BARSCOM

G3XG GX3XG G6BRH

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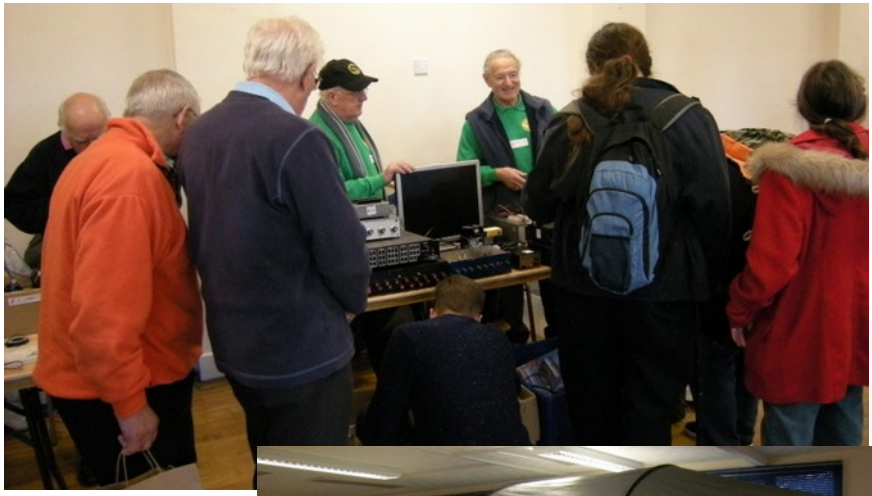
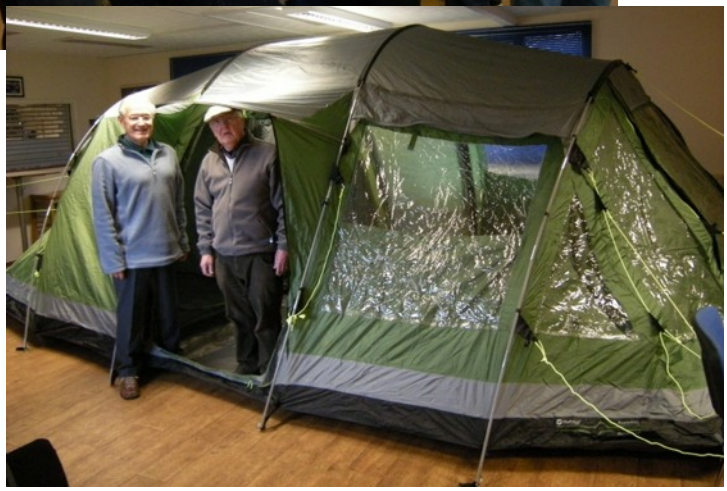
Monthly Communication of the Braintree and District Amateur Radio Society





March 2014

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* *Member's E-dition only*

On Monday, January 27 the regular Essex Ham Monday Night Net was held at 8 pm on GB3DA and was, for the first time in the net's two year history, streamed live over the Internet in its entirety, as an experiment requested by one of the regular participants.

Local News

Trevor M5AKA

The net's controller, Pete MØPSX, set up a live video and audio stream for the weekly on-air get-together, and listeners could view a live video feed showing the controller working the live, and online, running orders; and chatting in real-time via the net's online chat room.

Life Saving DF Hunt

ARRL

Members of the Lane County (Oregon) Sheriff's Amateur Radio Operators (LCSARO) used radio direction-finding techniques to locate a 78-year-old man suffering from dementia, who had gone missing. The man's wife reported that her husband had wandered away from the couple's home. Fortunately, the man was one of six at-risk individuals in the county equipped with a Project Lifesaver RDF bracelet. As a result, the specially trained hams in the sheriff's department were able to track down and locate the missing person in downtown Eugene. He was not injured. The ham radio team minimizes the need for large-scale search parties that typically involve many agencies, hundreds of police officers, and thousands of dollars.

Club Meetings and Nets

Club Net - 08.00 pm local time
2 Meters (145.375 MHz)
70 cms (433.575 MHz)

March

3 Morse
10 Club Net - 2 Meters
17 RAYNET + RSGB Talk Pt 3
24 Club Net - 70 cm
31 Club Net - GB3BZ Repeater

April

7 Rig Clinic
14 Club Net - 2 Meters
21 Natter Night + RSGB Talk Pt 4
28 Club Net - 70 cm

May

5 Mills Preparation & Natter
12 Club Net - 2 Meters
19 AGM
26 Club Net - 70 cm

June

2 Construction Contest
9 Club Net - 2 Meters
16 DF Hunt
23 Club Net - 70 cm
30 Club Net - GB3BZ Repeater

July

7 BBQ
14 Club Net - 2 Meters
21 *TBA*
28 Club Net - 70 cm

August

4 Aerial Clinic
11 Club Net - 2 Meters
18 *TBA*
25 Club Net - 70 cm

September

1 Junk Sale
8 Club Net - 2 Meters
15 *TBA*
22 Club Net - 70 cm
29 Club Net - GB3BZ Repeater

October

6 *TBA*
13 Club Net - 2 Meters
20 *TBA*
27 Club Net - 70 cm

November

3 *TBA*
10 Club Net - 2 Meters
17 *TBA*
24 Club Net - 70 cm

RSGB Talks

3. 100 years of amateur radio aerials
4. The Transatlantic Tests of the 1920s

Rallies

1 MARCH

LAGEN VALLEY ARS ANNUAL RALLY – the Village Centre, Ballynahinch Street, Hillsborough. OT 11.30am, CP, C, B&B, SIG, TS. Jim, GIØDVU, 02892 662 270.

2 MARCH

EXETER RADIO & ELECTRONICS RALLY – America Hall, De La Rue Way, Pinhoe Exeter EX4 8PW. