver to ensure Radio 4 is being heard loud and clear. Fixed outputs 10MHz at 2V p-p, and 1KHz at 1V p-p as oscilloscope CAL signal. Switched

outputs 1MHz, 100KHz, 10KHz, and 1KHz at 6V p-p, into 500 Ohms. Single board design as featured in July & Sept 2008 PW. Background heterodyne whistle at 2KHz confirms lock condition. 12/13.5V DC operation at 65mA. **PCB kit with ferrite rod £50.00, PCB kit + drilled box and hardware complete £86.00. Ready built £131.50.**



TWO TONE OSCILLATOR as featured in *PW* March 2005. A vital piece of test equipment used together with an oscilloscope for setting up AM, DSB, & SSB transmitters. **PCB & hardware kit £28.00. Ready Built £52.50.**



TRANSVERTERS for 2 or 4 or 6 metres from a 10 metre rig, or 4 or 6 metre from a 2 metre rig. Includes new overtone local oscillator, and integral interface unit. 20dB receive gain, 25W transmit power. Low level drive dual IF versions **TRC2-10dL, TRC4-10dL & TRC6-10dL**, high level drive single IF versions **TRC2-10sL, TRC4-10sL, TRC6-10sL, TRC4-2sL, TRC6-2sL**, Complete kit £179.00. Built £266.00



STATION PREAMPS for 2 or 4 or 6metres. RF & DC switched. Adjustable 0-20dB gain. 100W power handling. **RP2S, RP4S, RP6S, PCB & Hardware kit £35.00, Ready Built £57.00.**

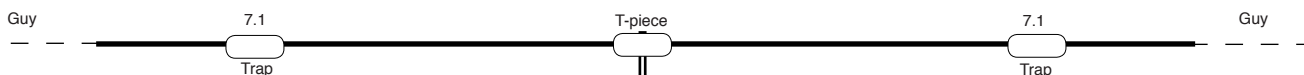
MASTHEAD PREAMPS, for 2 or 4 or 6metres. 20dB gain 1dB NF. 100W through handling. RF switched & DC fed via the coax. Heavy duty waterproof masthead box, and a DC to RF station box with SO239 connectors. **RP2SM, RP4SM, RP6SM, PCB & hardware kit £41.00, Ready Built £65.00. Masthead fitting kit £6.00.**

MASTHEAD PREAMPS 400W rated, for 2 or 4 or 6metres. RF switched. DC fed via a separate wire. 20dB gain 1dB NF. Heavy duty waterproof masthead box with SO239 connector. **RP2SH, RP4SH, RP6SH. PCB & hardware kit £42.50, Ready Built £65.00. Masthead fitting kit £6.00.**

SPEECH PROCESSOR increases the average sideband power of SSB transmitters without driving the PA into clipping. Includes filtering to enhance the higher voice tones to increase intelligibility, and it sounds nice too. Panel control for clip and output level. Supplied with plugs & sockets to suit most popular rigs. Type **SP1000, PCB & Hardware kit £39.50, Ready built £57.00.**

3N201 MOSFET equiv. 40673 £2.25 each, P&P £1.00 any quantity.

G2DYM / G4CFY AERIALS



Trap dipole for 80/40/20/15/10m. 106 feet overall length. Supplied with 70 feet 75 ohm twin feeder. Low TVI, and low noise, 2 S points quieter than a G5RV with same feeder length. All wires properly terminated with lugs and heatshrink. Complete and ready to erect, £152.00, carriage £20.00.

1:1 Balun 160-10m, suits the trap dipole, £43.00 inc P&P.

Trapped inverted L aerial. 80/40/20/15 & 10m for a small garden. Coax driven from far end of garden and tuned against ground. A good all round aerial with 6dB more gain than a 24 foot trapped HF vertical. That's 4 times power on TX and one S point extra on RX. £64.00, plus £10.00 carriage.

Wire dipoles, with insulators and centre piece. Call for price.

SPECTRUM COMMUNICATIONS

12 WEATHERBURY WAY, DORCHESTER, DORSET, DT1 2EF. Tel & Fax 01305 262250.

E-mail tony@spectrumcomms.co.uk

Web site www.spectrumcomms.co.uk

Prices inclusive of postage unless stated. All major credit and Debit cards & Paypal.

Cheques or Postal Orders payable
to Spectrum Communications.





Amateur Radio

in focus

This month we feature The Royal Naval Amateur Radio Society

The Senior Service has its own Amateur Radio Society – read all about it! Wally Walker G4DIU the Royal Naval Amateur Radio Society's Historian puts the organisation in focus for *PW* readers.

In a year's time, the RNARS will be celebrating its 50th anniversary. Arrangements for this historic event are currently in hand with a small sub-committee looking at making it an event to remember. It all started so long ago!

The inaugural meeting of the society took place in the former HMS *Mercury*, on June 25th 1960 at the small – very rural – village of Leydene, near Petersfield in Hampshire. The establishment was approximately 16km (10 miles) north of Portsmouth, which is the historic headquarters for the Royal Navy. The *Mercury* shore installation – such bases were often called 'stone battleships' in the service! – was the Signal School of the Royal Navy.

The meeting was, in its self, a prestigious one in that it was chaired, on behalf of the Captain of the Signal School, by the Commander – The **Honourable David P. Seeley**. He was also The Lord Mottistone and was later to become a Society Patron. The aim of the society was, and still is, to promote Amateur Radio within the Royal Navy and to act as an aid to technical education within the service.

Corporate membership of the society is open to all serving and retired members of the Royal Navy, **The Royal Marines**, The former **Womens' Royal Naval Service** (WRNS), the **Royal Naval Volunteer Reserve** (RNVR), The **Royal Naval Auxiliary Service** (RNXS). Corporate Membership is also open to The **Royal Fleet Auxiliary Service** (who keep RN ships supplied at sea), The **Sea Cadet Corps** (SCC) and civilians directly connected to those services, together with equivalent members of commonwealth countries.

Associate membership is open to serving or retired members of foreign navies or have been connected to those services in a civilian capacity.

Incidentally, since the removal of the Berlin Wall and the cessation of the Cold War, we now have members in some of the previously Iron Curtain countries' naval services.

First President & Chairmen

In 1964 the Society was considered to be on a sufficiently sound basis to invite the Captain of HMS *Mercury* to become its first President, a position which has been filled by the Captains of the Signal School since that date.

Our Chairmen, since inauguration have been:

1960 – 1962 **George Tagg G8IX**,
1962 – 1968 **John Peglar G3ENI**,
1969 – 1971 **Mick Puttick G3LIK**,
1972 – 1974 **Ivan Davies G3IZD**,
1974 – 1975 **Dave Moxon G4BLV**,
1975 – 1977 **Doug Hotchkiss G4BEQ**,
1977 – 1980 **Tom Biddlecombe G3WAO**,
1980 – 1982 **Ian Anderson-Mochrie G3VCM**,

1983 – 1985 **Clive Kidd G3YTQ**,
1985 – 1988 **Ken Craddock-Hartopp G4PZR**,
1988 – 1994 **Tom Biddlecombe G3WAO**,
1995 – 1997 **Trevor Day G3ZYY**,
1997 – 2000 **Kerry Ambler G8RWE** and
from 2000 – (still serving) **Mick Puttick G3LIK**.

Headquarters & Awards

In HMS *Mercury*, our (then) new Headquarters Station, was specially built in to the new sports and recreational amenities complex. It was the focal point of society activities and the shack was fitted out with new and up-to-date and very much state-of-the-art equipment and antennas.

The society sponsors a number of awards, which are available to listeners as well as licenced Radio Amateurs the world over.

They awards include:
The Mercury Award.



HMS Belfast is the base for headquarters station GB2RN.

Send all your club info to

PW Publishing Ltd.,
Arrowsmith Court,
Station Approach,
Broadstone,
Dorset BH18 8PW
E-mail: newsdesk@pwpublishing.ltd.uk

The World-wide Award.
The Hampshire County Award.
The Kaleidoscope Award.
The HMS *Plymouth* Award.
The International Navy Award. Full details of how to obtain all of these awards are on the society's web site www.rnars.org.uk

Mercury Mobile Rallies

During the many years when it was located at HMS *Mercury*, the society held annual mobile rallies, that proved to be very popular as they were based mainly on a family outing and picnicking – not just Amateur Radio!

The mobile rallies included such attractions as radio controlled model boats and miniature steam railway rides. The were even more rides available on a steam driven lorry and on a scale-down model steam traction engine and its trailer.

The TV Detector enforcement vans also attended to show the public why they really should have a licence (but, no doubt our members and Amateurs in general didn't need any persuading!) and the **Royal Naval Historic Flight** provided fly-pasts by the '*Stringbag*' (*Swordfish*) and *Sea Fury* aircraft. Archery also proved to be very popular on the Sports field and I'm very pleased to say that nobody ever got shot with the arrows! (We drew the line at a Musketry display and demonstration fortunately!)

The only mobile rally event which didn't 'go down' too well (in fact they 'stayed up'!) was the **Petersfield Model Aero Club's** display. This otherwise marvellous display was unfortunately spoiled because their model aircraft didn't like operating when we were doing talk-in on 70MHz! Indeed, a couple of their model aircraft went missing and became lost. Luckily they were found later on – and some ended up some 6km (around 4 miles) away!

Global Membership

Our membership is Global, in



Aerial view of HMS Mercury during the Second World War.



Radar training at HMS Mercury.



Learning to use shipborne radar.



Training on communication equipment.



Many WRNS (Wrens) members worked in Radar and radio.



Facilities were modern but spartan at Mercury.

All photos courtesy of Royal Navy Museum of Radar and Communications.

that ex-serving members of our Naval and Marine services have remained members when they have emigrated to the various parts of the Commonwealth. And, of course, we have members who are still serving, or have served in the various navies of those countries.

The society has stations around the World including HMS *Belfast* the famous and historical Second World War Town class cruiser (the other member of her class was HMS *Edinburgh*) built by **Harland & Wolff** in – appropriately enough, Belfast. The cruiser now has the callsign GB2RN,

and is permanently moored in the Pool of London.

Also, we have at the shore establishment HMS *Collingwood*, with the callsign GB3RN, HMS *Plymouth* with the callsign GB2PLY and HMS *Onyx* G0YNX. Please note that both GB2PLY and G0ONX are currently non operational due to ship movements. Abroad we have: In Canberra Australia VK1RAN, and Her Majesty's Australian Ship (HMAS) *Vampire* VK2CCV in Darling Harbour Sydney Australia. There's also HMAS *Castlemain* VK3RAN in Melbourne and HMAS *Diamantina* in Brisbane. In North

Island New Zealand there's ZL2RN and in America the United States Ship (USS) *Salem* K1USN Museum Ship. We also have a maritime mobile (/MM) Station in the Falkland Islands Dependencies and on board the Royal Research Ship (RRS) *James Clarke Ross* GM0HCQ/MM.

Our Society takes part in the Annual World Wide Museum Ships contest, which includes all of the ships I've mention, working together with others of other maritime nations.

Headquarters Now Collingwood

Our Headquarters, together with the Royal Naval Signal School, has now moved to HMS *Collingwood* in Fareham near Portsmouth. This is now the Maritime Warfare School, and is the focal point of a number of other training centres and it's from where we continue to operate and keep an active presence on all bands and modes.

Since the move to HMS *Collingwood* we have no longer hold our annual rallies. This was mainly due to problems with access to the rally site, which caused lots of hold-ups with the traffic as both entrances to the site were on the same part of the main road from Fareham to Lee-on-the-Solent.

Although we don't have our own rally nowadays, we attend many of the shows and mobile rallies around the UK on a fairly regular basis. Here you'll see the RNARS stand and they naturally form an excellent meeting point for our members to 'splice the mainbrace'!

Our Members

Our members are also kept in touch through our various radio networks on a daily and weekly basis and also via our four-monthly *News Letter* which

is distributed world-wide and which includes articles from our members describing their various doings and travels around the world together with articles of a technical content which are of interest to, or of equipment made by, our members.

Our members include **Len Borley G4LIK** (now aged 90) who, as a Lieutenant Commander in the Royal Navy, was the Communications Officer on board HMS *Belfast* (six times!).

Another member and Chairman was a Baronet, **Sir Kenneth Craddock-Hartopp G4PZR**. I've printed up some of the info we have on G4PZR. Ken was the 10th Baronet (Bt) of Freathby, Leicestershire and was made MBE (1946) and DSC (1952) and was born on February 26th 1918 and succeeded his cousin to the Baronency in 1996.

Ken was sent to school at Stowe, in Buckinghamshire, where he represented the school at rugby, hockey, tennis and cricket before joining the Royal Navy as a cadet in 1936. He served in the RN during the Second World War and in Korea (In command of HMNZ frigate *Taupo* during 1951- 52) and was awarded the Legion of Merit USA in 1953.

Ken was one of the most successful Coastal Forces Captains of the Second World War. He served in both the Royal Navy and the Royal Indian Navy. He began as a junior Lieutenant 1940, serving in Motor Torpedo Boat (MTB) 100 operating from Gosport (opposite Portsmouth, which was also the original home of the submarine service at HMS *Dolphin*) and was appointed Senior Officer of the 11th MTB Flotilla in 1941.

In 1942 Ken went to America where 40 ton Vosper MTBs were being built under licence. He was loaned to the Royal Indian Navy and appointed as Senior Officer of the 16th MTB Flotilla. Ken was a man of many

enthusiasms – he played Hockey for the Navy and shot for the service at the famous Bisley range competitions near Woking in Surrey. He was a keen Amateur Radio operator and was Chairman of the RNARS from 1985 to 1988. Unfortunately, the baronetcy died with Ken as he had no male heir.

We also include, amongst our membership an officer who was awarded the Victoria Cross – **Ian Fraser VK2UG**. Ian received his Honour for action in midget submarines in the Far East. Additionally, one of our most notable Silent Keys was **Tom Biddlecombe G3WAO**, was a past Chairman of our Society, served with His Royal Highness (HRH) the **Prince Andrew** in the Falklands Islands.

However, like all other Amateur Radio organisations, we are constantly looking for new, young or old, members to join us to keep the hobby alive and well within the service.

We have close links with the **First Class Operators Club** (FOC) with many of our members being in both organisations. The best known of these being Mick Puttick G3LIK who has been Chairman of both Societies.

Our members participate in the **Radio Society of Great Britain** (RSGB) Affiliated Societies contest (AFS) each year by putting on a number of RNARS stations throughout the UK and we also take part in the International Maritime contests together with the CQ World Wide (CQWW) and other RSGB contests. So, if you've any present or past interest in the 'Senior Service' please contact us and we'll be pleased to hear from you.

Wally Walker G4DIU

E-mail: wally.g4diu@ntlworld.com

Website: www.rnars.org.uk/



HMS Mercury after closure.

Photograph courtesy Rob Mannion.



HMS Belfast in London.

Photograph courtesy Rob Mannion.



HMS Belfast son et lumière.

Photograph courtesy Rob Mannion.

Win the Alinco DJ-175 in our Free Competition!

You've read the review in the March 2009 issue of *PW* – now you can win the rig by entering our special **FREE** competition to win an Alinco DJ-175 hand-held transceiver! **Mike Devereux G3SED** of **Nevada Radio** in Portsmouth has kindly donated this latest model from Alinco – known Internationally for well-built and reasonably priced equipment – for one lucky Radio Amateur to win!



Richard Newton G0RSN thoroughly enjoyed using the Alinco DJ-175 and made some interesting comments on the rig in his article in the April issue of PW. Read the review again, answer the three simple questions and you could own this very rig! Photo courtesy Diane Newton M3JHN.



The Alinco DJ-175 is a comfortable fit in the hand and Richard was pleasantly surprised at the audio quality from the internal speaker. Photo courtesy of Diane Newton M3JHN.



Rules: Competition closes on **May 15th 2009** (entries must have reached us by then) when the winner will be drawn from the editorial hat. Late entries will not be accepted. One entry per name and address – multiple entries from the same address or same name will not be accepted. You may photocopy this page and send it to: **The May 2009 Alinco Competition, Practical Wireless, Arrowsmith Court, Station Approach, Broadstone, Dorset BH18 8PW.** The winner will be notified by post or E-mail, the Editor's decision will be final and no correspondence will be entered into.

The *Practical Wireless* Alinco DJ-175 competition May 2009. Entry form

To win the Alinco DJ-175 donated by Nevada Radio, please answer the following two questions (the answers are to be found in the review in the April issue, pages 18 and 19):

1: What are the lowest and highest power settings provided on the Alinco DJ-175?

.....

2: What type of fitting is used to attach the DJ-175's helically wound antenna?

.....

Please clearly print your **Name and Callsign**:

.....

Full postal address (and E-mail address if you have one):

.....

.....

.....

..... Post Code

E-mail:



The Rev. George Dobb's

carrying on the practical way

The Rev. George Dobbs G3RJV describes the American project called the Twofer – a 20 year-old popular project for today.

"Going to a wedding in New Orleans during Mardi Gras is a twofer."

An American Saying

In Great Britain we call it a "Buy one, get one free", or 'bogof'! However, in the USA they call it a 'twofer' – "two for the price of one". We all know the principle and the lure to the shopper! When I was sorting out my over-large collection of circuit boards and past projects prior to moving, I stumbled across a Twofer transmitter board. The boards were produced by the **American QRP Amateur Radio Club International** (QRP ARCI) from an original design by **John Collins KN1H**.

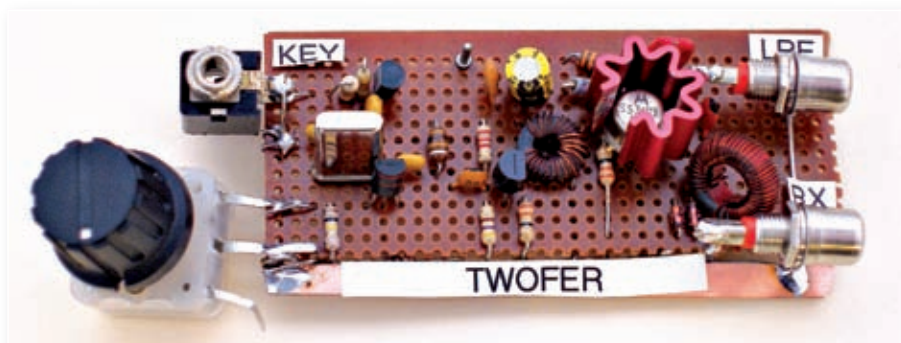
The project first appeared in their magazine *QRP Quarterly* in the summer of 1986. The 'twofer one' tag came from the project being a transmitter and an associated receiver. The receiver never appeared in printed circuit board (p.c.b.) form but many people, including me, built the 'twofer' transmitter. It was a reliable and easily reproducible design capable of around 2W of radio frequency (r.f.) output, usually on the 7MHz (40m) band.

Having re-run the Sudden receiver,

20 years on, in the previous edition of this column, I thought it might be interesting to follow it up with a 20 year-old American QRP project. This is not aimed so we can reminisce on the 1980s as a golden age of QRP Amateur Radio design – although I must admit that many of the designs

Rev. George Dobbs G3RJV

PW Publishing Ltd.,
Arrowsmith Court,
Station Approach,
Broadstone,
Dorset BH18 8PW
E-mail: pracway@pwpublishing.ltd.uk



of that period keep rearing their heads in more recent times.

Indeed, the Twofer has recently enjoyed a revival in the USA in the form of a kit produced by **Hendrick's QRP Kits**. So there has been a fair amount of chatter about the Twofer in QRP websites and blogs. It has stood the test of time and can still be a viable low power transmitter that is easy and inexpensive to build.

Modifications & Improvements

I decided to bring together the original Twofer design with some of the later published modifications and improvements to evolve a version of the project that would be easy for a UK builder to replicate and use to enjoy some low cost contacts on the Amateur bands.

The version I'm describing this

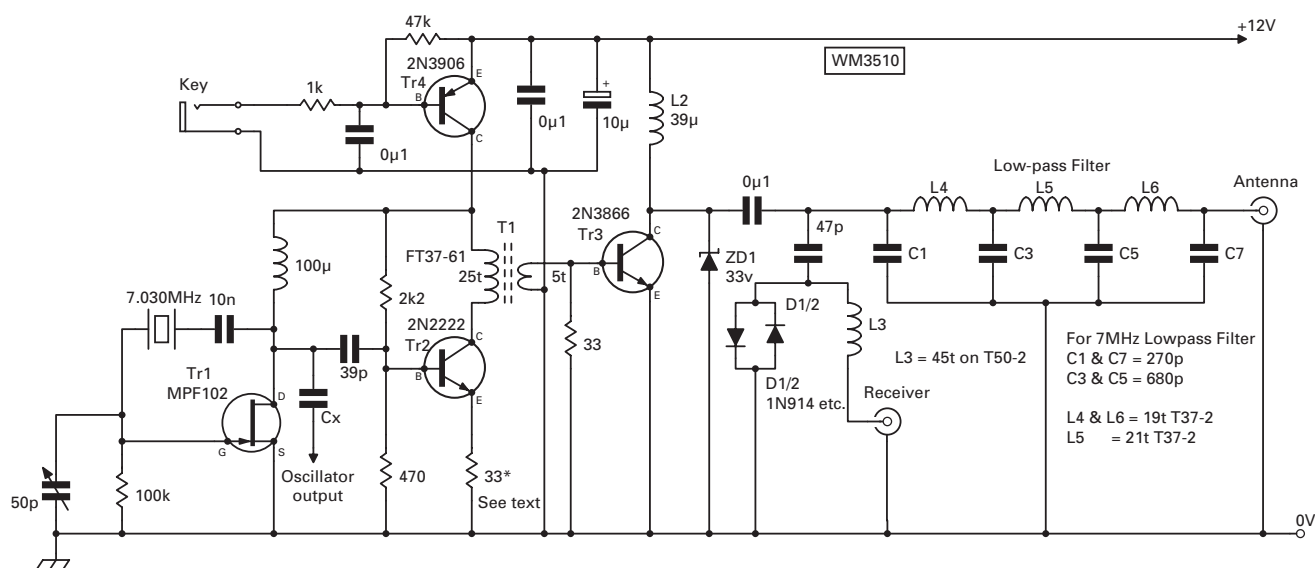


Fig. 1: The Twofer circuit recommended by G3RJV.



TRANSMISSION. It's about making contact...



...so please
tell us what
you think.



The British Wireless for the Blind Fund has been holding the annual Transmission competition for radio amateurs for fifteen years. The event has raised £thousands for the work of the charity. This seems like a good time to review the event and, perhaps, make changes. **But, to make sure we do this properly we need your help.** Would you please complete this short survey and return by post to **Lesley West, BWBF, 10 Albion Place, Maidstone, Kent. ME14 5DZ.** (Please photocopy if you don't wish to deface your magazine). FAX to **01622 751725** or you can complete the survey **ONLINE** at **www.blind.org.uk**

PLEASE REMEMBER: TRANSMISSION 2009 WILL BE HELD ON 19th -20th SEPTEMBER. FOR OFFICIAL SPONSORSHIP FORM, FULL RULES AND INFORMATION, visit our website: www.blind.org.uk

BWBF 
BRITISH WIRELESS FOR THE BLIND FUND
REG. CHARITY No: 1078287

19-20
SEPTEMBER
**TRANSMISSION
2009**

SHARE YOUR THOUGHTS ABOUT TRANSMISSION

- 1 Did you take part in Transmission 2008? Yes / No
(If you answered yes, please go to question 4)
- 2 Could you please tell us why you decided not to?
- 3 What might tempt you to take part in future?
- 4 Transmission is run for 48 hours over a weekend in September. What do think could be done to improve the Transmission event? e.g. a shorter/longer period; different prizes (we currently award trophies); any other ideas?
- 5 Do you have any other ideas that would improve Transmission for you?

THANK YOU FOR YOUR HELP

month uses parts that are easy to obtain in the UK and can be built in a variety of formats. Of course, *PW* readers are resourceful people and I feel sure some of them may even develop their own p.c.b. versions of the Twofer transmitter. The Twofer, along with a suitable receiver, would make a useful QRP station.

Incidentally, I still have the original instructions for the 1986 Twofer kit! The text begins, "The Twofer is a VXO controlled, broad-banded transmitter. Its small size makes it suitable for Field Day, camping trips and backpacking. The transmitter is constructed on two by three inch printed circuit board. By building the matching receiver, a complete transceiver can be assembled inside a small cabinet. These instructions assume you have some type of experience in building electronic circuits. The Twofer is not a Heathkit!"

The instructions go on to give a blow-by-blow account of adding the components to the circuit board and getting the transmitter to work. I couldn't help noticing that the instructions are a photocopy of a dot matrix printout and the circuit is a neat hand drawing; instant transportation back to the early 1980s!

The Circuit

The circuit of the Twofer I commend to *PW* readers is shown in **Fig. 1**. This was developed from the original Twofer and two follow up articles in the by **Heb Lay N3CDR** and **Byron Weaver WU2J** in *QRP Quarterly*, which both appeared in 1992. I have Anglicised some of the components and I played around with some of the values on an 'ugly' constructed version.

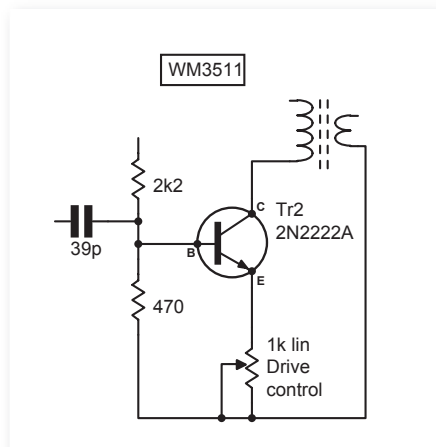


Fig. 2: A possible 'drive control' for the Twofer.

The Twofer uses a field effect transistor (f.e.t.) oscillator in the Pierce configuration. A Pierce oscillator is probably the simplest crystal oscillator to make. The 7.030MHz crystal is the only resonant element in the circuit and so determines the oscillation frequency. In series with the 10nF capacitor coupling capacitor, the crystal forms the shunt feedback from the drain to the gate of the MPF102. The 7.030MHz frequency has been chosen because this is the QRP calling frequency on the 40m band.

As there is a 180° phase shift between the gate and the drain of

on the h.f. bands in recent times have been such that I've found 7MHz a more fruitful band for low power operation. We're all waiting for the numbers of sunspots to increase!

Broadband Circuit

The Twofer is essentially a broad band circuit and with a very few component changes it could be used on any h.f. band. The only modification would be to the low-pass filter and receiver coupling circuits which come after the 100n output capacitor from the power amplifier (Tr3).

The oscillator output is coupled to

The Twofer lives again!

the MPF102 and across the crystal, this produces the positive feedback required to maintain oscillation. A 50pF (or thereabouts) variable capacitor between the f.e.t. gate and ground allows for a little variation in the frequency of the oscillation. This is a basic form of VXO (variable crystal oscillator) offering a frequency shift of a few kilohertz; the amount of shift depending on the type, and individual sample, of crystal. The choke (L1) in the drain of the f.e.t. is an off-the-shelf axial inductor, which offers a high load impedance with very little d.c. voltage drop.

A while ago, *PW* reader commented to me that I had been doing a lot of projects for the 7MHz in my more recent offerings to this column. Usually, my favourite band for QRP (low power) radio operation has been the 14MHz (20m) band. This is because a few watts of power on the 14MHz band can produce surprisingly good results – when the conditions are right. I say this because conditions

Tr2 via the 39pF capacitor to a bipolar buffer/driver stage. Notice that I have added another coupling capacitor (Cx) and this may be used to drive the mixer of a direct conversion (DC) receiver should the constructor wish to use the Twofer as part of a DC transceiver design. The value of Cx depends upon the type of mixer used in a proposed receiver. You would also need to power the oscillator separately for this!

As ever, I used a 2N2222A device for the buffer/driver stage. The choice had more to do with my purchase of a bag of 500 of these devices at a bargain price than any great technical reason! Any suitable n.p.n. device such as the 2N3904 or BC108, etc. would serve the purpose.

The transformer, T1 forms the r.f. (radio frequency) load for the 2N2222A. The circuit also form a coupling transformer to drive the power amplifier. The transformer is wound on an FT37-61 core; a ferrite core for broadband coupling.

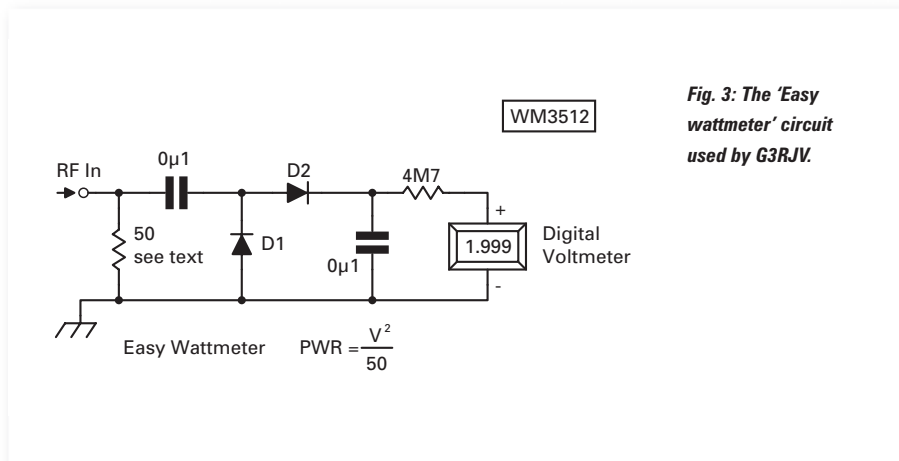


Fig. 3: The 'Easy wattmeter' circuit used by G3RJV.

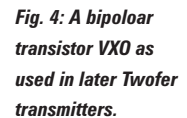
The secondary winding is five turns of the same wire wound over the centre of the primary winding. Although somewhat of a compromise, T1 should be effective over the full range of h.f. Amateur bands. The value of the resistor in the emitter of T2, shown as 33Ω in Fig. 1, determines the amount of drive available to T3 and hence the output power of the transmitter. However, 33Ω is a good compromise value to fruitfully exploit Tr3 without causing overdriving of the final stage.

In many QRP transmitter designs it's common to leave the oscillator free running and to key later stages. This is because keying an r.f. oscillator can result in a 'chirpy' c.w. note. However, Tr1 is a crystal controlled oscillator and no such chirp occurs. Keying both stages overcomes the problem of oscillator break-through when the oscillator is still running in the receive mode.

The output load is provided by L2; a 39 μ H axial r.f. choke. The transistor, Tr3, also worked well using a homemade choke made from about 10 turns of fine gauge wire wound through a ferrite bead. **Note:** The value of L2 is not very critical although it ought to be at least 10 μ H.

The original Twofer used 2N3553 transistor for the power amplifier. Unfortunately, these aren't very common in the UK and I used the more readily available 2N3866 device. Other choices could be the 2N5859 or the 2N4427 but whatever device is used for the power amplifier, it will require a clip-on heat sink to keep the transistor cool. Finally, a 100nF capacitor couples the output to a suitable low-pass filter.

My original ugly constructed Twofer was **so ugly** and messy, I decided to build a neater version! For this I used 'perfboard'. Perfboard is an insulated material with a matrix of holes spaced at 0.1in; similar to Veroboard but without the copper tracks. The parts pass through the holes in



The Twofer is now over 20 years old but it still offers a worthwhile project for anyone wishing to run a couple of watts of QRP. Try it out yourself! ●

SHOWROOM & MAIL ORDER:

Unit 1, Purfleet Industrial Estate,
Off Juliette Way,
Aveley RM15 4YA

NEXT DAY DELIVERY MOST AREAS £12.50



TO ORDER ON-LINE SEE www.haydon.info

Haydon Communications



TEL: 01708 862524

FAX: 01708 868441

Showroom Open:

Mon-Thurs, 10.00am - 4.00pm.

Friday, 10.00am - 2.00pm.

Mail Order Open:

Mon-Fri, 10.00am - 4.00pm.

West Midlands Showroom:

Tel: 01384 481681

E&OE

HF TRANCEIVERS

FT-817 ND



HF + 6m + 2m + 70cms.
Incl's battery/charger +
antennas. Optional case £22.

£379.99

FT-857D DSP

HF + 6m + 2m + 70cm.



£499.99

FT-897D

Includes DSP



HF + 6m + 2m + 70cm.
£579.99

FT-450

WOW
HF + 6m/IF DSP



£529.00

FT-950

HF + 6m
IF DSP



£969.99

FT-2000

IF DSP/HF marvel



Optional extension speaker £129.99
£1839.99

MD-200



Broadcast quality
dynamic mic. It sounds
& looks superb. Fits
8-pin round & 8-pin
modular radios.
(Optional 6-pin modular
adapter £19.99)

While stocks last

£189.99

SP-2000



External speaker
+ audio filters.
features a large
4.7/120mm
speaker along
with a 3-selection hi-cut and 2
section low cut. Dual switched
input + headphone socket.

£129.99

ATAS-120

Military spec mobile
antenna - superbly made.
Covers HF + 6m + 2m +
70cm. *Fully automatic
(*certain Yaesu radios).

£259.99

TS-2000X



HF + 6m + 2m
+ 70cm + 23cm.
Not only is this
Kenwood's top
machine with IF DSP, it also uses cutting-edge
technology in a streamlined package. Not for
the faint hearted!

£1599.99

DIAMOND CP-6

A superb (diamond quality) 6 band trap
vertical antenna with trap radials - "rotary"
trap system allows "flat wall" mounting.
80m/40m/20m/15m/10m/6m.
200W SSB, HT 4.6m (15ft tall).

SEND SAE FOR DATA SHEET

OUR PRICE **£289.99**

VHF/UHF TRANS

YAESU FT-8900r



10m + 6m + 2m + 70cm. (up to 50W).

True dualbander

£279.99

Includes DTMF mic + wideband receive

YAESU FT-8800



2m/70cm (full duplex) mobile.

WIDEBAND RX

£259.99

NEW YAESU VX-3E YAESU VX-7R



2m/70cm Tx
Rx:- 500kHz-1GHz.
Includes:-
battery/charger.

£124.99



6m/2m/70cm + wide RX. An
amazing 6W water
proof hand-held.
Available in black or silver

£219.99



2m/70cm+Rx 0.5MHz-1GHz
Includes Lithium Ion Batteries
and Charger

£169.99



YAESU FT-7800E

2m/70cm + wide Rx. (50W/35W)

includes DT, MF, mic

£179.99

In-car kit £20.00. Extra DC lead £17.00



YAESU FT-2800M

2m FM (65W). Includes DTMF mic

Built like a tank!

£115.00

Extra DC lead £17.00

ALINCO DJ-596E



2m + 70cm Handie. Includes: (NiMH) Battery/
Charger. Wide + narrow switchable. High
power (4.5W) OP as standard. (DTMF keypad
as standard)

£149.99

Includes free remote mic
Optional case £16.99
Cigar lead £19.99
Optional headset (Boom mic) £24.99

D-308B DELUXE DESK MIC



(with up/down). Many amateurs (over
4000) have been pleased with it's
performance. Includes 8-pin round
Yaesu mic lead. Icom/Kenwood & other
leads available. Phone (£19.99 each).

Replacement foam windshield £3.00 + P&P.

Truly remarkable audio on both
SSB & FM/AM

£69.99

SUPER-GAINER RH-9000

Tx:- 2m + 70cm
(Rx:- 25MHz-2.9GHz).

BNC 40cm flexible whip
for the ultimate in gain.

£29.99 P&P £4.00

SUPER-GAINER RH-9090

replacement Tx:- 2m + 70cm.
Rx:- 25MHz-2.9GHz

SMA 40cm flexible
whip that is ideal as

£34.99 P&P £4.00

PSUs



DIAMOND GSV-3000

"Linear power supply". 30 amp @
13.8V. 1-15V variable. Was £149.95.

Diamond quality PSU **£189.99**



DIAMOND GZV-4000

Diamond quality power supplies/
switch mode. 40 amp version.

£169.99

GZV-2500 25 amp version of GZV-4000 £129.99

NISSEI MS-1228



28A at 13.8V yet under 2kgs.
(H 57mm, W 174mm, D 200mm
approx). Fully voltage protected.
Cigar socket & extra sockets at
front/rear. Ultra slim.

NISSEI HAVE BECOME RENOWNED FOR PUTTING QUALITY FIRST, YET MAINTAINING A GOOD
PRICING STRUCTURE. A TRULY SUPERB POWER SUPPLY UNIT

'Smallest version to date' now with cigar socket.

£79.99

QUALITY MADE PRODUCT

NISSEI PS-300



Features: ★ Over voltage
protection ★ Short circuit
current limited ★ Twin
illuminated meters ★ Variable
voltage (3-15V) latches 13.8V

★ Additional "push clip" DC power sockets at rear. Dim'n's:
256(W) x 135(H) x 280(D)mm.

A truly professionally made unit
built to outlast most PSUs.

30 AMP/12 VOLT PSU

TRUE 'LINEAR' PSU

£134.99

SUPERB VALUE

ACCS



MFJ-259B

HF digital SWR analyser - 1.8-170MHz.

(Optional case £26.99) **£259.99**

MFJ-269 HF + VHF + UHF analyser £339.99

MFJ-901B Superb versatile ATU £89.99

MFJ-260C 300W dummy load £49.99

MFJ-264 1.5kW dummy load £79.99

MFJ-969 Rollercoaster ATU (300W) £189.99

MFJ-962D 1.5kW (metered) antenna tuner £279.99

MFJ-993 INTELLITUNER



Fully automatic (1.8-
30MHz). 300W SSB.

£229.99

Easy to use ATU.



MFJ-949E

WOW

£169.99

● 1.8-30MHz 300W ATU ● Large cross needle meter
● 30/300W PEP power meter ● VSWR ● 3-way antenna
selector ● Internal balun + dummy load.

SGC BARGAINS



SGC MAC-200 New auto
tuner 1.8-54MHz (200W) wire,
vertical, dipole. You name it.

(5 selectable outputs).

£289.99

SGC-239 Mini tower ATU (1.8-30MHz) £199.99

SGC-230 (HF-200W) ATU £449.99

SGC-237 HF + 6m Tuner £319.99

SGC-Smart lock (specify model) £69.99

GIZMO'S



10m PNEUMATIC MAST

We have a small quantity of "military spec" pump-up
masts (part of a Government order). All brand new in
a crate and supplied with cover (close HT ~ 6 foot).
Anodised green finish.

40m guy kit pack £49.99

Ground fixing spikes (3-off) £35.00

2 foot all ground fixing kit £99.99

(Requires ~ 1m square cemented area).

(Can be hand/or
pump erected) **£1199.99** Del £40.00.

SANGEAN ATS-909



A superb performance all mode
synthesized world receiver with true
SSB and 40Hz tuning for ultra clean
reception. Other features include RDS
facility, 306 memories and WFM. Incl's
case/earphones/wind-out antenna. A
truly remarkable receiver, especially on SSB - you'll be amazed.

Optional 240V
supply £12.99

£169.99

Send SAE for copy
of review

NRD-545 DSP



The ultimate true
"IF-DSP" receiver.
0.1-30MHz. USB/LSB/
CW/RTTY/AM/FM.

Enjoy clear digital sound thanks to "digital signal
processing"

£1599.00

NISSEI PWR/SWR METERS



RS-502 1.8-525MHz (200W) £79.95 P&P £6.50
RS-102 1.8-150MHz (200W) £49.95 P&P £6.50

RS-402 125-525MHz (200W) £49.95 P&P £6.50
RS-3000 1.8-60MHz (3kW) incl. mod meter £59.95 P&P £6.50
RS-40 144/430MHz Pocket PWR/SWR £29.95 P&P £4
DL-30 diamond dummy load (100W max) £26.99 P&P £4

Q-TEK INTRUDER II (CHROME FINISH)

11 band (selectable via sumpter lead - supplied) HF antenna 80-10m + 6m + 2m + 70cm. PL-259 fitting, commercial quality. Length 1.8m long. Includes jumper lead & resonator whip.

£36.99 or 2 for £65.00

CUSHCRAFT BARGAINS Delivery £15.00

MA5B Mini beam 10, 12, 15, 17, 20m **WOW** £399.99
A4S 4 ele beam (10 - 20m) £619.99
A3S 3 ele beam (10-20m) **WOW** £525.99
R-8E Vertical (40 - 6m) "special" SPECIAL £499.99

Q-TEK PENETRATOR

"We've sold 100s all over Europe"

★ 1.8 - 60MHz HF vertical ★ 15 foot high ★ No ATU or ground radials required ★ (200W PEP).

SEND SAE FOR LEAFLET

£199.99

W-8010 DIAMOND SHORTEND DIPOLE



80-10m & only 19.2m long! (Up to 1.2kW) Includes 1:1 Balun. Bargain. Superb Japanese quality antenna system.

£149.99

CAROLINA WINDOM

CW-160S (160-10m) 40m long £139.99 P&P £10.00
CW-160 (160-10m) 80m long £139.99 P&P £10.00
CW-80 (80-10m) 40m long £129.99 P&P £10.00
CW-80S (80-10m) 20m long £134.99 P&P £10.00
CW-40 (40-10m) 20m long £109.99 P&P £10.00

Standard & Deluxe G5RV

P&P on either full/half size £7.50

Half size 51ft (now includes heavy duty 300Ω ribbon) £24.95
Full size - 102ft (now includes heavy duty 300Ω ribbon) £28.95
Half size (Deluxe) - 51ft (40-10m) £36.95
Full size (Deluxe) - 102ft (80-10m) £42.95
In-line choke balun £39.99

Q-TEK INDUCTORS

80mtr inductors + wire to convert 1/2 size G5RV into full size. (Adds 8ft either end) £34.99 P&P £4.00 (a pair)

TRAPS BACK IN STOCK

BALUNS & TRAPS

Baluns 1:1 or 4:1 or 6:1 £34.99 each P&P £4
Traps 80m or 40m or 20m or 15m £39.99 pair P&P £5

DOUBLE THICK FERRITE RINGS



A superb quality ferrite ring with incredible properties. Ideal for "R.F.I.". Width 12mm/OD35mm. 6 for £12.00 P&P £4.00
12 for £20.00 P&P £5.00
50 for £40.00 P&P £10.00

COAX SWITCHES

(P&P £6.00)



2 way CX-201 (0-1GHz) S0239 £19.95
2 way CX-201 'N' (0-1GHz) 'N' £24.95
4 way CX-401 (0-500MHz) S0239 £79.95
4 way CX-401 'N' (0-500MHz) 'N' £89.95

REPLACEMENT POWER LEADS

DC-1 Standard 6-pin/20A fits most HF £22.00
DC-2 Standard 2-pin/15A fits most VHF/UHF £10.00
DC-3 Fits Yaesu FT-7800/8800/8900, etc £17.50

YAESU REPLACEMENT MICS

MH-IC8 8 pin Yaesu mic (8-pin round) £34.99
MH-4 4 pin fits older HF, etc. (4-pin round) £29.99
MH-31A8J 8 pin modular £34.99

COAX BARGAINS

RG-213 Military spec x 100m (10mm dia). **£99.99** or 2 for **£170.00**

RG-58 Military spec x 100m. **£35** or 2 for **£60.00**

Coax stripping tool (for RG-58) £4.00

Q-TEK TRI-MAGMOUNT



Very heavy duty. Available: - S0-259 or 3/8 - specify. **£44.99**

HEAVY DUTY SWAGED MAST SET

New extra heavy duty 2" mast set. 4 sections x 5 1/2 foot slot together.

£64.99 each. **TWO FOR £125.00** DEL £15.00

NEW SWAGED MAST SETS

20 foot mast. 1 1/2" - 4 x 5 foot sections. (Swaged) **£39.99**
20 foot mast. 1 1/4" - 4 x 5 foot sections. (Swaged) **£36.99**

H/DUTY CAR BOOT MAST SET

18 foot (1 1/2" dia). 18 foot - 6 x 3 foot (1 1/2") slot together ally sections.

£42.99 each. **TWO FOR £73.99** DEL £13.00

NEW CAR BOOT MAST SET

Superb 18 foot (6 x 3 foot sections) that slot together. Dia: 1 1/4" Ideal to take anywhere. **£39.99**

2 for £69.99 del £13.00

HANGING PULLEY



Heavy duty die-cast hanging pulley. Hook and go!

£24.99

NEW NOISE FILTER!



A superb TDK 'snap fix' ferrite clamp for use in Radio/TV/ Mains/PC/Phone etc.

Simply close shut over cables and notice the difference! Will fit cables up to 13mm diameter. Ideal on power supply leads/mic leads/audio leads/phone leads.

2 for £16.00 or 5 for £32.50 (P&P £3.50)



MAST HEAD PULLEY

A simple to fit but very handy mast pulley with rope guides to avoid tangling. (Fits up to 2" mast)

£12.99 + P&P £4.50

30m pack (4.4mm) nylon guy rope **£12.50**
132m roll 4.4m nylon guy (480Kg b/f) £40.00 Del £7.50



NEW EASY FIT WALL PULLEY

Pulley will hang freely and take most rope up to 6mm. (Wall bracket not supplied).

£12.99 + P&P £4.50

Wall bracket, screws not supplied. Simply screw to outside wall and hang pulley on WALL BRACKET £2.99 P&P £1.00

30m pack (4.4mm) nylon guy (480kg) £12.50
132m (4.4mm) nylon guy (480kg) £40.00



BARGAIN WINCH

500kg brake winch. BARGAIN PRICE

£79.99 Del £10.00

(Now includes cable grip)

Winch wall bracket £22.99



MFJ-1117

DC High current distribution unit £59.99



MFJ-1118 metered

High current distribution unit £99.99

LOW LOSS PATCH LEADS



Connectors	Length	Price
PL-259 - PL-259	0.6m	£9.99
PL-259 - PL-259	1m	£11.99
PL-259 - PL-259	4m	£14.99
PL-259 - PL-259	20m	£49.99
BNC - BNC	1m	£9.99



QS-300

A fully adjustable deluxe desktop stand for hand-helds. Includes BNC to S0-239 lead. **£19.99** P&P £4

holder (fits airvent) for hand-helds. **£6.99** P&P £3



QS-200

A superb, no mess, quick fit in-car

holder (fits airvent) for hand-helds. **£6.99** P&P £3

MT-3302



Heavy duty universal mount. **£29.99**

Includes 5m cable

MT-6601



Adjustable roof rack/window bar mount **£19.99**



YAESU G-450C

Heavy duty rotator for HF beams, etc. Supplied with circular display control box and 25m of rotator cable.

WOW £275.00

G-650C **WOW** £329.99
G-1000DXC **WOW** £369.99
G-5500 (azimuth/elevation) rotator our price £425.00
GC-065 thrust bearing £50.00
GC-038 lower mast clamps £29.00
G-250 lightweight rotator £95.00



AR788

Quality rotator for VHF/UHF. Superb for most VHF-UHF yagis, 3 core cable required. 3 core cable 50p per mtr.

OUR PRICE £79.99

AE-201 thrust bearing £24.99

DIAMOND YAGIS

No tuning required

2m/5 element No tuning required S0-239 feed £39.99
2m/10 element No tuning required S0-239 feed £72.99
70cms/10 element No tuning required S0-239 feed £44.99
70cms/15 element No tuning required S0-239 feed £59.99

MOBILE ANTENNAS

Del £10.00

DB-7900 2m/70cm (5.5/7.2dB) 1.6m (PL-259) £39.99
DB-770M 2m/70cm (3.5/5.5dB) 1m (PL-259) £24.99
PL-62M 6m/2m 1.4m (PL-259) £23.99
PL-627 6m/2m/70cm (1.7m) up to 7.2dB (PL-259) £44.99

Q-TEK COLINEARS (VHF/UHF)

Del £12.50

X-30 GF 144/70, 3/6dB (1.1m) £39.95
X-50 GF 144/70, 4.5/7.2dB (1.7m) £54.95
X-300 GF 144/70, 6.5/9dB (3m) £69.95
X-510H GF 144/70, 8.5/11dB (5.4m) £120.00
X-627 GF 50/144/70, 2.15/6.2/8.4dBi (2.4m) £79.95

LIGHTNING ARRESTOR

Replacement fuses £5.00



SP-350V

DC-1000MHz (400W through power). S0-239 fitting.

£22.95 P&P £3.00

SPEAKER MICS



M-U120 Fits most handies. Alinco, Kenwood, Yaesu.



MS-107K Fits Kenwood handies.

£14.99 P&P £3.00 **£14.99** P&P £3.00

ALLUMINIUM POLES

20 foot (collection only) 2" £49.99
10 foot (collection only) 2" £29.99
2.4m (2") Ally pole £24.99

FIBRE GLASS POLES

Del £10.00

1m 1 3/4" £12.50 2" £15.00 Longer lengths available - phone
2m 1 3/4" £25.00 2" £30.00

COPPER ANTENNA WIRE ETC

Hard drawn (50m roll) £16.95 P&P £7.50
Multi-Stranded (Grey PVC) (50m roll) £13.95 P&P £7.50
Flexweave (H/duty 50 mtrs) £39.99 P&P £7.50
Flexweave H/duty (18 mtrs) £18.95 P&P £7.50
Flexweave (PVC coated 18 mtrs) £19.95 P&P £7.50
Flexweave (PVC coated 50 mtrs) £50.00 P&P £7.50
Special 200mtr roll PVC coated flexweave £150.00 P&P £10.00
Copper plated earth rod (4ft) £14.99 P&P £8.00
Copper plated earth rod (4ft) + earth wire £24.99 P&P £8.00
New RF grounding wire (10m pack) PVC coated £14.99 P&P £5

METALWORK & BITS

(Del Phone)

2" mast-floor base plate £14.99
6" stand off brackets (no U-bolts) £8.99
9" stand off brackets (no U-bolts) £10.99
12" T & K brackets (pair) £18.99
18" T & K brackets (pair) £22.99
24" T & K brackets (pair) £26.99
U-bolts (1.5" or 2") each £1.50
8mm screw bolt wall fixings £1.70
8-nut universal clamp (2" to 2") £7.99
2" extra long U-bolt/clamp £5.50
2" crossover plate with U-bolts £14.99
15" long (2") sleeve joiner £18.99
3-way guy ring £5.99
4-way guy ring £6.99
Heavy duty guy kit (wire clamp, etc.) £39.99
Set of 3 powder coated heavy duty fixing spikes (~0.7m long) £29.99
30m pack (4.4m) 480kg B/F nylon guy £12.50
Roll of self-amalgamating tape £7.99
Nylon dog bone insulators £1.00
Very large nylon insulators £2.00
PL-259 (small of large entry) £1.50
N-type plugs (high quality) £4.50
1 1/4" 6 foot ally poles £13.00
1 1/4" 6 foot "cranked" ally pole £14.99



David Butler's

vhf dxe

Share your news, views and reports with fellow readers. Reports to David by the last Saturday of each month please.

This month David Butler G4ASR reports that, although propagation was particularly poor during February, a world record was achieved on the 70MHz band.

How I wish we were a year or two nearer to Sun Spot maximum (slated for around 2011-2012) because then I could have reported a multitude of v.h.f. auroral openings, trans-equatorial openings and F2-layer propagation to far flung corners of the Earth! But we're not a year closer – and there's nothing like that to report about! Apart from signals being scattered off meteor trails and the Moon, nothing else was reported during February on the 50MHz or 70MHz bands. However, it

must be mentioned that one of the contacts on the 70MHz band was very much a special one.

It was a pretty similar situation on the 144MHz band with hardly any DX being reported apart from daily meteor scatter contacts – and even these were of poor quality during February. A brief 144MHz tropospheric (tropo) path to Spain was reported during the month but precious little else. The opening to Spain occurred during the evening of February 27 when a number of UK operators reported working the stations of EA1EBJ (IN73), EA1FDI (IN53) and EA1MX (IN73). **Jose Dubreuil EA1MX** mentioned that conditions were particularly good between 1800-2130UTC with s.s.b. contacts being made with many stations that included G0NCE (JO01), G4DEZ (JO03), G4RRA (IO80), M5BFL (IO91), G6HIE (IO90),

G8ZVZ (IO82), GD8EXI (IO74) and GJ7DNI (IN89).

Ian Collins G8ZVZ (Herefordshire IO82) describes himself as a seasonal Amateur – only becoming active between the equinoxes! Running 100W into a 17-element Tonna Yagi he was very pleased to contact EA1MX for a new country. Ian is also active on the 50MHz band with 100W and a 5-element Yagi and mentions looking forward to the summer Sporadic-season.

The 70MHz Band Activity

Now I'll turn to news of yet more international activity on the 70MHz band. **Hans Fischer DL8PM** (Germany JO30) reports that he has again received permission to operate on the 70MHz band. Using the experimental callsign **DI2PM** he is authorised to operate on a spot frequency of



Fig. 1: The 70MHz antennas at the QTH of Andy Kissack GD0TEP

David Butler G4ASR

Yew Tree Cottage
Lower Maescoed
Herefordshire HR2 0HP
Tel: (01873) 860679
E-mail: g4asr@btinternet.com

69.950MHz between March 1st to July 31st 2009. (UK operators will need to operate split-frequency to contact the German station who is active on c.w., s.s.b. and JT6M digital mode.)

The Austrian Society (OVSV) has announced that they have received permission to operate an experimental radio beacon on 70.045MHz that will use the callsign **OE5QL**. The beacon will be operational between June 1st to August 31st 2009 with timed transmissions between 0400-1945UTC. Each sequence lasts for 2-minutes on the hour and every 15-minutes past the hour, e.g. 1000-1002, 1015-1017, 1030-1032 and 1045-1047UTC. The transmitter power, into a vertical half-wave antenna, is 1W during the first minute of each sequence and 5W during the second minute of the sequence. The Austrian Post and Telecommunication agency (PTT) has mentioned that if the beacon does not interfere with services outside of Austria, an extension is possible after August 2009.

Earth-Moon-Earth

During Sun Spot minimum the geomagnetic field is generally quiet with little disturbance to ionospheric conditions. It is during this period of relative quiet that conditions are ideal for Earth-Moon-Earth (e.m.e.) activity and DX propagation on Top Band (1.8MHz) for that matter. The quiet conditions are particularly helpful at the lower end of v.h.f. spectrum where any significant pulse of solar activity can create havoc with the very weak signals scattered off the surface of the Moon.

We are currently edging out of Sun Spot minimum and the settled geomagnetic activity in recent months has opened the way for a number of excellent contacts to be made on the 50MHz band. Among those contacted via e.m.e. from the UK, have been the stations of HR9BFS (Honduras), JR6EXN (Japan), K2ZD, K6QXY, W1JJ and W7GJ (USA), OY3JE (Faroe Islands), V36M (Belize), VK4ABW (Australia) and ZL3NW (New Zealand).

Very few UK operators have actually made QSOs on the 50MHz band but the two leading exponents in this field are the stations of **Ken Osborne G4IGO** (Somerset IO80) and **Ian Williams M0BCG / G5WQ** (Wiltshire IO91).

Ken runs a steerable system that can be driven in both azimuth and elevation. He is currently using two long-boom Yagis bayed apart in the horizontal plane rather than stacked one above the other. This makes it easier for elevation control but necessitates the use of a glass-fibre supporting boom so there's no interaction with the horizontal parasitic elements.

Ian, on the other hand, is using a fully steerable four-Yagi array mounted on an aluminium H-frame. This arrangement makes for a nice balanced array but it's also very big! On the receive side he has built a three-way air-spaced divider that feeds the antenna signal to three separate transceivers each with an associated computer to process the weak JT65A e.m.e. transmissions.

Some stations such as G3FPQ, G4PCI, G4RGK, GM4WJA, MM0AMW and MW0HNV have made 50MHz e.m.e. contacts using only a single Yagi. This is quite difficult if the antenna cannot be elevated as contacts can only be made at moonrise or moonset. However, providing the horizon is uncluttered and there's a large station at the other end of the path, 50MHz contacts can be achieved.

Moonbounce On 70MHz

Having noticed that it is possible to make e.m.e. contacts on the 50MHz band some operators wondered if it was possible to achieve similar results on the 70MHz band. In January 2006 the stations of GD0TEP and GD4GNH carried out a series of tests to see if any echoes could be received when running at the meagre UK legal power limit of 160W output.

A few simple calculations showed that the conventional use of c.w.

would have been futile so it was decided that the tests would use JT65A modulation. This WSJT digital protocol is intended for Amateur Radio communication with extremely weak signals and is designed specifically to optimise e.m.e. contacts on the v.h.f. bands. The JT65 program includes error-correcting features that make it very robust, even with signals that are far too weak to be heard.

The program operates on any PC or laptop that can run *Windows 98, XP* or other operating systems. The PC must contain a soundcard as this is used for the modulating and demodulating process although some stations use an external soundcard as this can often improve the transmitted signal and the received decode results. Transmit messages conforming to the IARU Region-1 e.m.e. procedures are pre-loaded into the computer and received messages, such as callsigns and reports, are read from the monitor screen.

Initial tests were carried out at the station of **Andy Kissack GD0TEP** (Isle of Man IO74) running 160W output into an array of two 8-element Yagis (**Fig. 1**). The antennas were stacked 5m apart with the bottom Yagi approximately 13m above the ground. Separate feed-lines were used consisting of Andrew LDF4-50 Heliax on transmit and RG-213 coaxial cable on receive. These were integrated into a Spectrum Communications transverter driven at 28MHz by an Icom IC-756PRO transceiver.

Andy's results were extremely encouraging with a WSJT signal to noise ratio of -29dB in a 2500Hz bandwidth. This equates to something like a 65% synchronised copy of transmitted messages. The echo test was then conducted at a power output level of 80W output and JT65A signals were still occasionally received.

The tests were carried out at moonrise and although the two 8-element Yagis possess a fair amount of forward gain it was clear that the site possesses considerable ground gain. The location on the Isle of Man

is somewhat down from the top of a hill and the ground then slopes right down to the coast 6km away. The view is completely uncluttered and contributes around 5–6dB of ground gain at moonrise. Incidentally, ground gain varies considerably from location to location.

Houses, trees, hills and other obstructions in the direction of either moonrise or moonset will lower, or even eliminate, any additional gain that might be obtained. Andy mentions that his QTH is probably one of the best he could find for v.h.f. work as noise isn't normally a problem. When he turns the antenna system he can tell where the different towns are due to an increase in the noise floor. Between 90–200° degrees there's absolutely nothing and that's just in the right direction for the rising Moon.

The South African Connection

After the tests, in 2006, were completed Andy was then keen to find another suitably equipped station (circa 150W and two Yagis) to try for a two-way 70MHz e.m.e. contact. Three years later the search was over! Since 2004 the station of **Willem Badenhorst ZS6WAB** (South Africa KG46) has been making JT65 contacts via the Moon on the 50MHz, 144MHz and 430MHz bands. Recently he became active on the 70MHz band with a Russian GS35B high- μ (high gain) triode amplifier and a pair of stacked 10-element long Yagis with full elevation control. It's quite a potent station!

Andy GD0TEP was obviously very keen to make a 70MHz e.m.e. contact with the South African station. The equipment he used was the same as before, 160W to 2 x 8-element Yagis, but with the addition of an LNA Technology low-noise pre-amplifier fitted at the antenna feed-point.

The first e.m.e. attempt was scheduled for the evening of Friday 13th February. Maybe he should have noted the date before trying for, as luck would have it, the masthead transmit/receive relay failed due to water ingress! The second attempt commenced at 0038UTC on Sunday February 15th just as the Moon was rising. Andy then sat there for almost an hour waiting to hear signals from the station of ZS6WAB but nothing was received at all. Not even an echo

at the end of each of his transmit periods.

Was the moon too far south? Or had he missed that 'sweet spot' found back in 2006? Then suddenly at 0134UTC, Andy received his first tail-end echo and conditions started to look somewhat better. The Moon was now at 6° above the horizon and the ground gain was just starting to enhance both the transmitted and received signals. During the following minute periods, both callsigns and a report were received, as shown in **Fig. 2**, a screen-shot from the *WSJT* program as received by GD0TEP.

Confirmation reports, 'Rogers' (RRR) and '73' were then received and at 0135UTC the Worlds first 70MHz e.m.e. contact between the Isle of Man and South Africa was completed. A tremendous result that I'm sure will lead the way for further trans-continental QSOs. Congratulations to

both GD0TEP and ZS6WAB for this impressive contact!

Deadlines

That's it again for this month. The summer Sporadic-E season will soon be upon us. The 50MHz Sp-E season usually starts around the middle of April and continues for four months until the end of August. The 70MHz season often starts towards the end of April continuing well into August. You can expect daily opening on both bands during the months of May, June and July. So make sure that your v.h.f. station is working perfectly, especially the antennas, feeders and rotators.

When you do hear or work any DX stations on the v.h.f., u.h.f. or microwave bands then please send me your reports – or any other news – to reach me before the last Saturday of the month.

73 David G4ASR

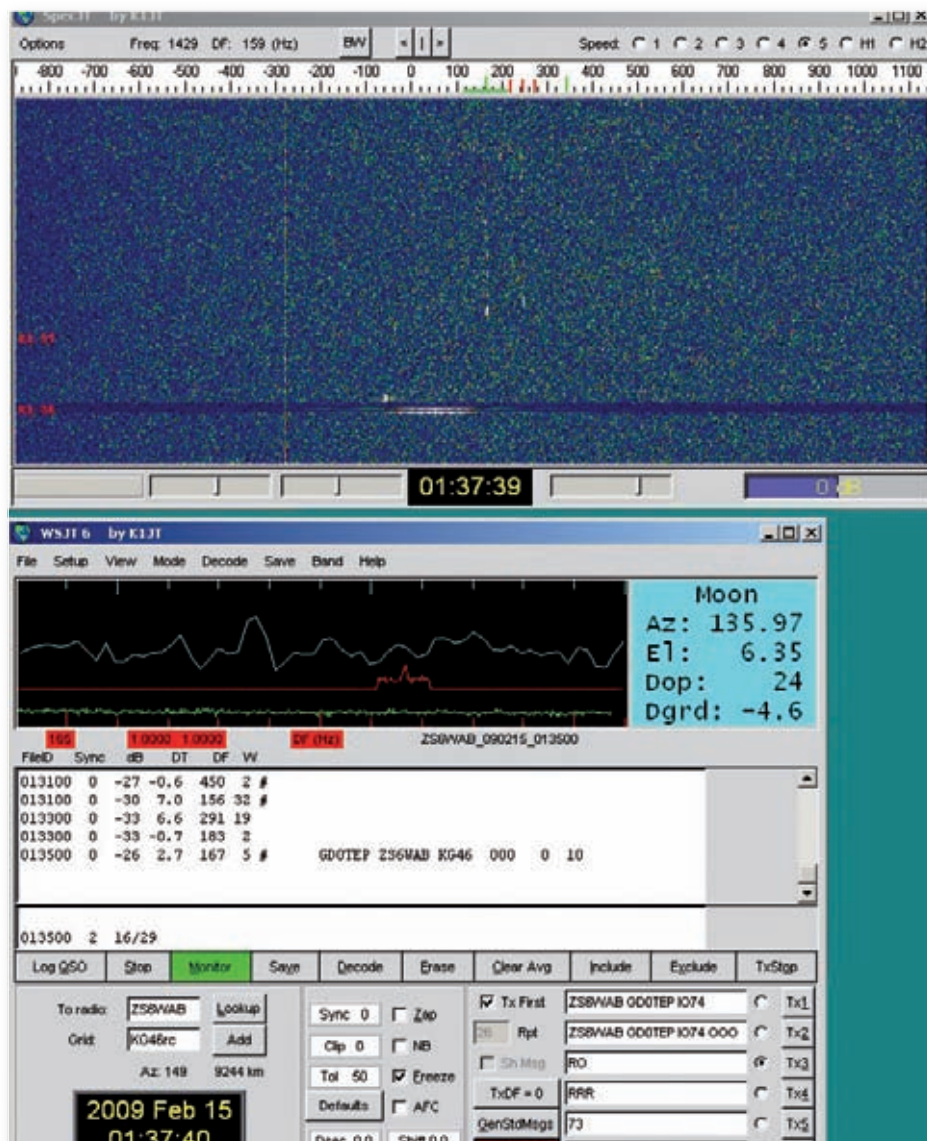


Fig. 2: The 70MHz Signal Report from the station of Willem Badenhorst ZS6WAB



Colin Redwood's

what next?

Colin Redwood G6MXL explains what you need to do to start winning awards for having worked stations.

Having spent the past four months looking at data modes, it's time for a change! This month I shall be looking at just some of the awards that you can gain. Various organisations offer awards to Radio Amateurs that have made contacts that meet the criteria of the award. Often there's a small payment you have to make to cover the costs.

When you receive the award, which is often a certificate that can be framed and put on the shack wall, although occasionally, the award is some other memento. Some award schemes are world-wide, and a certificate for making contacts with 100 countries (DXCC) is certainly an achievement worthy of recognition as it's not easy to achieve. From world-wide to the other extreme, there are small-scale awards offered by local clubs for working perhaps 10 of their members.

The requirements that you should meet to be able to claim the awards vary in not only the number of contacts required but also the amount of 'proof of contact' that's required. The most prestigious awards generally require 'solid' proof of contact by means of QSL cards, or in some cases *Log Book of the World (LOTW)* entries.

Some award schemes will accept a certified log extract, which is a copy of the applicant's log book entries needed for the award, signed by an officer of the applicant's local Amateur Radio club. Other award schemes just take the applicant's word for it that they have met the criteria.

Rather than list the rules for many awards, I'll look at a few examples of awards that may appeal to readers who may perhaps never have applied for awards before. In doing so I will cover many of the principles associated with awards.

Log Of Contacts

The basic starting point for any application for an award is a detailed log of contacts. In addition you will probably want to keep records of

which countries, squares, etc., you have worked, on which band, and whether you have received a QSL card to confirm the contact. Without this amount of detail, you're unlikely to keep track of these things. In the 'old' days, Amateurs kept these records on sheets of paper. These days, computer databases and spreadsheets are used by many award chasers.

Going Overboard

It would be very easy to try to go overboard with awards. To start with, at least, it makes sense to work towards awards that you have reasonable likelihood of achieving. Most awards have a basic minimum, with additional awards or stickers to go on an existing certificate for further progress.

Read The Rules!

One thing that applies to all applications for awards without fail is: read the rules closely after reading up about the award and the scheme in general. The requirements vary from award to award. Anyone familiar with contest rules, will have a good idea of the complexity of some of the requirements. Where requirements

Colin Redwood G6MXL

PW Publishing Ltd.,
Arrowsmith Court,
Station Approach,
Broadstone,
Dorset BH18 8PW
E-mail: what.next@pwpublishing.ltd.uk

include countries, you need to be absolutely clear what constitutes a country for the purposes of the award in question.

Even the date of a contact can be important. For example contacts, made before January 1st 1993, with stations with callsigns that had the prefixes OK, OL or OM, count as contacts with Czechoslovakia. Whilst more recent contacts with callsigns prefixed OK or OL now count as contacts with the Czech Republic. Contacts with OM stations count as the Slovak Republic.

The RSGB Foundation Award

For those new to Amateur radio, the RSGB offers a Foundation Award (Fig. 1). Unlike most of the RSGB awards, it does not require QSL cards, but a log extract showing the relevant contacts



Fig 1: RSGB Foundation Award (courtesy of RSGB).

signed by a Foundation Instructor, an RSGB affiliated club official, or two other licensed Amateurs. The basic award is achieved by making contacts on any of the 50, 70, 144 and 432MHz bands.

Contacts on the 50 and 144MHz bands have one point value and contacts on the 70 and 432MHz bands, two points. A minimum of 50 points is needed to apply for the award. Each contact on the same band must be with a different Amateur. Contacts can be any combination of modes Morse, s.s.b., a.m., f.m.) and bands.

In common with nearly all awards, contacts through repeaters are not eligible for the award. As the name implies, this award is only available to holders of UK Foundation licences for contacts made during their first year of operation.

The RSGB 50MHz Award

One of the easiest RSGB awards is the 50MHz 2-Way Countries Award (Fig. 2). The basic requirements are confirmed contacts on the 50MHz band from 10 different countries. This means that QSL cards will be needed for each contact. Working 10 countries during the period from May to August on the 50MHz band is not difficult at all even with a basic station. There are often many sporadic-E (Sp-E) openings into Europe on this band.

With many countries in Europe having access to the 50MHz band, making the necessary contacts could be achieved quite easily in a few days operating. I would certainly recommend this award as a good starting place for all stations equipped for operation on the 50MHz band.

The harder part of claiming the award, will no doubt be waiting for the QSL cards, no matter whether direct or via the bureau, which are required for this award. Regular *WV?* readers will recall that I discussed QSL cards in the November 2008 issue of *PW*. Back numbers can be obtained from the *PW* offices in Broadstone.

The RSGB IARU Region 1 Award

For those who prefer h.f. band working, the RSGB also offer an IARU Region 1 award (Fig. 3). The basic requirement for this award requires contacts with stations in 40 countries across IARU Region 1 (Europe and Africa). Although this might sound



Fig 2: RSGB 50MHz 2-Way Countries Award (courtesy of RSGB).



Fig 3: RSGB IARU Region 1 Award (courtesy of RSGB).

a tough challenge, giving points away during a couple of the bigger international contests could quite quickly get the requisite contacts in the bag.

As with most RSGB awards, the challenge then is to get the QSL cards to confirm the contacts! If you are a bit impatient, you may prefer to QSL some of the contacts direct, rather than using the QSL bureau.

Full Details

Most RSGB awards are available to both RSGB members and non-members though members of the RSGB get a substantial reduction in the awards fees. Full details of all RSGB awards, the fees and how to

apply for them can be found in the *RSGB Yearbook* and on the RSGB Web site at www.rsgb.org/operating/awards.php

To get more information on the RSGBs awards, contact the Awards manager **John Dunnington G3LZQ** at **PO Box 36, Gilberdyke, HU15 2WX** or via E-mail to: johndunnington@johndunnington.karoo.co.uk using the subject text: 'RSGB Awards Certificate Information' please.

Worked All Britain

The Worked All Britain Awards (WAB) were founded in 1969 by the late **John Morris G3ABG** and are celebrating their 40th anniversary in 2009. These awards are mainly associated with geographic squares based on the

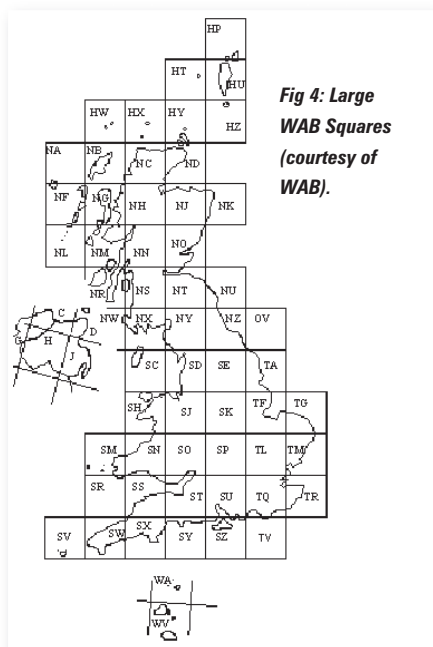


Fig 4: Large WAB Squares (courtesy of WAB).

		Easting (1st digit)												
		0	1	2	3	4	5	6	7	8	9	0		
Northing (2nd digit)	9	09	19	29	39	49	59	69	79	89	99	9	Northing (2nd digit)	9
	8	08	18	28	38	48	58	68	78	88	98	8		8
	7	07	17	27	37	47	57	67	77	87	97	7		7
	6	06	16	26	36	46	56	66	76	86	96	6		6
	5	05	15	25	35	45	55	65	75	85	95	5		5
	4	04	14	24	34	44	54	64	74	84	94	4		4
	3	03	13	23	33	43	53	63	73	83	93	3		3
	2	02	12	22	32	42	52	62	72	82	92	2		2
	1	01	11	21	31	41	51	61	71	81	91	1		1
	0	00	10	20	30	40	50	60	70	80	90	0		0
		Easting (1st digit)												

Fig 5: Small WAB Squares (courtesy of WAB).

(100x100km) National grid squares in the United Kingdom (Fig. 4). The 100km squares are known as large squares, which are then further subdivided into 100 smaller squares of 10 x 10km (Fig. 5).

The first digit gives the position on a horizontal scale and is read across the top or bottom of the map. The second digit gives the position on a vertical scale and is read from either side of the map. The smaller 10km squares (SY99 for instance) together with the country (e.g. England) define the basic WAB area.

Incidentally WAB areas used to be based on the smaller squares and county. The frequent changes to county boundaries and the introduction of unitary local authorities have meant that this approach has had to be dropped. By the way, the squares used for WAB are NOT the same as the Maidenhead squares that I described in the April 2008 *WN* column.

Joining WAB costs £6 for lifetime membership, and members each receive a WAB numbered book and supporting CDROMs. The CDROMs can be loaded onto your computer hard drive and used to help you keep track of your progress towards the various awards. There is also quarterly newsletter, which costs £4

per annum.

To participate in any WAB activity, readers will need to know their WAB area. To find this, refer to a sufficiently detailed Ordnance Survey Map of the area. There are thousands of WAB areas to try to work! The WAB have nets in which you can participate to exchange WAB areas. The main net frequency is 3.76MHz. Sometimes mobile stations will drive around the district giving an opportunity to work several neighbouring WAB areas in a few hours.

Please note, that QSL cards are not required for any of the WAB awards. They are open to all Radio Amateurs, even if they are outside the UK, using whatever mode and band they wish.

For readers starting out, the basic award (Fig. 6) is obtained by working 300 WAB squares on hf or 150 WAB squares on vhf. Alternatively readers may prefer to try for the Large Squares award (Fig 7) based on working the 100km x 100km large squares.

Other popular WAB awards are based on working members with their associated book numbers. Some WAB members obtain multiple books in order to help members achieve the awards quicker. There are also some special awards in 2009 to

celebrate WAB's 40th anniversary, including the Ruby Award which combines elements of many of the



Fig 6: The WAB Squares Aware Certificate (courtesy of WAB).



Fig 7: The WAB Large Squares Award Certificate (courtesy of WAB).

other WAB awards, which is free to WAB members.

Each year the WAB group donates a significant sum to charity from the proceeds of the income it receives from members applying for membership, books and awards. For more information on WAB have a look at their web site at www.worked-all-britain.co.uk/ or contact **Graham Taylor G4JFZ**, the membership secretary, at **1 Threshers Drive, Manor Farm Estate, Willenhall, WV12 4AN**.

Summits On The Air

As the name suggests, Summits on the Air (SOTA) awards are based on contacts with stations located on the tops of hills and mountains. You don't

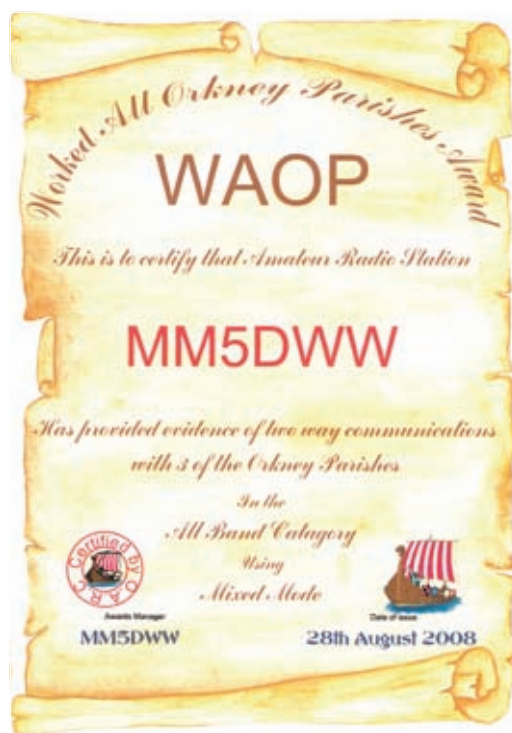


Fig 8: Parishes Award (courtesy Orkney Amateur Radio Club).

have to be on a Summit to participate. Summit chasers can operate from the warmth and comfort of their home shacks! Operation takes place on many different bands and modes, from h.f. to microwaves, from Morse to s.s.b. to f.m.. the scheme's not just confined to the UK. There is SOTA activity to be found in many countries.

Those Amateurs that operate from the tops of hills and mountains are known as activators. These activators can additionally participate in SOTA's activation awards. Some activators could best be described as mountaineers, some might be considered fell walkers, and others 'fair-weather' operators out for a gentle stroll up to a local hill-top from a nearby car park.

Each summit is assigned a number of points, based mainly on the difficulty of accessing it. Activating it qualifies for points towards the coveted Mountain Goat trophy. Not all hill-tops qualify as a summit. In the British Isles, a walk or climb of at least

150m up from the surrounding area, known as a col, is required.

An International SOTA Day is being held over the weekend of May 2nd/3rd 2009. There will be plenty of SOTA activity during the long bank-holiday weekend, so it will be an excellent opportunity to start chasing Summits on the Air activators!

No QSL cards are needed for the SOTA awards. Full details of the SOTA awards scheme can be found at www.sota.org.uk/. If you decide to activate the hills and mountains, please do so in safety!

Orkney Amateur Radio Club Awards

Having looked at some relatively well-known awards, I thought it would be good to look at an example of a local club award. I chose the Orkney Amateur

Radio Club's awards. The club offers two attractive awards, one for working a minimum of 3 of the 13 Orkney Island parishes (Fig 8), the other for working a minimum of 5 Orkney Islands (Fig 9).

Readers will no doubt be pleased to know that there are 36 islands that count towards the award! The full rules for the Orkney Amateur Radio Club's awards can be found at www.eu009.com/awardrules.htm

Hints and Tips

I think it is a good idea to submit a few extra contacts (with supporting QSL cards where needed), in case a contact is disallowed by the award manager. A common reason for disallowing a contact on 50MHz, used to be that, the station you'd made contact

with had broken licencing conditions by operating from a country or part of a country where 50MHz operation was not permitted. Thankfully, this has become a rare example, as many European countries now have access to the 50MHz band.

Cautionary Warnings

Whilst award chasing can be good fun, in my view it should also carry some cautionary warnings. Award chasing can be very addictive, to the point that some Amateurs miss out on sleep, etc. in order to work some rare country, square or whatever.

Some addicted award chasers seem to miss out on other aspects that the vast Amateur radio hobby has to offer by not making contacts with countries, squares, etc. already worked. Unfortunately a few award chasers become so desperate to make a particular contact, that they forget the common courtesies of Amateur radio. So I would urge readers to enjoy their award chasing, but keep it in perspective – Amateur Radio is a hobby after all!

I hope that readers will let me know how they get on with chasing awards.

Which awards are you working towards? Have you found ways of getting QSL cards back faster? Does your club offer an award? Why not let me have details and I'll try to include them in a future *WN*?



Fig 9: Islands Award (courtesy Orkney Amateur Radio Club).

Colin's waiting to hear from You!

I like to solve problems with anything to do with amateur radio! I can answer questions and publish my findings here for the benefit of all *PW* readers.

Remember the mains supply is potentially lethal. Unless you really know what you are doing, always pull the mains plug out, do not just switch off at the wall socket, when working on equipment.

COMET

HF antennas for any location

H422 4 Band Rotary Dipole

Features

- Frequency bands 7, 14, 21, 28 MHz
- Impedance 50 Ohms nominal
- Input connector SO239
- Power rating 1kW PEP
- Maximum wind speed 35m/sec
- Length 10.4m (straight), 7.4m (V)
- Weight 5.4kg
- Suitable mast dia 38-62mm

Put out a bigger signal with this NEW 4 Band trapped dipole. Use it as a fixed or rotary antenna. Rotate it to put the maximum signal where you need it and to reject interference from the sides. Use it as a Vee or straight dipole from as low as 10ft high! With high quality Japanese construction the H422 handles 1kW PEP with ease. It's ideal for home or portable operation.

- Includes 2kW Balun for optimum pattern and match to 50 Ohm coax.

£249.95 P&P £10 (UK Mainland only)

Protect your kit!

Lightning Arrestor CS400P
• DC- 500MHz 500W

£22.95
P&P £5

Comet H422 antenna being used in the Gambia (by Darren Collins G0TSM) when he operated as C52T

new COMET PRODUCTS

6 metre Beam Antennas

CA52HB2
2 element HB9CV Yagi 6.3dBi gain£79.95

CA52HB4
4 element Yagi 10.4dBi gain.....£119.00

Handheld Antennas

CH-501 SMA For 144/430 MHz.....£19.95

CH-701 SMA FMA 144/430/1200.....£19.95

BNC-750 HF Telescopic Whip
7-50 MHz with base loading£79.95

Baluns

CBL1000
1.8 - 56 MHz 1kW 1:1 balun.....£35.95

CBL2500
1.8 - 56 MHz 2.5kW 1:1 balun.....£44.95

Antenna Switch

CSW201G
1.5kW 2 Way Antenna Switch

£19.95

MCB-11
Drive on Mount for Antenna mast

£49.95

Antenna Tuners - NEW! High Quality Japanese Construction



CAT-1010W Tuner 3.5-50MHz.....£99.00

CAT-300300W HF Tuner 1.8-60MHz.....£189.00

CMX 2300 SWR / Power Meter 2 separate SWR/Power meters in one box!



- Meter 1 range - 1.8-200 MHz Power 30/300/3kW
- Meter 2 range - 140-525MHz Power 20/50/200 Watts

£149.95

CD300HV SWR / Power Meter



- Meter 1 range - 1.8-200 MHz 30/300/3kW
- Measures PEP

£129.00

CWA 1000 Trapped Dipole

- Operating bands: 80, 40, 20, 15, 10m
- Maximum power: 500W PEP
- Total length: 19.9m

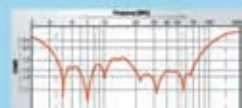
£99.95

CHA 250B Wide-Band Vertical Covers 80m to 6m with no ATU and no gaps

Features

- Mounts at any height - needs no radials
- Transmit 80m through to 6m
- Receive 2 MHz - 90 MHz
- Transmit VSWR better than 1.5:1 throughout
- Rated at 250W PEP
- Only 7.2m high, weighs a mere 3.2kg
- Great performance on all bands
- Very low visual impact & low wind resistance

The Comet CHA 250B vertical covers all the way from 80m through to 6m with a VSWR of less than 1.5:1. It's probably the easiest vertical to install, simply mounting on any pole and requiring no radials. If you are restricted for antenna installation space, the CHA-250B could be the perfect answer.



Our customers say:

"Mounted at about 25ft and I am now working stations on all the bands I never even heard before"
"During the high winds we had a few weeks ago no damage, if I could give it 10 out of 5 - I would!"

£299.95 P&P £10 (UK Mainland only)

More COMET Antennas & Accessories

HF/VHF/UHF Base Antennas	
GP1.....144/430 MHz 3.0 / 6.0dBi 1.25m	59.95
GP3.....144/430 MHz 4.5 / 7.2dBi 1.78m	69.95
GP6.....144/430 MHz 6.5 / 9.0dBi 3.07m	99.95
GP9.....144/430 MHz 8.5 / 11.9dBi 5.15m	139.00
GP15N.....50/144/430 MHz 3/6 2/8.6dBi 2.42m	99.95
GP98.....144/430/1200 MHz 2.94m long	139.00
VA250.....Compact HF antenna 3.5 - 70 MHz	299.95

Mobile Mag Mount Antennas	
M24M.....144/430MHz 1.7 / 4.17dBi 0.48m L	29.95
M72S.....144/430MHz 1.7 / 3.5 dBi 0.52m L	29.95

HF Mobile Whips PL259 Fitting	
CH57.....7MHz 1.6m long 250W	39.95
CH510.....10MHz 1.05m long 250W	29.95
CH514.....14MHz 0.95m long 250W	29.95
CH521.....21MHz 0.95m long 300W	39.95
CH528.....28MHz 0.95m long 300W	39.95
CH550.....50MHz 0.95m long 300W	39.95
HA035.....3.5MHz 1.13m long 120W	59.95
HR50.....50MHz 2.13m long 200W	49.95
UHV4.....28/50/144/430MHz 100/200W 1.39m L	79.95
UHV5.....7/21/50/144/430MHz 100/200W	79.95
UHV6.....7/21/28/50/144/430MHz 100/200W 1.9m L	99.95

VHF/UHF Mobile Whips PL259 Fitting	
CA285.....50/144MHz 1.32m long	29.95
CH1350.....28/50MHz 2.16m long 200W	49.95
SB14.....50/144/430MHz 1.08m long	39.95
SB15.....50/144MHz 1.53m long 120W	49.95
SB82.....144/430MHz 0.46m long 60W black	24.95
SB84.....144/430MHz 0.92m long 60W black	29.95
CS87500.....Super Beam mob whip 144/430MHz	49.95
CS87700.....Super Beam mob whip 144/430MHz	54.00
CS87900.....Super Beam mob whip 144/430MHz	59.00

Handy Antennas	
BNC-750.....BNC HF whip 7-50MHz TX/RX	79.95
CH32.....BNC 144/433/900MHz 45mm	19.95
CH99.....BNC TelWhip 70-1000MHz 195-1135mm L	14.95
CH816.....3.5/28/50MHz 74cm 10W/100W F7817	49.95
RX5.....144/430/900MHz 44cm L 8W SMA	29.95
RX7.....144/430/900MHz 44cm L 8W BNC	29.95
SH95.....144/430/1200MHz 37cm L 10W BNC	29.95
SMA3.....144/430/900MHz 25cm L 10W SMA	24.95
SMA99.....70-1000MHz 1.1mm max L Tele SMA	16.95
Mag Mounts SO239 fitting	
MG4M.....110mm dia. c/w 4m cable + PL259	29.95
CM5M.....110mm dia	24.00
MG5RM.....78mm dia. c/w 4m cable + PL259	29.50

Antenna Mounts	
R56.....Roof Rack Mount - adjustable	19.95
R5500.....Roof Rack Mount - deluxe adjustable	19.95
R5700.....Gutter Mount adjustable	19.95
R5730.....Trunk lip Mount adjustable	19.95
RMS.....Magnetically mounted Gutter Clamp	29.95
WS1M.....Window Mount deluxe SO239 plug	39.95
WS18.....Window Mount deluxe BNC plug	39.95
CMT650.....Radial extension Mount - for HF whip ant.	49.95
Car/Caravan Mounts	
MCB11.....Base pole & stand	52.95
CAUBI.....Trailer Mount - for HF whip antennas	39.00
Cable Assemblies	
3K054M.....4 metre cable SO239 to PL259 plug	24.50
HM10.....1 metre cable SO239 socket to BNC plug	12.95
304M.....4 metre cable SO239 to PL259 plug	29.50
Duplexers	
CF360A.....28/50MHz w/leads SO239 - PL259/PL259	39.95
CF416A.....144/430MHz w/leads SO239 PL259/PL259	34.95
CF416B.....144/430MHz w/leads SO239 PL259/N male	34.95
CF503C.....50/144MHz Sockets SO239 - PL259/PL259	44.95
CF530C.....50/144MHz w/leads SO239 - PL259/PL259	44.95
CF530A.....50/430MHz w/lead PL259 SO239/SO239	39.95
CF4160B.....144/430MHz Sockets SO239 PL259/PL259	32.95

Triplexers	
CFX431A.....144/430/1200MHz N socket/PL259/N/N	49.95
CFX514N.....50/144/430MHz SO239/PL259/PL259/N	49.95
Antenna Splitter	
CAS900.....2 way RX Splitter 1-900MHz	49.95
Low Pass Filters	
CF30H.....Low Pass Filter 32 MHz 2kW	119.95
CF30MR.....Low Pass Filter 32 MHz 1kW	39.95
CF30S.....Low Pass Filter 32 MHz 150 Watt	24.95
CF50MR.....Low Pass Filter 57 MHz 1kW	39.95
CF50S.....Low Pass Filter 57 MHz 150W	24.95
Line Noise Filters	
TRF15.....AC/DC line filter 15amp	49.95
TRF20.....AC/DC line filter 20amp	59.95
TRF30.....AC/DC line filter 30amp	69.95
Dummy Loads	
D21M.....Dummy Load DC - 600 MHz 100W PEP	36.95
DL1500CM.....DC - 600 MHz 1.5kW PEP SO239	189.95
DL1500CN.....DC - 600 MHz 1.5kW PEP 'N' Type	199.95
Earphones	
H20F.....Clip over earpiece - Yaesu Icom etc	15.95
H20K.....Clip over earpiece - Kenwood	14.95

COMET products are also stocked by Martin Lynch & RadioWorld

nevada radio

www.nevadaradio.co.uk

UK Importers & Distributors of COMET Antennas & Accessories

UNIT 1 FITZHERBERT SPUR FARLINGTON PORTSMOUTH PO6 1TT PHONE 023 9231 3090 EMAIL SALES@NEVADA.CO.UK FAX 023 9231 3091



Ben Nock's

valve & vintage

The military and non-Amateur Radio equipment on display indicates that Ben Nock G4BXD is on counter duty this month!



Fig. 1: The Swedish transmitter receiver with large tuning dial.

Once again it's my turn at manning the Valve & Vintage (V&V) shop and it's very nice to be here again. It's been quite a busy start to the year with shows and rallies and already several new items have been added to the 'Kidderminster Collection'. I'll start this session with something from the cold – but truly beautiful – part of northern Europe, which we collectively call Scandinavia.

Swedish Set

Whilst I was looking at one of the many web-based selling sites I noticed an interesting Swedish set, **Fig. 1**, being offered and decided it needed a new loving home, with much care and kindness here in Kidderminster! In fact, I'm a sucker for foreign-made sets, having played with British Second World War surplus equipment all through my Amateur Radio, life it's always nice to acquire examples from

foreign shores.

The designation of the Swedish set is "2 Watts Barbar Radiostation m/40-42", though a plate on the front of the equipment just states Model PM7D. Getting precise information on foreign sets can be quite hard – with translation from the original language causing some difficulties for example. Fortunately, there was help forthcoming and I received some useful information from **Thomas Hörstedt SM7DLF**, who kindly sent me copies of the handbook, which was dated October 1943.

In his correspondence Thomas told me, "I have some information that this radio station, it is a Belgian

radioset PM7D designed by Bell Telephone Manufacturing Company in Antwerpen (Antwerp). The radio set was manufacture in Sweden 1940 by two companies, Standard Radiofabrik (I think this is a close relative of ITT.) and SRA (Svenska Radio Aktiebolaget). The radio set was then modified in 1942." Thanks Thomas! Incidentally, Thomas also has a very nice web site at <http://gronradio.sm7dlf.se/>

The radio in question utilises a 5-valved receiver, single conversion superhet tuning 3.7 to 6.5MHz, receiving amplitude modulation (a.m.) or Morse (c.w.). The transmitter section uses two valves as an oscillator and output stage with a two valved modulator for a.m. use. Originally the set was powered with a 4.8V battery for the valve heaters and a 180V high tension (h.t.) battery, both carried in a separate case. The antenna was either a 2 to 4 metre rod or a wire antenna used in semi-fixed operations.

When the set arrived, I was naturally keen to try it out and I'd been told it was working on receive, although the transmitter was giving low output. So, connecting it to my bench power supplies I slowly applied

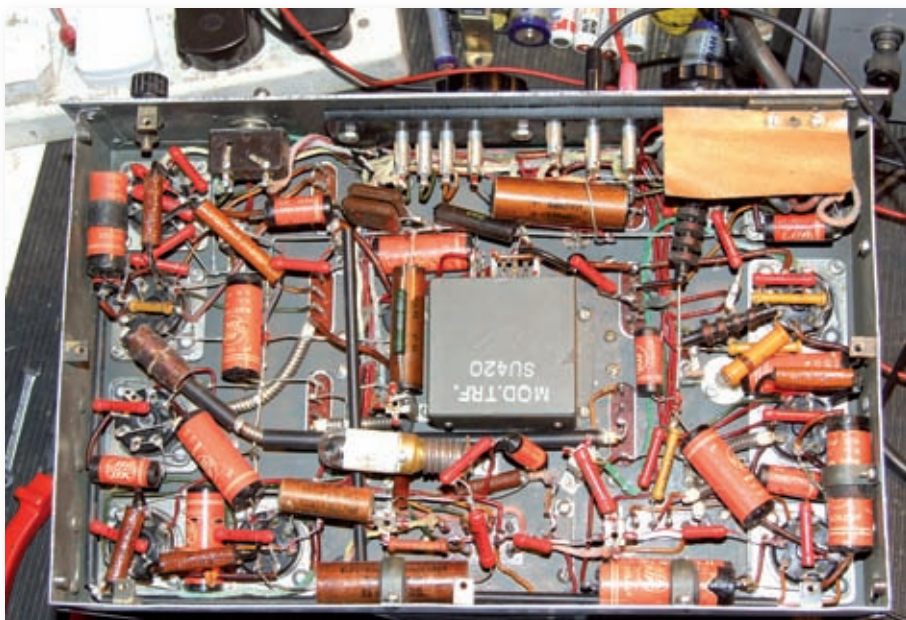


Fig. 2: Inside the Swedish set, many of the capacitors were changed.

Ben Nock G4BXD

62 Cobden Street
Kidderminster
Worcestershire DY11 6RP
E-mail: military1944@aol.com



Fig. 3: The Yaesu FT-70G transceiver – a very compact design.

voltage to the radio – and yes, the receiver did work but I couldn't hear any transmitted carrier on a monitor receiver.

The initial received signals were at a very poor level indeed, and when I started looking inside, Fig. 2, it was obvious what the problems were, as it showed many of the old de-coupling and coupling capacitors to be cracked and very sad looking. So, rather than test each one I decided to replace these before I went any further with the restoration.

After replacing 22 capacitors, I re-applied power and the receiver was then very lively. Tuning the receiver around the bands brought in Amateur Radio and domestic stations with ease, on nothing more than a short

Since refurbishing the unit, I've now enjoyed using it to have several a.m. and c.w. QSOs on 3.5MHz, running the set at 300mW. Additionally, with the help of a small amplifier, I've raised the r.f. output to a healthy 3W with very good reports, with comment that the "modulation was clear" and that the c.w. note was chirp free.

Note: I found a Dutch based website* connected to a Software Defined Radio (SDR) and whilst monitoring the frequency on my computer I can hear my own carrier as its being received in Holland. It's a very useful tool when there's no one around to QSO with.

*<http://websdr.ewi.utwente.nl:8901/websdr.html>

Military Yaesu

Time to mention an item that's certainly not valved – but definitely vintage nowadays! It comes about because I had read about the Yaesu

set in question some time ago, so it was with interest I heard of one for sale. The FT-70G, Fig. 3, is a small synthesised transceiver tuning 2 to 30MHz delivering single sideband (s.s.b.), c.w. and a.m. running about 12W output from a 12V battery. The production run of this equipment started life in the early 1980s.

When the set arrived it was immediately evident to me that the frequency selection buttons had been replaced. Unfortunately the replacement Binary Coded Decimal (b.c.d.) switches were larger than the originals and because of this they stand proud of the front of the set, a bracket had been fabricated to hold them. I managed to find a supplier in the UK who had the right type of switches, Fig. 4, so I purchased six and I fitted them to the set, so restoring its original appearance.

During the period when this transceiver was originally sold the range included a battery box, which attached to the rear of the radio, an antenna tuning unit (a.t.u.) and mains driven power supply. Indeed, there's still quite a bit of information on the web about the radio. It appears from



Fig. 4: The Frequency selection switches with mechanical up/down buttons.

length of wire as an antenna. However, I could still hear nothing from the transmitter – so I examined the set closely and found both the heater and antenna changeover relay contacts weren't making contact correctly. After these were adjusted and cleaned, I was pleased to see that – at last – a few milliwatts of output was showing on my power meter! A quick tweak on the transmitter alignment helped and very soon the output increased to about 300mW. (Incidentally, whilst aligning the unit I adjusted the set to tune from 3.5MHz upwards).



Fig. 5: The Japanese frequency meter.

messages I've received that this little transceiver even saw military use, being sold to the armies of several Third World countries and, so I am told, supplied by the USA to forces in Central America.

The radio itself is very nice and easy to use. It has a high and low power switch, metering for S-points, power output and battery voltage, break-in operation on c.w., and a variable noise blander. Frequency selection is achieved by b.c.d. push-switches with mechanical up and down buttons, controlling the frequency synthesiser. The weight of the radio is quoted as 3.5kg (7.7lb) without a battery and 5.8kg (12.8lb) with the battery attached.

I really wish I had owned this set when it was new and the accessories were easily obtainable! I think it certainly would have made an excellent portable set-up along with its antenna tuning unit (a.t.u.) and portable antenna that was also offered at the time the unit was on the market.

Far Eastern Delight

I recently acquired another item of Second World War Japanese equipment. When I saw it advertised it was stated as being either a receiver or transmitter, indeed the pictures supplied showed two beefy output valves inside, which gave it the appearance of a transmitter but I couldn't find any other information on the equipment at the time.

Unfortunately, when the set, **Fig. 5**, arrived, it was immediately obvious it was neither a receiver nor a transmitter. The two power valves, which were indeed inside the set, were in fact the wrong types, simply having the same base and inserted for show! Alongside each valve holder is a small plate clearly stating the valve types, so it should have been obvious to the seller that the wrong types were fitted.

When the small door on top of the case is open the valve data plates are clearly visible – as is a very large 1MHz crystal. It was quickly apparent that this was neither a receiver or transmitter – but some form of frequency meter, probably a heterodyne type frequency meter. Unfortunately, as the seller was on the other side of the world and adamant he had described the item correctly there was no chance of returning it.

Still, the set was from an interesting

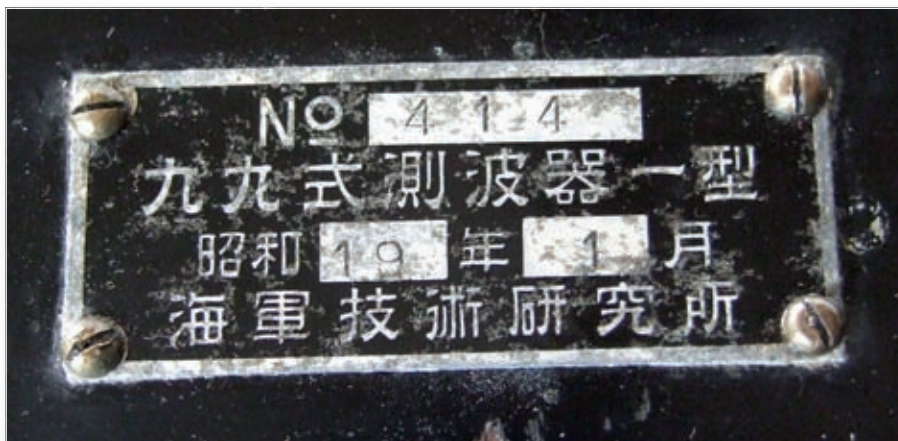


Fig. 6 The date plate showing 19, (1944) and 1 for January.

period in Japanese manufacture, the data plate, **Fig. 6**, shows the date code as 19 and a 1, which translates as January 1944. The set uses two UT-6F7 valves, a UY-38A and a UY-76A valve. Internally the construction and wiring is very neatly laid out, thick single core wire is used for all the frequency determining connection and very solid ceramic coil formers for the inductors.

Sockets on the rear of the set are marked as 6V and 100V. I measured these terminals with my Avo multimeter to ensure no short circuits were evident and then with the correct valves inserted, **Fig. 7**, applied power to the set. Using my spectrum analyser I could find no combination of switch positions that produced an indicated output signal – but with headphones connected I could hear various signals being received as the set was tuned across its range. It

might well be that the equipment has a fault and should produce an output signal and this is something I need to find out.

I still have to fully explore the set but amazingly while browsing the world wide web recently I saw the same set on a Japanese collectors web site which was described as being part of the system for a Japanese radar station. I now need to make contact with this collector and see what further information I can find out.

And Finally

Well that's about it for this stint at the V&V shop this time. I hope you have enjoyed the selection I have bought you and there are more pictures at www.qsl.net/g4bxd As always I can be contacted at my E-mail address military1944@aol.com Cheerio for now!

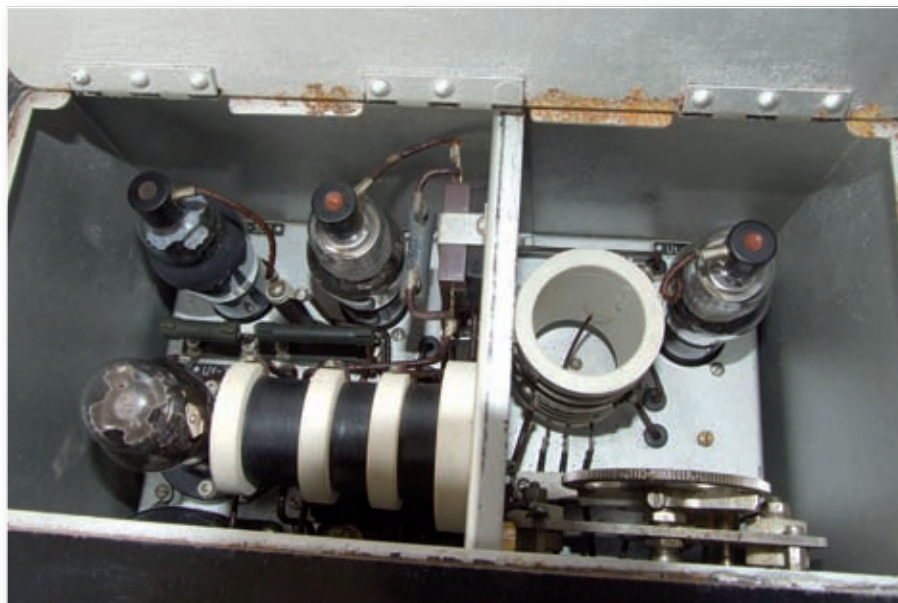


Fig 7: Inside the frequency meter, four valves are used in this design and Ben G4BXD is searching for more information on this unit.

SHORTWAVE SHOP Ltd

[UNDER NEW MANAGEMENT]

18 FAIRMILE ROAD, CHRISTCHURCH, DORSET BH23 2LJ

Phone/Fax 01202 490099 Website: <http://www.shortwave.co.uk>

Amateur



Airband



Antennas



Marine



Shortwave



Security



Suppliers of Alinco, AOR, bhi, Butternut, Comet, Crushcraft, Diamond, GRE, Hustler, Hi-Gain, ICOM, Kent, KENWOOD, JRC, MAXON, MFJ, Mirage, MOTOROLA, Opto, Pro-Am, Radio Works, SSB Electronics, SGC, Tokyo, Tonna, Vectronics, Watson, Worldspace, YAESU, Yupiteru.

Latest list of used equipment available at www.shortwave.co.uk

Sole distributors for **Wellbrook** low noise antennas.
The world's best broadband LW/MW/SW loop antenna.



Active Loop Antenna	ALA1530 (Alum or Polythene).....	£159.00
Active Loop Antenna	ALA1530P (Alum or Polythene)	£180.00
Active Loop Antenna	ALA100 (Large aperture).....	£139.00
Active Loop Antenna	ALA330S (High gain SW).....	£189.00
Active Loop Antenna	LA5030 (Indoor).....	£159.00

All prices shown exculde delivery

Visit www.wellbrook.uk.com for complete specifications and price list.

Call **01202 490099** the Shortwave Shop or e-mail sales@shortwave.co.uk to order

4 MILES FROM BOURNEMOUTH INTERNATIONAL AIRPORT ON B3073

300 YARDS FROM CHRISTCHURCH RAILWAY STATION, FORECOURT PARKING FOR DISABLED

PW PCB SERVICE

Colpitts Xtal Osc	WT2443	Sept 04	£3.00
Two Tone Osc	WT2613	Feb 05	£3.75
HF Bands LPF	-	Feb 05	£10.00
Mosfet HF RX Amp	WT2662	Mar 05.....	£4.00
Mosfet VHF RX Amp	WT2664	Mar 05.....	£4.00
Mosfet Mixer	WT2741	May 05	£4.00
PW Mellstock TX	WT2840	Oct 05	£14.25
PW Mellstock	WT2903	Nov 05	£9.25
Active Audio Filter	WST2902	Nov 05	£3.00
Audio IC Amp	WT2958	Mar 06.....	£3.00
Audio Filter & IC Amp	WT2959	Mar 06.....	£5.00
Portland VFO & Buffer 2		Mar 06.....	£5.00
Portland VFO & Buffer 1		May 06	£5.00
Crystal Osc - Mixer	WT2907	May 06	£5.10
Broadband Amp	WT3086	Oct 06	£6.25
7MHz DSB TX	WT3122c	Nov 06	£6.00
7MHz DSB RX		Jan 07	£4.50
160m VFO & Buffer	WT3341&2	Nov 07	£3.25
160m Receiver	WT3343	Nov 07	£4.30
160m Preselector	WT3344a	Mar 08.....	£3.50
Clara DC Receiver	WT3434	July 08.....	£5.00
Off-air Freq. Stand.	Spectrum	Sept 08.....	£11.50
LCR Bridge	Spectrum	Nov 08.....	£5.00
PSK31 Interface	Spectrum	Feb 09	£4.00

P&P £1.00 . Any quantity of boards.

Payment by Credit Card or Cheque or Postal Order.

Component kits also available for many of the above projects.

Spectrum Communications

12 Weatherbury Way, Dorchester, Dorset DT1 2EF

Tel 01305 262250

www.spectrumcomms.co.uk

We leave good advertising
to the professionals.

Here at the Advertising Standards Authority,
we judge ads on whether they're harmful, misleading,
or offensive. Not on whether they're funny, clever or
they look good. Which is just as well, really.

Telephone 020 7492 2222 www.asa.org.uk



Keeping advertising
standards high

KEEN ON KITS? THEN TRY KRC

KRC-1	4 BAND SUPERHET	£65.99
KRC-2	1-30MHZ REGEN RECEIVER	£54.99
KRC-4	BEGINNERS TRF RECEIVER	£24.99
KRC-5	80METER RECEIVER	£25.99
KRC-A-1	MORSE OSCILLATOR	£16.99
KRC-A-2	90VOLT HT BATTERY	£33.99
KRC-A-8	SPEAKER AMPLIFIER	£24.99
KRC-T-2	5 DIGIT FREQUENCY COUNTER	£65.99
KRC-X-1	7 - 14MHZ CW XMITTER	£69.99
KRC-X-2	80METER CW XMITTER	£33.99

visit our web site

<http://uk.geocities.com/kitradioco@btinternet.com/web.htm>

Or send SAE for full details. Mail order direct from:

Kit Radio Company, Unit 11 Marlborough Court, Westerham,
Kent. TN16 1EU. Tel no 01959 563023. P&P £4.00

Sycom

P. O. Box 148, Leatherhead
Surrey KT22 9YW

Phone 01372 372587

Fax 01372 361421

Robin G3NFV

Toroids, Ferrites and Toko

Try us
for:

- Resistors
- Capacitors
- Switches
- Semiconductors
- Cable connectors
- and much more

COMPONENTS AND AMATEUR
RADIO EQUIPMENT PURCHASED

E-mail: robin@sycomcomp.co.uk
Web: www.sycomcomp.co.uk



Carl Mason's

hf highlights

Share your news, views and reports with fellow readers. Reports to Carl by the 15th of each month please.

Carl Mason GW0VSW brings you news of one reader's successes with his home-built rig in this month's report

It's always good to get feedback on some of the items mentioned in the column and **Reg Woolley G8VHI** (formerly GW8VHI) in Nuneaton put pen to paper when he read about the two amateurs GW4CZ and GW5VX heard by Tony Tuite GW0NSR before he was licenced in the early 1950s. (*HF Highlights* in March) Reg says "GW4PCO in Briton Ferry was a founder member of the **Port Talbot Club** when meetings were held at the Dock Hotel in Briton Ferry. At 46, I am not as old as Tony but I have been told a lot about the history of the Port Talbot Club by many of the now, sadly deceased, members.

"I joined the club in the mid to late 1970s, when it had then moved to the

George was one of the people I worked many times from my home in Baglan when I lived in South Wales. He still holds the honour of being the first GW to work Gibraltar (ZB2VHF) on 70MHz back in November 1967."

Thanks for the information Reg. Maybe this additional information will jog the memories of some readers and we can shed more light on these two calls for Tony!

The DX News

The DX News this month is closer to home and begins in Italy with a call celebrating the 141st anniversary of the birth of **Paul Percy Harris** 1868-1947 who was a Chicago attorney (lawyer) best known for founding 'Rotary International' in 1905 – a club where men of different professions could gather in fellowship and an organization that now boasts well over one million members worldwide. Rotary Club '**Siracusa Monti Climiti**' in Sicily will be active on the 7, 14 and

21MHz bands as **IO9ROTA** between 19 April and 19 May. The operator will be Adriano Cutrufo IT9CCB (QSL via the bureau).

Another Italian station running until the end of the year, is **IA3GM** and it will be aired by Luigi Lenardon IV3LNQ until the December 31st. This call will commemorate the 100th anniversary of the Nobel Prize in physics awarded to Guglielmo Marconi and Karl Ferdinand Braun in 1909 for recognition of their contributions to the development of wireless telegraphy. Activity can be expected on most h.f. bands with QSLs via the bureau.

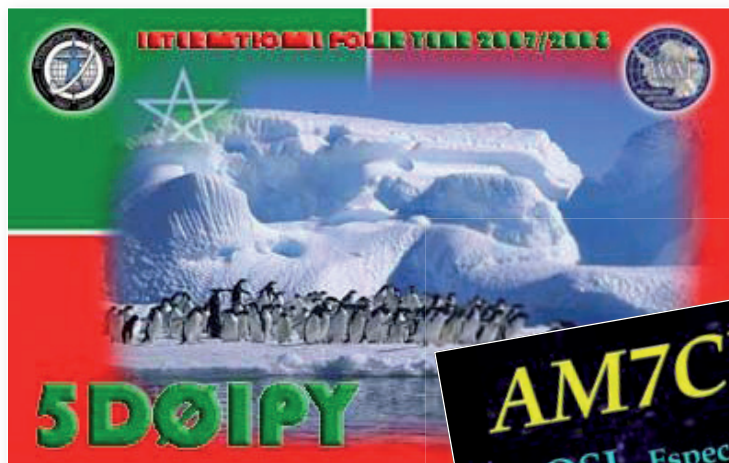
Active until the year's end, another call to be used by the **Amateur Radio Group of RAI**, the Italian public service broadcaster, will be active as **II2RAI** to celebrate two landmark anniversaries. The first is the 85th year since the first radio broadcast in October 1924 and the 55th year since the first television broadcast in January 1954. Your QSL cards should go via the bureau to IQ2RD and logbooks will be uploaded to LoTW.

The special event station **9A48IFATCA** will also be active until 31st December 31st to celebrate the 48th annual conference of the

International Federation of Air Traffic Controller's Associations held in Dubrovnik/Cavtat from April 20th to 24th. This federation is a worldwide organisation representing more than 50,000 Air Traffic Controllers in 130 countries. The QSL

route is via 9A4WW.

Finally, founded in 1969 by the late **John Morris G3ABG**, the **Worked All Britain Awards Group** celebrates



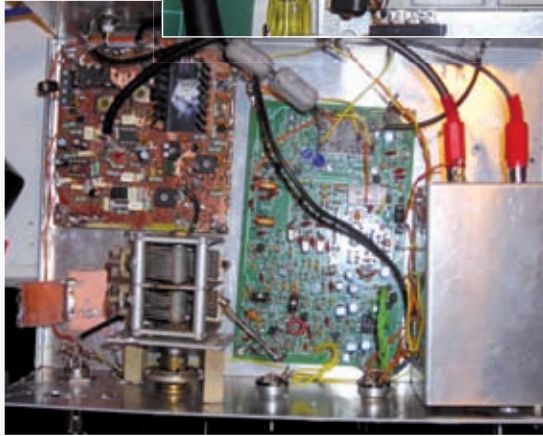
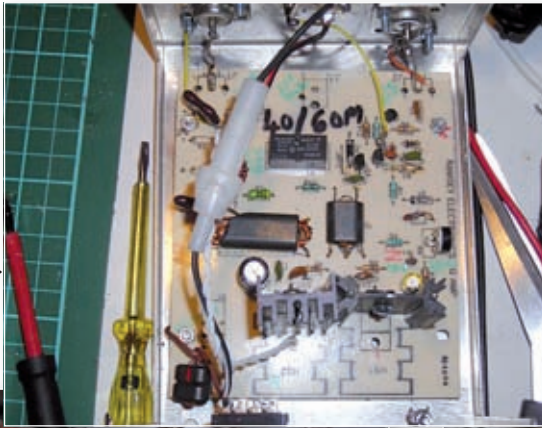
British Steel Company's Club House located near Margam Park. I am sure GW5VX used to be a local policeman but was already a silent key when I joined. As for GW4CZ, I have never heard of him. It cannot be Sid Roberts GW4NZ who lived in Cimla at this time who, if I remember correctly used to work in the local Co-operative store.

"So I suspect that Tony is talking about George GW4CG who eventually moved to Barnstable when he retired.



Carl Mason GWOVSW

2, Golwg-y-Bryn,
Woodland Road,
Skewen,
Neath Port Talbot,
SA10 6SP
Tel: 01792 501176
E-Mail: gw0vsw@btinternet.com



Not every HF Highlights reporter uses the latest in rig technology. Here are some views of the rig and station of Paul Morrison G0VHT!

its 40th anniversary with the special call **GB40WAB** will be aired for the entire anniversary year from different locations around the UK and from any of the seven British DXCC Entities. Any QSO will be automatically confirmed via the bureau and further information on the event and a relevant award can be found at **www.worked-all-britain.co.uk/**

Your Reports

On to your reports now and the first is from **Eric Masters G0KRT** in Worcester Park, Surrey who used his Kenwood TS-570D and 100W to a W3EDP antenna on 1.8MHz finding c.w. stations PI4COM (Netherlands) 1720, Radio Club Chomutov OK5W (Czech Republic) 2205 and OY9JD (Faroe Islands) EU-018 at 2316UTC.

Also on 1.8MHz c.w.l, **Ted Trowell G2HKU** on the Isle of Sheppey in Kent, used his Ten Tec Omni V at 70W into a G5RV, working T77C (San Marino) at 1100 followed by 9H1XT (Malta) EU-023, Ray Harbison G13PDN in Ballyclare, County Antrim and SM5CCE (Sweden) around 2200UTC.

Next comes **Paul Morrison G0VHT** in Silverstone, Northamptonshire who has been having a lot of fun on h.f. this month and says "I've finally put together my latest creation which I have entitled *The Phoenix DSB/SSB Transceiver*. Why the *Phoenix*? Well it's made up of old projects and scrap

boards or circuits made up from old *PW* magazines! All of these have never quite

worked properly first time around but I managed to connect a few of them together, add a few extras and collectively created a working transceiver.

"The *Phoenix* is not pretty I agree but after countless hours of testing, condemning or modifying, I have ended up with what I consider a work of art! The rig is quite unique as it consists of a BITX20 receiver (I never got the transmitter section to stop oscillating so, took that part out) joined with a *Brendon* (a **Tim Walford G3PCJ** design) d.s.b. transmitter. This did work on 3.5MHz but my v.f.o. failed miserably when I originally converted it to 14MHz.

"The d.s.b. transmitter now uses a separate home-brew 14MHz crystal VXO using four 14.318MHz crystals in parallel with a 70pF polyvaricon capacitor which tunes between 14.176 and 14.275MHz. These are linked together via switching relays producing a mighty one and an half Watts of d.s.b. output feeding an old and previously 'burnt out' 7MHz 10W amplifier. This has now been converted and brought to life with some new heat sinks and a couple of less than perfect coil rewinds.

"Given all of this, I'm amazed the thing works, as driving this 'Frankenstein' type rig requires a little patience and more than just a touch of operating skill. Remember, the TX

side of things is essentially a separate TX in the same case which uses a VXO to zero beat with the receiver v.f.o.! Thankfully both v.f.o. and VXO are quite stable, this helps. So there you go. It is loads of fun, a real joy to use and I have learnt a great deal on the way which can't be a bad thing. Nobody has yet worked out that I am transmitting both sidebands simultaneously!"

Thanks for the encouragement Paul! Paul then sent me his log from when – using the rig for the first time with a wire dipole – he worked SP4XQN (Poland), RA3TUT (European Russia), YL1XN (Latvia), LZ17ARDF (Bulgaria), OK2PVZ (Czech Republic), EW6GF (Belarus), EZ7GM (Turkmenistan) and YO3HKW (Romania).

As I put the column together Paul sent in an update and added "Would you believe it. I just got back in from a day out with the family, turned on the *Phoenix* home-brew rig and heard WX3B calling "CQ" at 1740UTC. I gave him a quick call seriously doubting any real chance of a contact. However, he replied just missing my prefix – which he copied on my second attempt and we managed a short but positive QSO."

Paul carried on "I then realised that my home-brew 10W amplifier was switched out and that I had somehow worked him with my 1.5W of d.s.b. Truly unbelievable! I subsequently looked up W3XB on QRZ.com and see that **Jim Nitzberg** WX3B in

Taneytown, Maryland has a dream station and antenna farm to match, see: www.selectsa.com/wx3b/ and his QSL card below. On reflection this QSO can be attributed to Jim's superb station, the grey-line propagation at the time as the light was just fading here and a touch of lady luck!"

After I had received Paul's update I E-mailed Jim myself and had a reply by return. He said "I am glad to have made the contact with Paul. The QSO was a remarkable achievement with such low power." Well done Paul. This just goes to show what Amateur Radio is all about!

Peter Leng ZL4TE (ex G0SVO) has now settled down in Cambridge in the Waikato, a couple of hours south of Auckland in New Zealand and begun setting up his station there. Using a Yaesu FT-1000MP Mark V 'barefoot' with a low G5RV he worked VK2LCD (Australia) OC-001 in Woodburn, New South Wales at 1037.

The 7MHz Band

On to 7MHz and Peter ZL4TE says, "One of the biggest things I have noticed since moving here is that most properties are bungalows making antenna height a bit of an issue! Mine is now temporarily lashed up just above the tiles and this has allowed me to begin operating on some bands. My initial finding on the band is that 7MHz is almost empty. All stations tend to listen out for ZL/VK calls and make every effort to work you." Peter's reported s.s.b. log included LU2FCB (Argentina) 0747, VK2IM (Australia) 0824 in Berkley Vale, NSW, PY2WC (Brazil) 0919 and JR1CFP (Japan) 1037UTC.

The log from **Owen Williams G0PHY** in Biggleswade, Bedfordshire shows one contact with TS7C (Tunisia) at 0815UTC using Yaesu FT-747 and 100W s.s.b. to a dipole while Ted G2HKU worked KP2/KZ5D (Virgin Islands) NA-106 and P40LE (Aruba) SA-036 and EA8CN (Canary Islands) around 2200UTC

The 5W QRP of Eric G0KRT found YU7AS (Serbia) 1648 using a Yaesu FT-817 and then switched to the Kenwood again and with



100W of s.s.b. worked HG6IAS (Hungary) 1652, 9A4MF (Croatia) 1653, EA8BWW (Canary Islands) AF-004 at 1751, IZ6BXZ (Italy) 1950, EB5EGO (Spain) 1951, SQ9DKX (Poland) 2001 and CT1CGX (Portugal) at 2021UTC.

In East Finchley, North London **Martin Addison 2E0MCA** used s.s.b. again logging DH1RK/M (Germany) 0724, I12V (Italy) 0825 run by ARI Como and commemorating Alessandro Volta who was an Italian physicist known for his pioneering work in electricity. Also worked were TP60CE (France) 1002, 9A2009VZ (Croatia) 1145, OE9XRV (Austria) 1608 and RD3ZV (European Russia) at 2114UTC using a FT-2000 and 50W to a G5RV antenna.

The 14MHz Band

Inspired by our Editor's March *Keylines*, **Tom Hutton G0HUT** in Farnborough, Hampshire decided to give PSK31 a go on the 14MHz band and set up a Tigertronics modem, installed *Digipan2* on his computer. Then, running 25W from a Yaesu FT-450AT, he worked UE3GIE (European Russia), S57NCP (Slovenia), HA6ZX (Hungary), ES3RM

(Estonia) and YU7NW (Serbia).

In Chelmsford, Essex **Martyn Medcalf M3VAM** managed 10W QRP contacts with UA1AQA (European Russia) 0920, CN89NY (Morocco) 0922 QSL via EA7FTR, AM7CE (Spain) 0925 a Special Callsign for 30th Anniversary of the Spanish Constitution

(The Spanish Magna Carta) QSL via EA7URM, S51ZZ (Slovenia) 1200, OH2XX (Finland) 1243, LZ2ZD (Bulgaria) 1455 using a Icom IC-746, SGC-237 auto tuner and half size G5RV antenna.

There was also one contact here for Owen G0PHY when he logged HI9/EA3WL (Dominican Republic) NA-096 using s.s.b. at 1237 while Martin 2E0MCA managed 5D0IPY (Morocco) at 1107, a special call for International Polar Year QSL via I0YKN, VA2TG (Canada) 1452, K2MO (USA) in Kings Park, New York at 2148 and CO6LC (Cuba) NA-015 at 2200UTC.

To finish off! You may remember that *PW* reader **Geoff Pendrick M5GAC** has operated from several of the Scottish Islands, the last for the Scout's Centenary in 2007 being the isle of Arran. This year Geoff has decided on a change and will be operating from Galloway on the West coast near Wigtown. He will be using the call **MM5GAC/P** from the 9th - 16th May on 3.5, 7 and 14MHz and concentrate on 3.5MHz in the early morning and late evening where he looks forward to working as many readers as possible. For those interested in working the Worked All Briton squares the locator will be NX45.

Signing Off

That's it for another month and once again there has been a lot to squeeze in. My thanks to all our reporters for their logs and to **Mauro Pregliasco I1JQJ/KB2TJM** editor of the 425 DX Newsletter for all the DX information. Until next time I wish you all good DX. **73 Carl GWOVSW**





Roger Cooke's

morse mode

Roger Cooke G3LDI shows that Morse can be a life-line to handicapped people.

Roger Cooke G3LDI

PW Publishing Ltd.,
Arrowsmith Court, Station Approach,
Broadstone, Dorset BH18 8PW
E-mail: roger@g3ldi.co.uk
Packet: g3ldi@gb7ldi.#35.gbr.eu

Time passes so quickly when there are so many contests going on! The RSGB CC (Club Cumulative) contests started a month early this year, and although one was not too bad, it was a real struggle in the others; propagation was awful! If you took part, don't get disillusioned, it will get better!

I have been spending some time on 1.8MHz, trying to get my DXCC squared away before this sunspot minimum goes away. It will be good next winter too however, but possibly not quite as good! I have managed to work some nice ones, XU, 9M, 3X, 5K0, XW1, HC2, FS5, 4S7, JA, VQ9, ZD8, 6W, but you do have to burn some midnight oil and I do have an inverted V dipole at 30m so that helps.

However, in working the DX on this band, my noise level ranges from S-5 to S-9 so, I have to choose the right days! Filtering helps too, and to aid my DX-ing I use all the filters in the transceiver, plus I have the Timewave 599X DSP filter as well. This really does help to bring the signal out of the noise. This type of filter is well worth considering if you are a keen c.w.operator **Fig 1**. Use the filter together with a good pair of headphones and it will make c.w. operating a real pleasure.

Morse Dead?

Who says Morse is dead? This story was recently brought to my attention. A 79-year-old woman who was almost completely paralysed after a fall has learned to talk to her son by tapping out Morse code with her thumb. **Sylvia Jones**, 79, from Swansea, suffered brain damage five years ago. However, she had learned Morse when she was young and it has obviously stayed with her. Her communication skills were developed by her son **Alan Jones** an ex-BBC technician who rigged up a system using an old margarine tub and shower curtain ring.

Alan had worked out how they could communicate again after sitting by her bedside for 16 weeks



Fig. 1.

as she recovered from a life-saving operation. Using this, his mother is able to knock out messages in code so they can communicate. He has also devised an electronic version of snakes and ladders, so his mother can play the board game with him. The full story might still be there so take a look at:

http://news.bbc.co.uk/1/hi/wales/south_west/7842858.stm

***Note:** This story was also featured in the PW News Pages (p10) of the March 2009 issue. Editor*

a licence elsewhere in Europe. The award itself, **Fig 2**, is available to any amateur who would like to apply for it and take the examination.

A master list of Approved Assessors and the speed of tests they are authorized to conduct will be maintained by Regional Managers for their respective areas. Approved Assessors may conduct tests to the next level down to their personal qualifications. A web site has been constructed with lots more information and detail so please take a look at it.

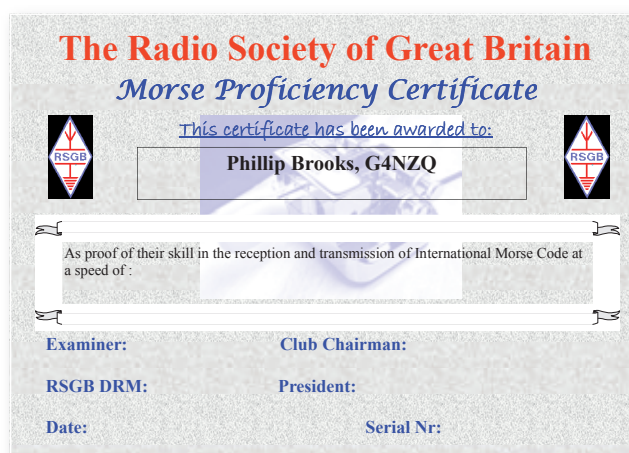


Fig. 2.

Morse & RSGB

As most of you know, the GB2CW schedule is very active and a lot of new licencees are learning Morse, always good to know. **Phillip Brooks G4NZQ** and myself have been working on the Morse Proficiency Certificate for some time now and it has at last come to fruition. It is just an award, something that can be gained by examination process, but will not have any relevance when it comes to proving ability when applying for

Some have already said that if the certificate will not be acceptable toward a licence abroad there is little point in achieving the award. This might be a valid point, but that has already been noted and this situation might change. Remember that the whole GB2CW/Morse scheme is evolving all the time.

Assessors are needed in most areas so if you are suitably qualified and would like to take part, please refer to the web site for more information.

We also, as usual, require more GB2CW volunteers too, so why not consider that? You would be contributing toward a very worthwhile scheme. Email me for more details on the GB2CW scheme.

E-mail: G3ldi@yahoo.co.uk
<http://www.rsgb.org/morse/>

73 and May the Morse be with you!

Roger, G3LDI



Harry Leeming's

in the shop

Harry Leeming G3LLL explores some testing techniques before turning to a faulty FT-902 on the bench.

Tracing a fault in an s.s.b. transmitter when the unit is completely dead, can be quite straightforward but it's much more difficult when the power output is just on the low side and you've no idea which stage is causing the problem. The ideal way would be to have a full set of signal readings, so that you could inject a quoted signal into the microphone socket, knowing that the rig should then produce a given output, and that a known signal voltage could be measured at each stage in-between.

Unfortunately, while some makers do attempt to include a 'level' chart with their service data, life usually isn't that simple, particularly as you're unlikely to have access to the kind of lab standard equipment that the manufacturers used to compile their figures. However having hopefully made yourself a diode probe, as shown in last month's column, we can now go through a rig, and look for causes of low output, using rather 'lower-tech' equipment.

A Simple Test

A common problem with rigs, such as the FT101/101ZD, or with many other rigs that use valves in the r.f. driver and output stages, is when the power

output is low. You wonder: are the valves faulty? Is the driver valve low? Is the alignment out? Or, is an earlier stage not generating enough output? But before throwing money at the problem – try operating the rig into a dummy load on several bands.

Please don't be tempted to make these tests into an antenna as they can sometimes (often) be totally meaningless. If you haven't got a dummy load, borrow or buy one. Quite apart from causing interference and generating confusion, carrying out adjustments into an antenna system is a very good way to blow up your p.a. stage. (Were I still in business selling p.a. valves, then I would highly recommend it!)

Correctly Tuned

In the s.s.b. mode, with the rig correctly tuned you should get a good indication on the Automatic Level Control (ALC) meter as you speak into the microphone. If you cannot get the ALC meter to kick when you speak and peak the pre-selector, you are short of drive, and so there is no point in swapping the p.a. valves. If you can get good ALC action you should get full power output if the p.a. stage itself is up to scratch.

Quite often you will get full power

Harry Leeming G3LLL

The Cedars
3a Wilson Grove
Heysham
Morecambe LA3 2PQ
Tel: (07901) 932763
E-mail: G3LLL@talktalk.net

and ALC action on some bands, but not on others. It is worth noting however that many rigs perform at their best on 3.5, 7 and 14MHz and so, it's possible that a rig that has only just enough drive to produce full output on these bands, will be down in output and ALC indication on 1.8, 21 and 28MHz. In this case it is probably a matter of alignment, but there is also a possibility that a replacement driver valve will help, swapping the p.a. valves will certainly not.

If the ALC is active, check the p.a. current and tuning in the tune or c.w. mode; if the current is low and all the voltages are okay, then it is time to purchase a new pair of output bottles. If however you can get full current when tuning up, and yet the output is low, before starting a major overhaul **get your power output meter checked out.** In the days of steam, long before industrial X-ray equipment was available, the railway companies



Fig. 1: The Microset 144MHz amplifier has a two position switch that allows different 'hang-times' to be set for its r.f. sensing switch-over circuitry. The short time is suitable for f.m. work, but a longer delay is more suitable for s.s.b. activity, when there's only an output when speaking.

**Got DSP in your radio?
Still got noise problems?
Get a bhi DSP Noise
Cancelling Product!**

NES10-2 MKII **NEIM1031 MKII**
Amplified DSP In-Line module
- Now with 20% more audio
- Improved rotary filter control
- Simply fits in-line with your speaker
£125.95 + £6 p&p

Amplified DSP noise cancelling speaker
You won't believe the difference! Only £87.95 + £6 p&p

Radio Mate
Compact Keypad for the Yaesu FT-817, FT-857 & FT-897, Only £87.95 + £6 p&p

ANEM MKII
Compact amplified in-line module - Easy to use
- Now with speaker/headphone select switch
£119.95 + p&p

PCB Modules to fit inside your radio or speaker
- Easy pushbutton control of DSP
- Instructions & fitting kits supplied

NEDSP1061-KBD
Low level audio module
£87.95 + £6 p&p

NEDSP1062-KBD
Amplified module
£87.95 + £6 p&p

CAT-MATE
Electronic "Y" splitter for Yaesu FT-817, FT-857 & FT-897, Built in modem
£48.95 + £4.95 p&p

Special offers on all DSP products

Special offers available until 31/05/09

Tel: 01444 870333
www.bhi-ltd.co.uk
bhi Ltd, P.O.Box 318, Burgess Hill, RH15 9NR

Terlin Thacker

JOEY For the backpacker
OB8 The original 8 band mobile
STEALTH For high vehicles
TRI-SPLIT The ultimate travel antenna
PERTH Excellent mobile performance
OUTREACH 2.9m long for ultimate performance on 160m to 10m, plus the **OUTREACH 500** for high power mobile

***** **NEW** *****

UNADILLA
ANTENNA BALUNS & TRAPS
ALL MODELS IN STOCK

Working power levels of 2 kW PEP or more on all items ensures long term reliability Wire, Beam & Transition Baluns 1:1 & 4:1 plus traps for all bands 10 to 80m including the new 60m version for 5.4MHz

For full details & prices including trap dipole dimensions - call or go to
www.adurcomms.co.uk
Adur Communications
01903 879526

WEB DIRECTORY

Nevada
E-mail: sales@nevada.co.uk
www.nevada.co.uk

Waters & Stanton
E-mail: sales@wsplc.com
www.wsplc.com

PW bookstore
E-mail: bookstore@pwpublishing.ltd.uk
www.pwpublishing.ltd.uk

PW subscriptions
E-mail: pw@websubscribe.co.uk
www.mysubcare.com

To advertise here call
0845 803 1979

J. BIRKETT
SUPPLIERS OF ELECTRONIC COMPONENTS

25 The Strait
Lincoln LN2 1JF
Tel: 01522 520767
Partners J.H.Birkett
J.L.Birkett

AIR SPACED VARIABLE CAPACITORS 350 + 400 + 25 + 25PF with double gear slow motion drive @ £3.50
LARGE TOGGLE SWITCHES 2 POLE ON OFF 10amp @ 3 for £2
FERRANTI TRANSISTORS ZTX108, ZTX213, ZTX450 @ 20 for £2
OLD BLACK KNOBS AS FITTED ON R1155 volume control @ 3 for £2
MAINS SOCKET AS USED ON BUSH DAC90 etc. @ £2.50 each
MINIATURE POLYESTER PC CAPACITORS 1000pf 2kv, 1000pf 1.6kv, 1500pf 1.6kv, 4700pf 600v, 0.01uf 400v, 0.01uf 1.6kv, 0.047uf 400v, 0.01uf 250v, 0.01uf 1.6kv, 0.047uf 400v, 0.1uf 250v, 0.15uf 400v, 0.68uf 250v all 10 for £1
MULLARD GERMANIUM DIODES OA10 @ 10 for £1
GERMANIUM TRANSISTORS AC153K, AC178K, AC187K, AC188K all 75p each
JACKSON BROS. 10pf air spaced variable capacitors 10pf @ £3.50
SMALL SAMP BATTERY CHARGER METERS @ £2.50
LOW POWER X BAND GUNN DIODES @ £1.80 each
MULLARD THERMISTORS VA1015 @ 3 for £1

AIR SPACED VARIABLE CAPACITORS 350 + 380pf £3.50, 4 for £10
MINIATURE ELECTROLYTICS 4.7uf 50v, 10uf 50v, 100uf 35v @ 20 for £1
YAXLEY ROTARY WAFER SWITCHES 2P 5 way 2 bank @ £1.50, 4pol 4 way @ £1.50
OLD CRYSTAL 10X TYPE 7010KHz @ 3 for £2
SILVER PLATED PRE SET AIR SPACED VARIABLE BUTTERFLY CAPACITOR 38 + 38pf @ 3 for £1
WIRE ENDED DIODES IN5801, 100piv 3 amp @ 8 for £1
2 HOLE SQUARE FERRITE BLOCKS @ 8 for £1
MULLARD MODULE LP1157 @ £2.50
EX M.O.D. RADIO CONTROL BOXES TR1985 etc @ £8, ARC52 @ £5 (PPES), PTR175 @ £10 (pp £5)
MULLARD POWER TRANSISTOR OC35 @ 5 for £1
PLESSEY PRE-FORMED CAPACITORS 0.02uf 300V.A.C. @ 8 for £1
RF POWER TRANSISTORS SD1487 100watt 12 volt 15 matched pairs, 3 pairs 250V.A.C. @ 5 for £2 CAPACITOR 15uf 2

MASTERCARD, ACCESS, SWITCH, BARCLAYCARD accepted.
P&P £2 under £10. Over Free, unless otherwise stated.

www.zyra.org.uk/birkett.htm

BOWOOD ELECTRONICS LTD
SUPPLIERS OF ELECTRONIC COMPONENTS

Visit our website and order on-line at
www.bowood-electronics.co.uk

or send 60p stamp for catalogue

E-mail: sales@bowood-electronics.co.uk

Contact name: Will Outram
Unit 10, Boythorpe Business Park, Dock Walk,
Boythorpe, Chesterfield S40 2QR
— Telephone 01246 200222 —

employed 'wheel tappers' to check for cracks in the carriage and engine wheels. They did this by tapping them with a hammer, and listening to the ring. The tale goes that one such tapper condemned dozens of wheels, before finding out that his hammer was cracked!

No Pronounced Dip

If there is plenty of p.a. current, but little output and no pronounced 'dip' of p.a. current when you try and tune up, you have a fault in the p.a. anode circuit. Common cases of this are that the anode choke has short-circuited turns, a blob of solder has dropped on the p.a. coil, or that a flash-over has occurred at a switch, tuning capacitor, or somewhere in the wiring.

If there is little output, but you can obtain a good dip, there is either some disconnection, such as a faulty change over relay, between the p.a. circuit and the antenna socket or there is a short on either the loading capacitor, a fixed capacitor, or the wiring.

These faults can sometimes be traced by careful examination, or burnt insulation can be traced by your nose, but be sure to switch off and discharge the high voltage supply before getting your nose too close, a charged capacitor with 900V remaining in it is not to be trifled with!

If the p.a. stage is okay, and you are just short of drive, it's time to look at the previous stage, the driver. Most

valved rigs use a 12BY7A or a 6GK6 as the driver valve, and **once this has been removed** you can check the amount of r.f. drive to its control grid pin connection at the valve holder. (If you do not remove the valve it is often impossible to get a true value for the reading, as the diode probe will tend to respond to the much larger signal in the output stage. Note that doing this with some all-valve transceivers may remove the heater voltage from an earlier valve if the heaters are in series. In this case do the test very quickly after removing the driver valve, so that the other valve does not have time to cool!)

Gain To Maximum

Switch off any speech processor, turn the microphone gain to maximum, switch to 14MHz, and whistle into the microphone with a single pure tone with a pitch of around 1 to 2kHz. If you now re-peak the pre-selector, (to allow for having removed the valve), then using the diode probe you should be able to get a peak reading of about 5V on the control grid connection.

The 5V peak level of drive seems to be standard on the FT200, FT400, FT401, FT101, FT101ZD, FT901, and most other rigs using these driver valves on 14MHz and below, with perhaps a little less drive on 28MHz. If there is much less than this the fault is before the driver valve. Once you have established that the fault is before the

driver and power amplifier stages, you will have to follow the signal through the earlier stages, to ascertain where the fault lies. More about this next month.

Linear Switching

In the June and July 2008 issue of *PW*, I mentioned that some modern rigs have a switching circuit fitted with a minute switching transistor that will only switch a small current. These transistors can be relied upon to 'blow' if a relay of any size is connected, and the circuit is really designed only to switch the matching linear amplifier marketed by the same manufacturer. Whilst I did suggest as to how an interface could be made up, this (judging by the E-mails I have received) has obviously worried some readers

Radio Frequency Switching

Any risk of causing damage can be overcome if you fit a linear that is r.f. switched, and you do not connect the relay terminals. This is quite common practice at v.h.f. and u.h.f. in amplifiers that were made by the Liverpool company Microwave Modules, and various imported units. This method of switching is ideal for f.m. operation providing that you leave a gap of about a second after you press the p.t.t. before you start speaking. With sideband operation it may cause a problem as the linear will not switch over to transmit until you actually speak. This action often results in your first word being lost; also the rig will 'hang-on' in the transmit mode for a second or so at the end of an over. The problem can be mitigated by careful adjustment of the r.f. switching sensitivity and delay controls on the linear, but one has to be careful that this does not cause the transmission to drop out between words.

Some linear amplifiers, such as the Microset 144MHz version shown, have a switch giving two alternative speeds of r.f. switching for s.s.b. and f.m. use, **Fig. 1**, but many users prefer to leave the switch in the s.s.b. position. When r.f. switching is being used, both stations need to avoid 'quick fire' transmissions, and it's advisable to get into the habit of adding a phrase such as a rather drawn out 'okay then', at the beginning of each transmission, just to be sure that nothing of importance is missed.

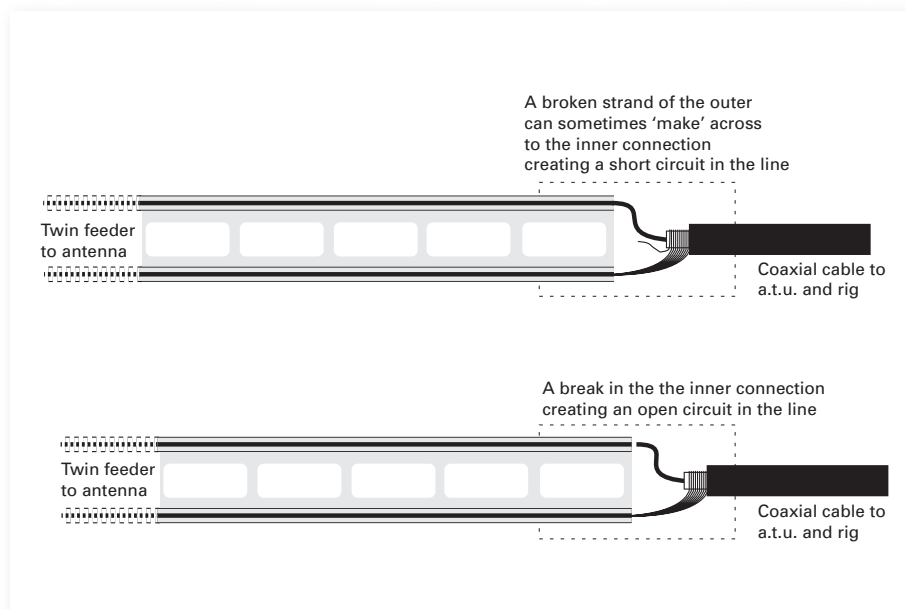


Fig. 2: On a typical G5RV antenna the coaxial cable to twin-feeder transition will be in a closed container so, making visual checks of the connections difficult. In the upper part of the diagram, the 'whisker' shorting across to the inner conductor, will make the rig 'deaf'. But depending on the band and length of the feeder used, an open circuit at the same point could have the same effect.



Harry lives in Heysham, Morecambe on the north west coast of England and he sent in a picture to show the view of the sea-front on just the sort of day to sit quietly with your hand-held radio, while admiring the view!

A Faulty FT902?

Albert sent me an E-mail about 'a fault with his FT902' in it he explained that he had an intermittent fault on receive. Suddenly the receiver would go almost dead, and S-meter readings would drop to zero. If he keyed the p.t.t. usually everything would be all right for a short while, and then the fault would occur again.

I suggested that while the receiver was misbehaving he tried switching on the crystal calibrator. He did this and reported that even when the receiver was dead the calibrator signal was 'S9' as normal. This seemed to indicate a possibility that the antenna change over relay was at fault, and so I suggested that he tried cleaning it, but this didn't help.

Hand In Pocket

I warned Albert to be very careful, to keep one hand in his pocket, and when the receiver was dead, to try poking in the antenna at the input to the r.f. board, and if he could get a good signal there, to work his way back via the change-over relay back to the antenna socket. He did this and then reported that when he was carrying out the test, he had found that the receiver came to life if he only connected the centre pin of the coaxial feeder, to the antenna socket

– but disappeared once he screwed the plug home.

As before however, if he screwed in the PL259 properly, and then keyed the microphone a couple of times, everything functioned normally. Fortunately I had had this complaint several times before. Many years ago when I first started doing radio repairs, it was by no means unusually for a customer to bring me a rig with a receiver that was supposed to be intermittently faulty, which I could find absolutely nothing wrong with, even after taking the rig home and trying it out on-the-air. This wasted a lot of my time, and didn't help the customer.

Temporary Antenna

As I gained experience I started suggesting that the owner ran out a 6–10m (20–30ft) length of wire as a temporary antenna and when the receiver 'played up' that he tried this. In many cases they then found that the rig came back to life, as the fault was not with the receiver, but was due to a bad connection, or a short circuit on the antenna system. Keying the microphone simply gave the bad connection a shock, and temporally cured the fault.

Many of these customers also noted, just as was the case with Albert's rig, that signals suddenly shot

up as the PL259 was being unscrewed, again when only the centre pin was connected.

I advised Albert that with only the centre pin connected the whole run of coaxial was acting like a long wire, and that his real problem was that somewhere along the line he had a bad connection or a short circuit (see **Fig. 2**). Albert lowered his G5RV antenna, remade all the connections, and swapped his patch leads. Though he never found out exactly what had caused the trouble, after the overhaul of his antenna system his intermittent fault had disappeared.

I'm sure that we've all said something, or given advice that in retrospect we wished we hadn't! This is bad enough when we are just speaking to our family, but rather more disastrous when we type it in an E-mail, or when we can't resist jumping in and adding a few comments on a country-wide 3.5MHz net. So, did you know that King Solomon had some advice for some '80m' net participants?

Proverbs 17.28, *"Even a fool when he holdeth his peace, is counted wise, and he that shuteth his lips is esteemed a man of understanding".*

Sounds as if I'd better have a good think before I type anything else!

See you next month.

Harry's waiting to hear from You!

I like to hear about problems with older equipment, particularly pre 1990 Yaesu rigs. Please E-mail me, (add some radio related term in the subject heading, to differentiate against spam), or write and enclose a stamped addressed envelope. Remember that electricity is dangerous, if you are not familiar with safety precautions you must never work on your equipment whilst it is plugged into the mains. (Switching off at the wall socket does not necessarily make equipment safe)

TRADERS TABLE

The equipment for sale on this page is secondhand or ex-demonstration

Disclaimer

Advertisements from traders for equipment that is illegal to possess, use or which cannot be licensed in the U.K, will not be accepted. While the publishers will give whatever assistance they can to readers or buyers having complaints, under no circumstance will the magazine accept liability for non-receipt of goods ordered, late delivery or faults in manufacture.

SHORTWAVE SHOP LTD

01202 490099

TRANSCIVERS

ICOM IC718 Ex Demo.....	£399
ICOM IC92D D'Star'.....	£275
ICOM IC 706 MkII.....	£395
ICOM T8 TriBand.....	£100
ICOM IC-701 inc Matching PSU.....	£295
KENWOOD TS 870 HF.....	£795
KENWOOD TS 480.....	£495
KENWOOD TS 790 + PS 52.....	POA
YAESU VX-170.....	£95
YAESU FT 225.....	£210
ALINCO DJ-V5.....	£200
ALINCO DJ-195.....	£100
ALINCO DJ-S11.....	£75
KENWOOD TR 751E.....	£225
ICOM M11 Marine H/H.....	£75

ICOM PMR 446x2Water Resist/w.charg.....	£200
STANDARD HX260E Marine H/H New.....	£99

RECEIVERS

ICOM IC-R10 with ACC.....	£190
YAESU FRG7700M.....	£225
YAESU VR500.....	£145
YAESU VR5000.....	£395
AOR AR8600 Mk II INC EM8200.....	£495
BEARCAT UBC 278 BASE EX DEM.....	£139
UNIDEN 180XLT.....	£99
AMI DIGI SAT RX ASR WS201.....	£129
SANGEAN AT818.....	£85
GRE PSR 225.....	£159
GRE PSR 216.....	£75
ALINCO DJX3.....	£70

ACCESSORIES

TOUCH SCREEN WEATHER STATION.....	£69
ICOM AH7000 DISCONE.....	£85
GLOBAL AT1000 ATU.....	£60
KPC-2 TNC.....	£85

PACCOMM TINY-2.....	£85
TNC 320.....	POA
AEA PK-88 PACKET CONTROLLER.....	£35
MFJ 1278B DATA CONTROLLER.....	£55
WATSON W25SM PSU.....	£59
DATONG ANF NOTCH FILTER.....	£55
DAIWA CN620A 1kw POWER/SWR.....	£65
KENWOOD PS31.....	£65
KENWOOD MC60.....	£95
MFJ 948 TUNER.....	£75
MFJ 432 VOICE KEYS.....	£175
MFJ 1020C ACTIVE ANT.....	£69
RAYCOM 35W AMP.....	£40
KENWOOD MB11 MOUNT.....	POA
MFJ 986 3k TUNER.....	£185
WELZ SP-220 SWR/PWR METER.....	£65
SAKA 8" TFT LCD TV EX DEM.....	£85
KENWOOD LF 30A LOW PASS FILTER.....	£30
ICOM BC133 (2 of) Drop In Charger	
inc PSU.....	OFFERS
YAESU FP757 PSU.....	POA

NEVADA

023-9231 3090

TRANSCEIVERS

ALINCO DJC7 HANDY TRANSCEIVER.....	£149
ICOM E90 4 BAND H/H TRANSCEIVER..	£199
ICOM 706MkII GI HF/6M /2/70.....	£499
KENWOOD V71E 2M/70CMS TRANS.....	£225
YAESU FTM10E DUAL BAND TRANS.....	£229
YAESU FT450 100W HF BASE TRANS.....	£479

RECEIVERS

AOR AR8600 COMMS RX.....	£449
--------------------------	------

HANDHELD SCANNERS

ALINCO DJX2 AM/FM/WFM RADIO.....	£79
ALINCO DJX3 ALL MODE SCANNER.....	£85

BEARCAT 68XLT HANDHELD SCANNER..	£55
BEARCAT 120XLT 100MEM AM/FM.....	£79
BEARCAT 180XLT H/HELD SCANNER.....	£109
BEARCAT 3000XLT AM/FM/WFM.....	£110
BEARCAT 860XLT SCANNER.....	£99
YUPITERU MVT7000 ALL MODE RX.....	£99.00

ACCESSORIES

AMDAT ADC60 FREQ. STD CLOCK.....	£99
BENCHER KEYS.....	£59
DIAMOND CX401 4WAY ANT SWITCH.....	£32
KENWOOD PS30M 20A POWER SUPPLY.....	£110
PAKRATT 232 DATA TERMINAL/LEADS.....	£99
PALSTAR AT1KD DIGITAL ATU.....	£225
PALSTAR PS04 2-4A POWER SUPPLY.....	£14
PALSTAR PS15 12-15A POWER SUPPLY..	£40
TIMESWAVE 59+ DIGITAL NOISE FILTER.....	£159
TOYO SA450 ANTENNA SWITCH.....	£17
UNIROSS CHARGER & BATTERIES.....	£12
YAESU MH35A2B SPEAKER MIC.....	£19

B-GRADE ITEMS

ALINCO DJX30 HANDHELD SCANNER....	£99
BEARCAT 92XLT HANDHELD SCANNER..	£89
BEARCAT 230XLT SCANNER.....	£79
BEARCAT 72XLT CLOSE CALL SCANNER	£69
BPL CELESTE WORLDSpace/FM RADIO.....	£29
ETON SOUND 102 DAB/FM W/iPod DOCK..	£99
GENUS GEO DAB/ALARM RADIO.....	£29
GOODMANS GPS280 DAB/CD STEREO ..	£69
MAYCOM AR108 AIRBAND/MARINE H/H.....	£54
NEVADA ND210E DAB RADIO.....	£39
NEVADA SINFONIE DAB (BLACK).....	£49
NEVADA SINFONIE DAB (WHITE).....	£49
NEVADA SINFONIE DAB (BLUE).....	£49
PERSTEL DR301 DAB/FM SD SLOT.....	£125
PERSTEL DR101 PERSONAL DAB.....	£49
PURE EVOKE 1XT DAB RADIO.....	£75
PURE TEMPUS 1XT DAB RADIO.....	£49
YAESU VR500 SCANNING RCVR.....	£159
ZETAGI HP1000 TRANSMATCH.....	£49

WATERS & STANTON

01702 206835

Uniden UBC-68XLT 66-512MHz (with gaps) FM Receiver 80Ch. 4 x AA or 12V DC	£59
Uniden UBC-60XLT 66-512MHz (with gaps) FM Hand Held Receiver 80Ch. 4 x AA cells	£55
Revex P-300E 12V 30A (max) Over Volts/Current Protected PSU	£79
WinRadio WR-G313i 9kHz-30MHz All Mode PCI Internal Computer Controlled Communications Receiver	£479
Kenwood IF-232C RS 232 Interface for Kenwood transceivers	£59
Microset PT-1012 13.5V 10A (12A max) Stabilized PSU with Cigar Lighter Socket	£49
Yaesu FP-700 13.5V Matching PSU with Extension Speaker	£89
West Mountain Radio RB/M8/C RigBlaster 8pin Cable Sound Card Data Interface	£49
Yaesu FT-726R 2m,70cm + 10m All Mode Base Transceiver 10W Mains	£399
Yaesu CT-58 Quadra Lead interface cable for FT-100	£19
SGC Speaker 52-20 Extension Speaker for SG-2000DSP	£49
Kenwood TS-570D HF All Mode Base Transceiver with Gen. Cov. + ATU & DSP filter 100W 12V	£569
Icom SP-21 Matching Extension Speaker	£59
Icom IC-A22E Airband H/Held + NAV/COM	£199
Timewave DSP-599 Audio Noise Reduction Unit	£149
Uniden UBC-120XLT 66-512MHz (with gaps) AM, FM Hand Held Receiver 100Ch. + NiCad	£65
Icom IC-A3E Airband H/Held + NAV/COM 50ch Alphanumeric & Headset Adapter	£180
Diamond SX-100 1.6-60MHZ SWR,PWR meter 3kW	£69
Kenwood TS-811E 70cm All Mode Base Transceiver 25W mains	£249
AOR AR-3000A 100kHz-2036MHz All Mode Communications Receiver 400Ch. 12V + psu	£499
Aiwa WR-A100 Analogue FM,MW & 7-band SW Portable Radio	£29
Eton Mini-300 AM, FM-stereo and 6 shortwave bands (49, 41, 31, 25, 19 and 16 meters)	£35
Roberts R-862 HF/VHF receiver AM/WFM 0.15-0.281 / 0.522-1.62 / 4.6-21.95 / 87.5-108 MHz 3 VDC (2*R6 / AA)	£49
AOR AR-3000A 100kHz-2036MHz All Mode Communications Receiver 400Ch. 12V + psu	£499
Yaesu VX-5R 6m,2m,70cm FM Micro Hand Held Transceiver 5W + Full CTCSS & Wide RX	£119
Kenwood SP-23 Matching Extension Speaker	£85
Maycom AR-108 108-180MHz AM,FM 99Ch. Mini Hand Held Receiver 2 x AA or 3V DC	£49
Alinco DJ-X 3 100kHz-1300MHz AM, FM, WFM Hand Held Receiver 700Ch + 8.33kHz step	£69
Steepletone SAB-2006 Compact LW/FM/AIR/MARINE PLL Receiver	£15
Diamond SX-400 140-525MHz 200W SWR,PWR meter	£49
Watson W-20SM 12V 20A (max) Switch Mode PSU	£49
Yaesu MH-31 Dynamic Microphone For FT-897	£21
WinRadio WR-G313i 9kHz-30MHz All Mode PCI	

WATERS & STANTON

01702 206835

Internal Computer Controlled Communications Receiver	£479
Yaesu FT-290R 2m All Mode Portable Transceiver 2.5W 12V or 9 x C cells	£149
Grundig YB-500 FM stereo /LW/MW/SW PLL synthesized Receiver Dual Radio data system	£35
AOR AR-7030 0-32MHz All Mode Communications Receiver 12V + PSU	£499
Watson CX-201 0-1GHz 2-Way Coax Switch with SO-239 1kW	£10
Yaesu FT-50R 2m/70cm FM Transceiver with Dual Display Wide RX	£129
West Mountain Radio RB/PR/CUSB RigBlaster "Professional" Data Interface + Diagnostic, Rig Control & H/phone socket & USB Lead	£189
AOR AR-3000A plus 100kHz-2036MHz Enhanced All Mode Communications Receiver 400Ch. 12V + psu	£529
Icom MFJ-903 6m ATU 200W SSB (100W FM)	£49
MFJ ARB-704 Universal Transceiver to Linear Amplifier Interface Unit	£45
Watson W-620 1.6-200, 118-530MHz SWR/PWR meter 200W	£69
Optoelectronics Optolinx TTL to RS-232 Interface (supports 4 devices)	£65
Yaesu FT-8500 2m,70cm FM Mobile Transceiver 50W,35W,Remote Head,Full Duplex	£149
Kenwood TM-731E VHF/UHF transceiver 30 memories. CTCSS. Twin RX, 11-16 VDC	£159
Kenwood MB-11 Mounting Brackets for the TM-731E AS NEW	£15
Kenwood MB-11 Mounting Brackets for the TM-731E AS NEW	£15
Hansen FS-710H 1.8-60MHZ SWR,PWR meter 2kW	£59
Revex D-24 1.6-150MHz & 400-460MHz Duplexer 1kW max	£19
Kenwood SP-31 Matching 2W 8ohm Extension Speaker with Filters	£59
Yaesu FT-290R 2m All Mode Portable Transceiver 2.5W 12V or 9 x C cells (missing carry strap)	£149
Yaesu VX-7R 6m,2m,70cm FM "Black" Transceiver + 5W, Full CTCSS, Wide RX & WIRES	£135
Icom IC-T81E 6m,2m,70cm & 23cm FM Transceiver wide RX & DTMF keypad	£199
Yaesu FT-290R II 2m All Mode Portable Transceiver 2.5W 8 x C cells or 12V	£169
Yaesu FL-2025 2m clip-on 25W Linear (for FT-290R II)	£99
Yaesu FC-707 3.5-30MHz 150W ATU with Dummy load	£99
Yaesu VX-2E 2m/70cm FM Ultra Compact Hand Held Transceiver + Full CTCSS & Wide RX	£75
Icom MB-58 Mounting bracket for the IC-207	£10
Adonis AM-308 Base Microphone with Amplifier 2x AA or from Mic Lead	£49
Yaesu FT-690R II 6m All Mode Portable Transceiver 2.5W 8 x C cells or 12V	£199
Yaesu FT-736R 2m,70cm All Mode Base Transceiver 25W mains or 12V	£449
Yaesu FC-20 1.8-30,50-54MHz Auto ATU 100W 50ohm	£149

RADIOWORLD

01922 414796

Kenwood TS-850S /AT	£699.00
Yaesu FT-767GX HF, 6m & 2m & 70cms transceiver	£699.00
Kenwood TS-850S /AT	£699.00
Yaesu FT-736R 2m/70cm Base Multimode	£599.00
Icom IC-746 HF/6m Transceiver	£589.00
Icom IC-746 HF/6m Transceiver	£589.00
Kenwood TS-570DG/E	£549.00
Kenwood TS-570DG/E	£549.00
Kenwood TS-570D HF Transceiver	£525.00
Kenwood TS-570D HF Transceiver	£525.00
Fairhaven RD-500VX Comm Rx	£499.00
AOR AR-8600MkII	£499.00
Yaesu FT-900/AT HF Transceiver	£475.00
Kenwood R-5000 Communications Receiver HF	£450.00
Yaesu FTV-1000 200 W Transverter	£450.00
Kenwood TS-690S HF -6m Transceiver	£449.00
Yaesu FT-100D Multiband Transceiver	£425.00
Kenwood TS-450S /AT HF Transceiver	£425.00
Kenwood TS-50S	£399.00
Yaesu FT-1012DmkIII HF Transceiver with FM fitted	£399.00
Kenwood TS-440SAT HF Transceiver	£399.00
Icom IC-R72 Receiver	£399.00
Icom IC-740 HF Transceiver	£389.00
Icom IC-718 HF All Band Transceiver	£389.00
Yaesu VR-5000 Scanning Receiver	£389.00
Yaesu FT-857D Multi-band Mobile	£389.00
Alinco DX-77E HF Transceiver	£379.00
Alinco DX-77E HF Transceiver	£379.00
Icom IC-718 HF Transceiver	£359.00
Yaesu FT-840 HF Transceiver	£329.00
Kenwood TM-255E 2m Mobile	£329.00
Kenwood TS-140S HF Transceiver	£299.00
Icom IC-735 HF all mode transceiver	£299.00
Yaesu FRG-100 HF Receiver	£299.00
AOR AR-8200Mk3 Scanner	£299.00
Kenwood TS-430S HF Transceiver 100W output	£275.00
Yaesu FT-757GX Mkl	£275.00
Kenwood TR-751E 2m Multi-mode transceiver	£275.00
Yaesu FT-690R II 6m transceiver	£275.00
Kenwood TR-751E VHF Transceiver	£275.00
PT-50A Microset 50A 13.5V PSU	£272.13
IC-R20 Icom Scanner Wideband	£259.95
Icom IC-R3 Hand held Scanner	£250.00
Icom IC-490E 70cms Mobile	£250.00
Yaesu FT-290MkII 2m Multi-mode transceiver	£250.00
Alinco DJ-X2000 Intelligent Receiver	£230.00
Trio (Kenwood) R-2000	£225.00
AOR 8200 Mk I	£220.00
Kenwood TR-9000 2m Multi mode	£220.00
Yaesu FT-480R 2m Transceiver	£220.00
Yaesu FV-101DM Digital Memory VFO	£199.00
Yaesu FTM-10E Transceiver	£199.00
FT-90R - Transceiver	£199.00
AOR AR-8000	£189.00
IC-E208 2m / 70cm FM Mobile	£189.00
Icom IC-R10 Hand held Scanner	£179.00
Kenwood VC-20 VHF Converter	£175.00
ICOM IC-2200H 144-146	£175.00
Kenwood AT-230 ATU	£169.00
Yaesu FC-30 Antenna Tuner Unit	£169.00
Kenwood TS-271E	£165.00
Icom IC-T8E	£159.00
PS-33T Kenwood 13.8V 20.5A PSU	£159.00
Yupiteru MVT-225	£159.00
Yaesu FT-790	£159.00
FT-290RMkI 2m Multi mode	£150.00
Yaesu VX-5R Tri-Band Handy	£149.00
MC-90 Desk Mic for DSP	£149.00
Daiwa CNA-1001	£149.00
VX-6E Yaesu 2m/70cm FM Dualba	£145.00
Kamtronics KAM Multimode TNC	£140.00
Alinco DJX30 Scanning Receiver 100KHz - 1.3GHz	£140.00
Yaesu FP-757HD Power Supply	£139.00
Yaesu FP-757HD Power Supply	£139.00
Icom PS-85 Icom 20A 13.8V Switch Mode	£130.00
B-108 2m Linear Amplifier	£129.00
Kenwood TH-G71E Dualband Handie	£129.00
AOR ARD9000 Digital Voice Interface	£129.00
DCI-145-2-H 2m Band Pass Filter	£129.00
Yupiteru MVT-7000	£129.00

Classified Ads

To advertise on this page see the booking form below. **DISCLAIMER** Some of the products offered for sale in advertisements in this magazine may have been obtained from abroad or from unauthorised sources. *Practical Wireless* advises readers contemplating mail order to enquire whether the products are suitable for use in the UK and have full after-sales back-up available. The publishers of *Practical Wireless* wish to point out that it is the responsibility of readers to ascertain the legality or otherwise of items offered for sale by advertisers in this magazine.

Aerials

GAREX ELECTRONICS VHF/ UHF accessories and aerials, PMR equipment and spares. Tel: 07714198374 www.garex.co.uk
PO Box 52, Exeter EX4 5FD.

G2DYM/G4CFY AERIALS Custom made low noise, low TVI dipoles and trap dipoles. PVC covered stranded wire and 75 ohm feeder properly made-off. Epoxy potted traps. Centre piece and dog-bone insulators included. Spectrum Communications. Tel 01305 262 250. www.spectrumcomms.co.uk

HELIKITE - THE WORLD'S HIGHEST ANTENNA Don't be stuck in the mud. Set your radio waves free! Ideal for QPR. Exclusively from Allsopp Helikites Ltd. Tel: 01725 518750.
E-Mail: helikites@yahoo.com
www.helikites.com
www.allsopphelikites.com

THE DMV PRO ANTENNA 80m to 6m, Choice of Delta loop, M dipole, Vertical dipole. *Practical Wireless* review Feb 09, "A remarkable portable antenna."
www.proantennas.co.uk Tel: 01489 789960

Whilst prices of goods shown in advertisements are correct at the time of going to press, readers are advised to check both prices and availability of goods with the advertiser before ordering from non-current issues of the magazine.

Valves

VALVES AND ALLIED COMPONENTS IN STOCK Ring for free list. Valves/ books/magazines wanted. Geoff Davies (Radio). Tel: 01788 574774.

TOP PRICES PAID

for all your valves, tubes, semi-conductors and ICs.

Langrex

Unit 4, Daux Road, Billingshurst,
W. Sussex RH14 9SJ

Tel: 01403 785600. Fax: 01403 785656.

www.langrex.co.uk

QSL cards

FULL COLOUR QSL CARDS for all your QSL needs. Shirts and caps with call signs and also ham cartoons by GW3COL. For free samples contact Chris M0DOL. E-mail: qslers@aol.com
P.O. Box 184 Northampton NN3 9JH.

For sale

Qtz x-tals 455kHz to 150MHz Std 10.106, 10.245, 10.7, 11.155MHz £1.00/unit. Callg 3.56, 7.030, 21.06, 28.06 £1.00/unit. 1.4MHz fltrs £14.00. 10.7MHz 10kHz fltrs £3.25 P&P £1.00 + VAT. IQ Electro 0208 391 0545. vincent@jakomin.fsnet.co.uk

REMEMBER THE PIRATE RADIO STATIONS? Caroline, London, City, Laser and RNI? Get a free pack of rare offshore radio stickers, postcards, photos when you subscribe for six months to *Radio Review*, the regular newsletter for the radio enthusiast. For a free sample issue and more information, send a medium size SAE to: *Radio Review*, Dept. PW, P.O. Box 46, Romford RM7 8AY.

Repairs

REPAIRS TO ALL AMATEUR AND VINTAGE Rx/Tx Cost effective service. Phone or call in for details. Kent Rigs, 52 Salisbury Road, Chatham, Kent ME4 5NN. Tel: 07903 023437.

RELIABLE REPAIRS for all amateur and vintage equipment. Professional service, reasonable rates. Tel: 01807 580376. E-mail: radiorepairs@btconnect.com

ORDER FORM FOR CLASSIFIED ADS PLEASE WRITE IN BLOCK CAPITALS

The prepaid rate for classified advertisements is 42 pence per word (minimum 12 words), box number 70p extra. Semi-display setting £13.90 per single column centimetre (minimum 3cm). Please add 15% VAT to the total. All cheques, postal orders, etc., to be made payable to PW Publishing Ltd. Advertisements, together with remittance, should be sent to the Classified Advertisement Dept., *Practical Wireless*, Arrowsmith Court, Station Approach, Broadstone, Dorset BH18 8PW. Tel: 0845 803 1979, Fax: 01202 659950.

Please insert this advertisement in the issue of *Practical Wireless* (if you do not specify an issue we will insert it in the next available issue of *PW*) for insertion/s. I enclose Cheque/P.O. for £..... (42p per word, 12 minimum, please add 15% VAT to total).

Name:

Address:

.....

.....

.....

Telephone No.:

Box Number @ 70p: Tick if appropriate ☐

Category heading:

Please photocopy this form or write on a separate sheet if you prefer

B.B. May '09

THE PW PUBLISHING RADIO BOOKSTORE

mail order...huge range in stock...fast delivery...

PASSPORT TO WORLD BAND RADIO 2009 EDITION

Passport to World Band Radio is a #1 seller. Each edition is welcomed by established and emerging readers alike, as Passport delivers in nearly 600 pages what world band listeners seek: Three-way guide to what's on from stations in dozens of countries: news, entertainment and opinion in English and other languages. All three formats: country-by-country, channel-by-channel, hour-by-hour.

Award-winning reviews of world band radios and accessories, with ratings of dozens of models from Sony, Grundig and others. Radios for emergencies, too.

Wealth of helpful how-to articles, along with a directory of station contacts, webcasts and a glossary. This annual title keeps readers coming back year after year, making it what one chain buyer calls a quiet bestseller. 592 pages



£17.50

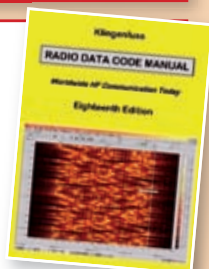
**NEW!
ORDER
NOW**

RADIO DATA CODE MANUAL

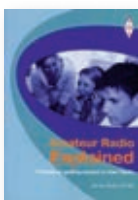
Worldwide HF Communication Today

The totally revised new edition has, again, more than 600 pages with 131 new graphics and screenshots.

This is the standard international reference book for COMINT ELINT MASINT SIGINT and considered indispensable for the identification of really exotic HF radio stations. This manual is used worldwide by intelligence and radio monitoring services for training and operation.



£40.00



AMATEUR RADIO EXPLAINED

Written by well-known author and radio amateur Ian Poole, G3YWX, this book provides the ideal introduction to the wonderful world of amateur radio. Amateur Radio Explained is for people first taking an interest in amateur radio and those ready to move on from Foundation level. Written in a readable and easy-to-understand fashion, Amateur Radio Explained is the perfect introduction to the exciting world of amateur radio. 80 pages.

£5.79

AIRWAVES 2009

The UK's most comprehensive and up to date airband frequency directory. For the first time, Airwaves 2009 includes a new European section containing the air traffic control centre and airfield frequencies for 18 European countries.

This is the 16th published edition of AIRWAVES. As always, the frequencies, maps and other information have been fully updated for 2009. There has been an above average number of frequency changes in the past year, with a significant number of new frequencies added.

£11.50

CALLSIGN 2009

The new 15th edition of our very popular Civil and Military Aviation Callsign Directory. Fully updated for 2009 with a large number of additions, amendments, confirmations and deletions. There has been a full overhaul of the two databases in the past year to ensure that all the information is as current as possible.

Produced in A5 size, it is wire spiral bound for ease of use and contains thousands of Civil and Military Aviation Callsigns. As far as we are aware this is the most comprehensive Aviation Callsign Directory available in Europe.

£11.50



**NEW
IN
STOCK
NOW**



AIRBAND

	Pages	Price
● NEW IN STOCK POCKET UK & IRELAND AIRBAND FREQUENCY GUIDE 13th Edition (Seldec)	128	£5.50
● NEW THE UK & IRELAND FLIGHT ROUTES WINTER 2008-09 (Seldec)	275	£12.95
● CIVIL AIRCRAFT MARKINGS 2008 Alan S Wright. (abc)	436	£9.99
● MILITARY AIRCRAFT MARKINGS 2008 Howard Curtis. (abc)	226	£9.99
● NEW AIRWAVES 2009 (Photavia)	144	£11.50
● NEW CALLSIGN 2009 (Photavia)	111	£11.50
● DIRECTORY OF AIRCRAFT SELCALs 8th edition. (Seldec)	205 PLUS CD	£15.95
● HF AIRBAND FREQUENCY GUIDE (Seldec)	225	£14.75
● NORTH ATLANTIC WAYPOINT ATLAS (Seldec)	50	£9.50
● OUT OF PRINT AIRBAND RADIO GUIDE 6th Edition (abc)	122	£8.99
● AIR TRAFFIC CONTROL 9th Edition (abc)	112	£8.99

SCANNING & FREQUENCY GUIDES

● NOW IN STOCK - ORDER NOW! PASSPORT TO WORLD BAND RADIO 2009 (IBS)	560	£17.50
● NOW IN STOCK - ORDER NOW! WORLD RADIO TV HANDBOOK 2009 (WRTH)	672	£23.00
● NOW IN STOCK - ORDER NOW! RADIO LISTENERS GUIDE 2009.....	160	£5.95
● HF MARINE FREQUENCY LIST. (Seldec)	225	£14.75
● LISTENING TO LONGWAVE Kevin Carey.....	100	£5.95
● THE POCKET UK & IRELAND VHF MARINE FREQUENCY GUIDE. (Seldec)	108	£4.99
● SCANNERS 5 B. Robertson & P. Rouse	245	£9.95
● BUYING A USED SHORT WAVE RECEIVER 4th Edition. F. Osterman.....	78	£4.95
● NOW IN STOCK - ORDER NOW! KLINGENFUSS GUIDE TO UTILITY STATIONS 2009.....	604	£33.00
● NOW IN STOCK - ORDER NOW! KLINGENFUSS SHORTWAVE FREQUENCY GUIDE 2009	478	£28.00
● NOW IN STOCK - ORDER NOW! KLINGENFUSS SHORTWAVE FREQUENCIES CD 2009		£23.00
● IN STOCK NOW KLINGENFUSS RADIO DATA CODE MANUAL 18th Edition.....	600	£40.00
● UK SCANNING DIRECTORY - 9th edition (PW Publishing).....	544	£19.75

ANTENNAS/TRANSMISSION LINES/PROPAGATION

● NEW IN NOW BASIC ANTENNAS (ARRL).....	216	£24.99
● NEW IN NOW BUILDING SUCCESSFUL HF ANTENNAS (RSGB)	224	£14.99
● EVEN MORE OUT OF THIN AIR (PW Publishing)	80	£6.75
● OUT OF STOCK SIMPLE & FUN ANTENNAS FOR HAMS (ARRL).....	256	£16.99
● 25 SIMPLE INDOOR & WINDOW AERIALS E.M. Noll (Babani)	50	£1.75
● 25 SIMPLE TROPICAL & MW BAND AERIALS E.M. Noll (Babani)	54	£1.75
● AN INTRODUCTION TO RADIO WAVE PROPAGATION J.G. Lee. (Babani)	116	£3.95
● ANTENNA FILE (RSGB).....	285	£18.99
● ANTENNA TOOLKIT 2 (INC. CDROM) Joseph Carr	256	£28.99
● ANTENNA TOPICS Pat Hawker G3VA (RSGB)	384	£18.99
● BACKYARD ANTENNAS Peter Dodd G3LDO (RSGB).....	200	£18.95
● NEW IN STOCK ARRL ANTENNA BOOK 21st edition, INC CD (ARRL)	944	£30.99

You can see full descriptions of all these books & order securely on-line at www.mysubcare.com see the magazine's related products section. Also, see www.pwpublishing.ltd.uk/bookstore/books.html for full descriptions of all these books.

	Pages	Price
● EXPERIMENTAL ANTENNA TOPICS H.C. Wright.....	72	£3.50
● HF ANTENNA COLLECTION Edited by Erwin David G4LQI. (RSGB).....	233	£19.95
● HF ANTENNAS FOR ALL LOCATIONS 2nd edition. Les Moxon G6XN. (RSGB).....	322	£19.99
● OUT OF STOCK INTERNATIONAL ANTENNA COLLECTION G. Brown M5ACN. (RSGB)	250	£12.95
● INTERNATIONAL ANTENNA COLLECTION 2. G. Brown M5ACN. (RSGB)	200	£12.95
● PRACTICAL ANTENNAS FOR NOVICES John Heys.....	58	£7.99
● PRACTICAL WIRE ANTENNAS 2 Ian Poole G3YWX	172	£11.99
● RADIO PROPAGATION PRINCIPLES & PRACTICE Ian Poole G3YWX	102	£14.95
● SIMPLE AND FUN ANTENNAS FOR HAMS (ARRL).....	200	£16.99

BEGINNERS/LICENCE/MANUALS

● ADVANCE! THE FULL LICENCE MANUAL Alan Betts G0HIQ & Steve Hartley G0FUW. (RSGB)	104	£11.99
● NEW AMATEUR RADIO EXAM SECRETS Alan Betts G0HIQ. (RSGB).....	104	£12.99
● AMATEUR RADIO EXPLAINED Ian Poole G3YWX. (RSGB)	80	£5.79
● AN INTRODUCTION TO AMATEUR RADIO I.D. Poole. (Babani)...	150	£4.99
● DISCOVER DXING. 3rd edition. J. Zondlo	96	£6.95
● FOUNDATION LICENCE NOW! 5th Edition Alan Betts G0HIQ. (RSGB)	32	£4.99
● HF AMATEUR RADIO 2nd Ed. Ian Poole G3YWX. (RSGB)	144	£12.99
● INTERMEDIATE LICENCE – BUILDING ON THE FOUNDATION 4th Edition Steve Hartley G0FUW. (RSGB)	76	£6.99
● NOVICE RADIO AMATEURS EXAMINATION HANDBOOK I.D. Poole. (Babani).....	150	£4.95
● SECRET OF LEARNING MORSE CODE Mark Francis. (Spa).....	84	£6.95
● MORSE CODE FOR RADIO AMATEURS. (RSGB)	32 inc. CD	£7.99

DESIGN & CONSTRUCTION

● CIRCUIT OVERLOAD (RSGB).....	504	£18.99
● OUT OF PRINT PRACTICAL PROJECTS G. Brown M5ACN. (RSGB) ..	208	£13.95
● PROJECTS FOR RADIO AMATEURS & SWL R.A. Penfold. (Babani)	92	£3.95
● OUT OF PRINT RADIO & ELECTRONICS COOKBOOK (RSGB-Newnes)	320	£19.99
● RF COMPONENTS & CIRCUITS Joe Carr. (RSGB-Newnes)	416	£25.99
● THE ART OF SOLDERING R. Brewster. (Babani)	84	£3.99
● THE SUPERHET RADIO HANDBOOK I.D. Poole. (Babani).....	104	£4.95

SHACK ESSENTIALS

● NEW RSGB YEARBOOK 2009 edition. (RSGB)	512	£18.99
● NEW CALLSEEKER PLUS CD 2009 edition. (RSGB)	512	£14.99
● NEW ARRL HANDBOOK 2009 inc CD. (ARRL)	944	£30.99
● NEW ARRL OPERATING MANUAL 9th Edition. (WSL)	420	£19.99
● DXPEDITIONING - BEHIND THE SCENES FOR RADIO AMATEURS WORLDWIDE N Cheadle & S Telenius Lowe.....	180	£6.95
● THE RIG GUIDE S W White. (RSGB).....	88	£3.99
● AMATEUR RADIO ESSENTIALS G. Brown. (RSGB)	288	£25.99
● AMATEUR RADIO ASTRONOMY J. Fielding. (RSGB)	330	£16.99
● AMATEUR RADIO (VALUE) LOGBOOK (RSGB)	80	£4.95
● AMATEUR RADIO ON THE MOVE (ARRL).....	170	£14.99
● DIGITAL MODES FOR ALL OCCASIONS Murray Greenman (RSGB)	208	£16.95
● GREAT CIRCLE MAP (PWP)	400 x 400mm	£1.50



ONLY £23.00

WORLD RADIO TV HANDBOOK 2009 EDITION

The 63rd edition of the best selling directory of global broadcasting on LW, MW, SW and FM. The Features section has a stimulating introduction to the art of FM DXing, reviews of the latest equipment and a fascinating account of visits to five All India Radio stations.

The remaining pages are, as usual, full of information on:

- National and International broadcasts and broadcasters
- Clandestine and other target broadcasters
- MW and SW frequency listings
- Equipment reviews and articles
- Terrestrial TV by country
- Extensive Reference section and much more!

NEW! ORDER NOW

RSGB YEARBOOK 2009

The RSGB Yearbook 2009 contains 512 pages and over 1.25 million words. With close to 200 pages of information it remains the most comprehensive guide to amateur radio in the UK and worldwide. Fully updated information is combined with the very latest licensing data for the UK & Ireland to produce the essential publication for the well-equipped shack.

In the Clubs pages you'll find up-to-date information on National Affiliated Societies, Local Clubs and Societies, Emergency Communications Groups, plus pages of Featured Clubs. RSGB Yearbook 2009 contains a full colour Review of the Year, with synopses from RadCom July 2007 - June 2008. There are over 100 pages on Operating including a full RSGB Contesting Guide for the 2009 events, both HF and VHF. Of course there is all the latest licensing information, a complete list of UK Special Contest Callsigns, Irish Callsigns, plus listings of UK licensees in surname and Postcode order.



£18.99

The CD-ROM version of the RSGB Yearbook 2009, but with a lot more besides!

£14.99

NEW IN STOCK NOW

BUILDING SUCCESSFUL HF ANTENNAS

Any metal structure can be made to radiate - to work as an antenna - provided it can be persuaded to accept RF power from a transmitter. But is it working efficiently? How can it be improved?

Well-known antenna expert Peter Dodd explains what makes an effective HF antenna, how to build one and how to measure its performance. The book deals with real locations, such as small gardens, apartment blocks, lofts, etc and how to obtain optimum performance within the constraints of your location.



£14.99

FOUNDATION LICENCE NOW!

A 32-page soft-covered book that takes you through the syllabus, reinforcing what you will learn on the Foundation Course. The course has been designed and introduced for people of all ages and abilities. To take the course you need no formal qualifications. **£4.99.**

INTERMEDIATE LICENCE. BUILDING ON THE FOUNDATION.

The second course book in the RSGB's series is structured to progressively obtaining an Amateur Intermediate Licence. It contains practical exercises, broken down into half-hour worksheets. The ideal companion book for all Amateur Radio Intermediate Licence students. **£6.99.**

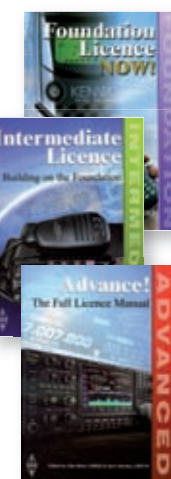
ADVANCE! THE FULL LICENCE MANUAL.

This is the third book in a course structured to obtain an Amateur Radio Licence. Advance is the final stage in gaining the full licence and has been updated to suit the new syllabus structure. Broken down into logical sections, it's presented in an easy-to-understand way, making it perfect for home study. **£11.99.**

NEW AMATEUR RADIO EXAM SECRETS

For those who are studying for the UK amateur radio examinations and want more information, then this is the book. Covering all three levels of amateur radio licence Amateur Radio Exam Secrets is designed to extend knowledge and test candidate's comprehension.

Amateur Radio Exam Secrets provides the ideal training course companion for both candidates and tutors. If you are by studying for any level of the amateur radio examination Amateur Radio Exam Secrets provides the ideal revision aid and quick reference book. 104 pages, **£12.99**





RADIO LISTENER'S GUIDE 2009

Frequencies and transmitter information for all BBC and commercial radio stations, plus DAB digital transmitter details. Radio Reviews Independent reviews of analogue and DAB digital radios. News from BBC and commercial radio stations. Digital Radio (DAB) The latest news and information. Sky and Freeview radio information and channel lists. Advice on how to get the best from your radio. 160 pages.

£5.95

NEW
IN
STOCK
NOW

NEW IN STOCK POCKET UK & IRELAND AIRBAND FREQUENCY GUIDE

13th Edition

The 13th Edition of this popular "POCKET FREQUENCY GUIDE" is now available, the contents represent the most comprehensive and up to date frequency listing currently available.

128 pages A6 (10.5 x 15 cm) Spiral Bound with Colour Cover.

£5.50



The Pocket UK & Ireland VHF Marine Frequency Guide

This handy, small, ring-bound book lists the frequencies and channel numbers for marinas and ports all around the UK and Ireland. The list runs alphabetically by region, with separate lists for ports, marinas and inland waterways. There are also helpful sections on both the HM and Irish Coastguard, including when to listen to weather forecasts. At the back of the book is the complete list of channel numbers, their equivalent frequency and notes on their use, which means it doesn't matter whether you are using a scanner or a marine receiver you can find the stations you are looking for. 108 pages.



£4.99

HF AIRBAND BAND FREQUENCY GUIDE

The book is intended to enhance the enjoyment in listening to civil, military and government aircraft on short wave throughout the world. In addition to an extensive frequency list, covering from 2MHz to 30MHz, plus ACARS frequencies, the book includes sections on Antennas, Receivers, including DX Tuners (www.dxtuners.com) with information and guidance on decoding ACARS, HFDL, SELCALLS, FAX, RTTY and CW. Listings of Major World Air Route Areas (MWARA), Regional and Domestic Air Route Areas (RDARA), and Long Distance Operational Control frequencies (LDOC) are included. A section is devoted to suppliers of Radio equipment, with their addresses and telephone numbers.

225 pages, wire spiral "lay-flat" bound with colour cover.

£14.75



HF MARINE BAND FREQUENCY LIST

The new HF Marine Band Frequency List is our latest publication for listeners with a general interest or a particular interest in Marine Radio. Listed are frequencies of Civil, Military & Government shipping on the HF bands throughout the world. In addition to an extensive frequency list covering from 1.5 - 30MHz (with MF shipping, yes the 500kHz band is still in use!) the book includes sections on antennas, receivers, including DX tuners, with chapters on decoding RTTY, SITOR, CW, FAX and other modes.

225 pages, wire spiral "lay-flat" bound with colour covers.



£14.75

INSTRUMENTS OF AMPLIFICATION

Rob Mannion G3XFD writes: Peter Friedrichs has written a truly superb book but has chosen a title that really hides its 'light' under the proverbial bush!! Armed with the book an interested constructor can literally build a radio from scratch anywhere! Perhaps a better title could have been *Desert Island Radio for the Shipwrecked* because everything from simple earphones, detectors and mechanical amplifier to home made valves (tubes) and transistors. If you enjoy Rough Science on BBC2 you'll love this book! **Very highly recommended.**

£14.95

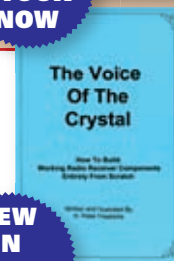


NEW
IN
STOCK
NOW

VOICE OF THE CRYSTAL

185 pages of practical information on the fabrication of electronic components suitable for use in building crystal radio sets. Basic theory and simple analysis is combined with dozens of examples of historical practice, work by contemporary experimenters, and construction details for many instruments fabricated by the author himself.

£11.95



NEW
IN
STOCK
NOW

RADIO PIONEERS 1945

Discover the history of the Veteran Wireless Operators Association and the Amateur Radio Relay League. See some of the early wireless catalogues and amateur stations. Get a brief but to-the-point chronology of radio developments to 1925. You get pictures of early tubes, Poulsen in his lab, Marconi parabolic reflectors, a Fessenden alternator and more. The history is brief, fast reading, but informative. You'll read about the personalities and discover what they did.

£7.95



VINTAGE RADIOS

This book tells the collector and the armchair wireless enthusiast everything there is to know about classic radios from the 1920s to the end of the 1960s. All the important makes and models are discussed and the author also covers buying and selling, care and restoration and many other topics, including foreign radios and radio-related ephemera. Illustrated with many colour photographs, this is the perfect collector's companion to the fascinating hobby. 208 pages.

£19.95



THE PW PUBLISHING LTD RADIO BOOKSTORE

mail order...huge range in stock...fast delivery...

Pages Price

- **LF TODAY - GUIDE TO SUCCESS 136kHz M Dennison.**
(RSGB)..... 128 £11.95
- **LOW PROFILE AMATEUR RADIO** 2nd edition. (ARRL)..... 64 £14.99
- **RADIO AMATEURS WORLD ATLAS (A4)**..... 23 £12.00
- **RSGB AMATEUR RADIO OPERATING MANUAL (RSGB)** 224 £19.95
- **RSGB PREFIX GUIDE.** 8th edition. (RSGB) 34 £8.95
- **OUT OF STOCK RSGB RADIO COMMUNICATIONS**
HANDBOOK + CD 9th Edition. (RSGB) 800 £29.99

QRP

- **More QRP Power (ARRL)** 176 £16.99
- **LOW POWER COMMUNICATIONS.** 2nd edition. (ARRL) 240 £14.99
- **LOW POWER SCRAPBOOK (RSGB)** 320 £12.99
- **QRP BASICS.** George Dobbs G3RJV. (RSGB) 204 £14.99

VHF & HIGHER

- **ALL ABOUT VHF AMATEUR RADIO**
W. I. Orr W6SAI. (ARRL) 163 £8.95
- **GUIDE TO VHF/UHF AMATEUR RADIO** Ian Poole G3YWX.
(RSGB) 180 £9.99
- **VHF/UHF HANDBOOK** Andy Barter G8ATD. (RSGB) 302 £14.99

HISTORICAL

- **NEW INSTRUMENTS OF AMPLIFICATION**
HP 'Pete' Friedrichs..... 300 £14.95
- **NEW RADIO PIONEERS 1945 (Lindsay)** 64 £7.95
- **FJ CMM - THE PRACTICAL MAN (RSGB)** 110 £10.99
- **VINTAGE RADIOS (Crowood)**..... 208 £19.95
- **1940s AMATEUR RADIO BOX SET (RSGB)** 6 book set 450 £15.99
- **AMATEUR RADIO - A BEGINNERS GUIDE (1940 REPRINT)**
(Lindsay Publications). Douglas Fortune W9UVC 156 £7.70
- **MARCONI'S ATLANTIC LEAP (H/B)**
Gordon Bussey. (Marconi)..... 96 £6.99
- **NEW LOW PRICE RADIO & RADIO OPERATORS FROM SPARKS TO SATELLITES** (Package with Swedish hardback book, English spiral-bound translation and CD with printable PDF files)
Birgitta Guftafsson 255 £15.00
- **NEW LOW PRICE THE SAGA OF MARCONI OSRAM VALVE**
B. Vyse & G. Jessop 346 £17.50

CRYSTAL SETS

- **CRYSTAL RECEIVING SETS & HOW TO MAKE THEM (Lindsay)**..... 124 £8.95
- **NEW IN STOCK VOICE OF THE CRYSTAL (Pete Friedrichs)**..... 185 £11.95

ELECTRONICS

- **ELECTRONIC PROJECT BUILDING FOR BEGINNERS**
(Babani) 110 £4.99
- **GETTING THE MOST FROM YOUR MULTIMETER**
(Babani) 102 £4.99
- **HOW TO USE OSCILLOSCOPES & OTHER TEST EQUIPMENT**
(Babani) 110 £4.99

Binders

PRACTICAL WIRELESS OR RADIOUSER £10.00



You can order securely on-line at
www.mysubcare.com
see the magazine's related products section.

HOW TO ORDER

Telephone: 0845 803 1979

Call the Bookstore, Monday to Friday 9am to 4pm.
Callers with an appropriate BT inclusive call package can call this number free!

We can often send your book the very same day, if we can, or the next day if we miss the post!

Outside these hours your order will be recorded on an answerphone.

Post: Write to the Bookstore, remembering to include your name, address, daytime telephone number and payment details (Sterling please - cash not accepted. **Cheques made payable to PW Publishing Ltd.**, at: **Bookstore, PW Publishing Ltd., Broadstone, Dorset BH18 8PW.**

Fax: If you wish to FAX your order to us please mark it for the attention of the Bookstore and send it to: 01202 659950

E-mail: bookstore@pwpublishing.ltd.uk

Order Securely on-line: **www.mysubcare.com**

Photocopies & Back Issues: To order a back Issue, please call the Order Line to check availability. We can photocopy articles from issues that are not available - we have a Review List going back years!

	Current Issue	Back Issues
Practical Wireless	£3.50 (inc UK P&P)	£5.00 (inc UK P&P)
RadioUser	£3.50 (inc UK P&P)	£5.00 (inc UK P&P)

Overseas post: Europe or ROW postal charges to be added to the above.

Photocopies / Reprints (per article): £3.00 (inc P&P).

Overseas: Please add £1.50 to the above prices.

E&OE

order form

05/09

Photocopies are acceptable

Please try to order from an up-to-date magazine to ensure correct prices and availability.

.....Price (£).....
.....Price (£).....
.....Price (£).....
.....Price (£).....
.....Price (£).....
.....Price (£).....
.....Price (£).....
.....Price (£).....
.....Price (£).....

Total cost of books ordered:.....**Price (£)**.....

Postage & Packing charges: Please remember to add P&P to your order. (£)

UK: £1.95 P&P for one item, £3.50 for two or more

Overseas Europe:
£3.20 P&P for one, £5.80 for two, £2 extra per item for three or more

Overseas Rest of World:
£5.20 P&P for one, £10.00 for two, £2 extra per item for three or more

Total cost of order including postage

£

Send this completed form to:

**Bookstore, PW Publishing Ltd., Arrowsmith Court,
Station Approach, Broadstone, Dorset BH18 8PW**

Payment Details. Please note: For security purposes, you must include your house number and postcode.

Name

Address

.....

Postcode.....

Telephone (Daytime)

I enclose my Cheque/Postal Order for £.....

Please note: Cheques MUST made payable to PW Publishing Ltd. and please write your cheque guarantee card number on the reverse.



or please debit my MasterCard/Visa/Amex

.....

Expiry Date Security No.

or please debit my Maestro/Solo



.....

Expiry Date Security No.

Start date Issue No (if on card).....

Signature.....

Orders are normally despatched by return of post but please allow 28 days for delivery. Prices correct at the time of going to press.

Please note: all payments must be made in Sterling, cash not accepted.

NOVEMBER 2007 \$4.99

NOVEMBER 2007

Popular **WIRELESS**

Practical Short-Range Wireless Radio Magazine

FREE INSIDE
ES-1000 Datasheet

WIN
a \$1000 Prize

The First Practical Wireless 70MHz Low Power Contest

Now Round the Rockies with a Hand-Held Transceiver

Build the G4DCH 3.5MHz Mobile Antenna

NOVEMBER 2007
\$4.99

- To order a subscription please contact our subscription agency:**

Please note cheques should be made payable to PW PUBLISHING LTD and CASH is NOT accepted by ourselves or Webscribe.

**Joint subscriptions
now available -
Save £££s**



We've made renewing easier too. Everything you need to renew is now available on-line as well as by regular mail. (Subscribers still get a reminder in the post when it's time to renew).

Please note:
For security purposes,
you must include your
house number and
postcode.

**Delete as necessary. Photocopies of this page are acceptable*



Rob Mannion's

topical talk

Rob discusses interesting topics from readers' letters, which range from book publishing to tackling interference.

The letter from **John Hough G0KRR** (Letters this month) is his response to my review of his book in the April issue of *PW*. I'm publishing his letter so that John could express the situation he'd found himself in as a specialist author.

John sums up the situation well from his point of view. However, I think that my review in the April issue paid compliments to his writing style, while stating that in my opinion that his chosen publishers hadn't produced the book to the professional standards expected.

Despite my criticism of the finished book's presentation, I must stress that the so-called 'Vanity Press' (an unfortunate term in my opinion) has played an important role in helping special interest books into print. For example, in Victorian times the local Vicar would pay such a publisher to print a collection of his sermons and sometime today these – often beautifully bound but obscure tomes – can be found in antiquarian bookshops. Some of the privately published poems (often despised by the 'established' authors in the world of poetry) were fortunate indeed to be printed for the enjoyment of people like myself a 100 years or so later.

Some readers may have heard of the Scottish poet **William McGonigal** who was (most unfairly in my opinion) slated as the "Worst poet writing in the English language", and is one of my favourites. His Tay Bridge railway disaster poem is a classic in my opinion, while others despise it! It just goes to show that poetry can be 'one man's pleasure' and the other man's poison! William McGonigal would have almost certainly have had to privately publish his poems – and pay for them to be printed – and, if he did, I'm grateful for his efforts!

Jumping forward over a century to modern times, many of the 'privately published' (the term I prefer) special interest books I've read would never have seen the light of day and my two of my own favourite subjects – railways and local topography/geography – have been well served by authors who have spent a lot of their precious time and (often) just as much valuable funds to get their book published.

Historically, Amateur Radio, especially,

has been and continues to be very well served by the **Radio Society of Great Britain (RSGB)** and the **Amateur Radio Relay League (ARRL)** in the USA. The books published by both organisations are often beyond reproach in any possible way. However, I'm sure that there must be many possible titles that don't pass their evaluation process – because even these specialist publishers (of course, the RSGB and ARRL are publishers!) have to consider the financial outlays and the money that might be recouped by sales of the titles. That's when privately funded publishing comes into play.

Obviously, the first step is to try and have a book published by a company or organisation (such as those mentioned) who will 'work with the author' and don't ask for the author to pay up front before publication. In fact, some reputable publishers will still offer an advance payment – so it's worthwhile asking around although this could take many months.

Some book idea or subjects will **never be commercial** and this is where the very limited print run might warrant private publishing. However, it's always worthwhile trying to find a normal commercial publisher and I'll always be pleased to offer what advice I can to budding book authors. Finally, it's worth mentioning that some of the best books I've ever read have been privately published and I thoroughly recommend that potential authors buy a copy (or read it in the local library) of the *Writers & Artists Yearbook*, which carries a great deal of helpful information and advice. But whatever happens, before you pay a publisher to print your book – make sure it's the best deal you can obtain as an author.

Congratulations Roger & Philip!

The methodical way that **Roger Bunney** (letters this month) – a well known specialist author – approached his interference problem must be applauded. Roger's approach must surely be the way forward for interference problems? And **Philip Lancaster's** advice is also very helpful. Thank you both!

Rob Mannion G3XFD/EI5IW

coming next month



IN THE UK'S BEST AND ONLY INDEPENDENT AMATEUR RADIO MAGAZINE

Analysis of the G5RV Antenna

Antenna specialist author **Peter Dodd G3LDO** looks at the use of an old favourite on the modern Amateur Radio bands in an especially commissioned article.

It's 144MHz QRP Contest Time!

Contest Adjudicator **Colin Redwood G6MXL** presents the up-dated rules for *PW*'s popular annual fun event.

Amateur Radio Microwave Bands Data Collection

VHF DXer author **David Butler G4ASR** provides all the information keen super high frequency (s.h.f.) operators need in a convenient article.

Simple Shack Alarm

Ben Nock G4BXD describes a very simple installation to scare those thieves away from your valuable radio equipment!

Carrying On The Practical Way

Join the **Rev. George Dobbs G3RJV** as he describes the latest project for the summertime!

In The News & On the Ball!

Don't miss the *PW* news pages, fizzing with information and the most up-to-date and interesting items from the world of Amateur Radio. Your club can only feature here if you contact *Newshound* at **Newsdesk!**

**June 2009 ISSUE
ON SALE 14 MAY AT ALL GOOD
NEWSAGENTS -
ASK FOR IT BY NAME - PRACTICAL
WIRELESS.**

PLACE YOUR ORDER TODAY!

**GREAT VALUE AT £3.50!
Also available direct for £3.50 by
calling 0845 803 1979**

SPECIALIST DEALERS

BERKSHIRE

ELITE INTERFACES LTD

Elite House, 5 Trafford Road
Reading RG1 8JP

Tel: 01189 584600 FAX: 01189 584900

www.eliteinterfaces.com

We have taken over the production and support of
Linear Amp UK. Manufacturers and suppliers of top
quality HF and VHF valve amplifiers and antenna
tuning units.

Repairs of most make of amplifier undertaken

CORNWALL

WORSLEY COMMUNICATIONS

Robin C Worsley G0 MYR

'Onaru', Pennance Road,
Lanner, Redruth,
Cornwall TR16 5TQ

www.hamradiosales.co.uk

Tel: 01209 820118

ESSEX

WATERS & STANTON PLC

Spa House, 22 Main Road, Hockley
Essex SS5 4QS

Tel: (01702) 206835/204965

Fax: (01702) 205843

Web: <http://www.waters-and-stanton.co.uk>

E-mail: sales@wsplc.demon.co.uk

Open 9am to 5.30pm Monday to Saturday inclusive.

MAIN AGENTS - ALL BRANDS

PHONE/FAX FOR FREE PRICE LIST

MID GLAMORGAN

SANDPIPER AERIAL TECHNOLOGY

Unit 5, Enterprise House, Cwmbach Industrial
Estate, Aberdare,
Mid Glamorgan CF44 0AE

Tel: (01685) 870425 Fax: (01685) 876104

A full range of transmitting & receiving antennas
available for the amateur commercial market.

www.sandpiperaerials.co.uk

e-mail: sales@sandpiperaerials.co.uk

NORFOLK

RADIO SALES & REPAIRS
GMS Electronics
Amateur Radio Equipment
& Accessories Supplied,
Repairs to most transceivers
old & new
Call: 01362 698754
or email: sales@gms-electronics.co.uk
ICOM www.gms-electronics.co.uk

SOUTHWEST & WALES

QSL COMMUNICATIONS

• For all amateur radio and listener needs.

• New and secondhand equipment.

• Part exchange welcome.

Unit 6, Worle Industrial Centre, Coker Road,

Worle, Weston-Super-Mare BS22 6BX

Tel/Fax: (01934) 512757

SCOTLAND

JAYCEE ELECTRONICS LTD

20 Woodside Way, Glenrothes, Fife KY7 5DF

Tel: (01592) 756962 (Day or Night)

Fax No. (01592) 610451

New opening hours: Tuesday-Friday 9am to 5pm.
Saturday 9am to 4pm. Closed Sunday & Monday.

KENWOOD, YAESU & ICOM APPROVED DEALERS

A good stock of new and secondhand
equipment always in stock

SCOTLAND

TENNAMAST SCOTLAND LTD

Masts from 25ft - 40ft

Adapt-A-Mast

(01505) 503824

81 Mains Road, Beith,
Ayrshire KA15 2HT

E-mail: nbrown@tennamast.com

Web site: www.tennamast.com

YORKSHIRE

LEEDS AMATEUR RADIO LTD

SUPERSLAB CB CENTRE

The home of GB3YW operating on 145.7875MHz. CTCSS 82.5Hz

★ The complete radio suppliers ★

CONTACT STEVE POUNDER

BRADFORD ROAD, EAST ARDSLEY,
NR. WAKEFIELD WF3 2DN

Tel: 0113-252 4586 Fax: 0113-253 6621

WEST SUSSEX

Adur Communications

PO Box 2047,
Steyning BN44 3XJ.

Tel: (01903) 879526

E-mail: service@durcomms.com

Repairs and alignment to all amateur
and commercial radio equipment.

Telephone

0845 803 1979

**to advertise in
Practical Wireless**

INDEX TO ADVERTISERS

Adur Communications	69	Haydon Communications	50, 51	RadioUser	21
bhi	69	Kit Radio Company	63	Radioworld	28, 29
Birkett, J	69	LAM Communications	34	Spectrum Communications	41, 63
Bowood Electronics	69	Martin Lynch & Sons	15, 16, 17	Sycom	63
British Wireless for the Blind Fund	47	Moonraker	22, 23, 24	The Shortwave Shop	63
		Nevada	59, 83	Waters & Stanton	2, 3, 4
		Practical Wireless	81	Yaesu UK Limited	84

Just ask!

The best way to ensure you receive every issue of Practical Wireless and/or RadioUser is to place an order with your local newsagent. Once set up, your copy of *Practical Wireless* and/or *RadioUser* will be

held for you to collect, saving you the time and the frustration of having to search the newstand. Some newsagents may even offer a home delivery service making it even easier to obtain your copy. So don't miss an issue, simply complete the form opposite and take to your local newsagent today.

KEEP A LOOK OUT FOR THE LOGO AND NEXT TIME YOU VISIT YOUR NEWSAGENT REMEMBER TO JUST ASK! ABOUT OBTAINING COPIES OF YOUR CHOSEN MAGAZINES.

Please reserve/deliver* a copy of on a regular basis,

commencing with the issue. *delete as appropriate

Title/Mr/Mrs/Ms

First name Surname

Address

..... Postcode

Daytime Telephone No:

Alinco's new 2 meter handheld sets the standard for features, convenience and easy operation.

The DJ-175 is easy to use with an un-cluttered keyboard layout and alphanumeric display for easy memory management. High power 5 Watt output is available with the it's standard battery. Access to virtually any repeater or selective calling situation is possible at no extra cost, with its 39-tone CTCSS, 104 DCS, Tone-bursts and DTMF encoding. Best of all the DJ-175 is supplied with Drop-in Charger, Battery and Antenna as standard, retaining the proud Alinco tradition of quality construction and excellent value.

DJ-175

Features

- TX: 144-147.995 MHz
RX: 136-173.995 MHz
- 200 memories plus 1 CALL channel
- Frequency steps: 5, 10, 12.5, 20, 25 & 30kHz
- Two-touch Repeater Access
- Rugged polycarbonate body
- Highly visible backlit alphanumeric display
- Direct frequency input through illuminated keypad
- VFO, Memory and Scan modes
- Ultra-flexible antenna with SMA port
- 39 CTCSS tone squelch (encode/decode)
- 1000, 1450, 1750 and 2100Hz Tone-bursts
- Battery-drain functions avoids memory-effect
- Ergonomic design, fits in the palm of your hand.
- Wire-cloning capability
- 3 levels of output power (5 / 2 / 0.5W)
- Clean, crisp and powerful 500mW Audio
- Dimensions: 58(W) 107.5(H) 36.3(D) mm
- Weight: 245g with EBP-72 & antenna

Accessories included

- EBP-72 Ni-MH 7.2V 700mAh Battery
- EDC-165 Trickle Charger
- EA-141 Flexible Whip Antenna

Optional Accessories

- EBP-71 Li-ion 7.4V 1200mAh Battery Pack
- EDC-164 Li-ion Charger
- EME-12A Speaker Headset with VOX
- EME-13A Earphone Headset with VOX
- EMS-59, EMS-47 Speaker/Microphone
- EME-15A Tie Pin Microphone with VOX
- EME-21A Heavy Duty Earphone Microphone
- EME-23A Earphone Microphone
- EME-6 Earphone
- ESC-49 Soft Case
- ERW-4C Serial Computer Interface Cable
- ERW-7 USB Computer Interface Cable

£149.00

ALINCO

MORE for LESS!



NEW!

**★ARRIVING★
THIS MONTH**

**TRI-BAND
HANDHELD**
(with 23cms)
FULL DUPLEX
and
WIDEBAND RECEIVE!

NEW!

DJ-G7E

Preliminary information only

Features

- Covers 2 mtrs, 70 cms AND 23cms.
- FULL Duplex operation!
- Wideband receive 531kHz - 1299.995 MHz
- Power:
144/5W, 433/4.5W, 23cms/1W
- Modes:
AM/FM/WFM
- 1000 Alphanumeric memories
- Twin dials
- Spectrum Display
- Backlit display with contrast/brightness adjust
- CTCSS/DCS encode/decode
- DTMF tones and autodial memories
- Auto Power Off

£359.95



includes:

- Drop-in Charger
- Battery
- Whip Antenna



DJ-195
VHF Handheld

£139.00



DJ-V17E
2 metre
Handheld

£149.00



DJ-V5
Dual Band
Handheld

£199.00



DR635
Dual band mobile

£299.00



DR135
VHF
Mobile

£199.00



DX-70TH HF radio

£599.00



DM-330MW Power supply

£129.00

nevada[®]radio

Unit 1 Fitzherbert Spur Farlington Portsmouth PO6 1TT

Buy on-line: www.nevadaradio.co.uk

UK Importers & Distributors of Alinco

phone 023 9231 3090

email sales@nevada.co.uk

fax 023 9231 3091

A TECHNOLOGY BREAKTHROUGH

The New Prestigious VX-8E Handheld

Bluetooth® Hands-free Operation with GPS/APRS and Real RF-Dual Wideband Receive
The next generation Amateur Handheld Transceiver from Yaesu

- All-in-one High-performance Tri-Band Transceiver with GPS/APRS® Operation*1
- Bluetooth® for Hands-free Operation*1
- Barometric Pressure and Temperature Sensors
- Waterproof/Submersible IPX7 rated 3 feet for 30 minutes
- Dual Ham band Operation while listening to AM/FM Broadcasts
- Wideband Receive 500 kHz-999.99 MHz

* APRS® is a registered trademark of Bob Bruninga WB4APR.

*1 With optional accessories

*2 Assuming a duty cycle of 6-second transmit, 6-second receive, and 48-second standby (50 MHz 5 W)

- Completely independent AM/FM receiver included!
- Internal Bar Antenna for AM Broadcast Band reception.
- Enjoy FM broadcasts in stereo, with your stereo headphones
- Optional 1 watt operation, using three AA batteries*1
- A large LCD backlit display in a compact case!
- Up to 9 hours*2 of Amateur Band operation with optional FNB-102LI, high capacity Lithium-ion Battery.



• The optional GPS Antenna Unit FGPS-2 attached to the optional Speaker/Microphone MH-74A7A

• Attached to the radio (microphone input) using the optional GPS Adapter CT-136



The optional GPS Antenna Unit FGPS-2



Due November 2008
www.yaesu.co.uk

Specifications subject to change without notice. Some accessories and/or options may be standard in some areas. Frequency coverage may differ in some countries. Check with your local Yaesu dealer for specific details.

YAESU
Choice of the World's top DX'ers™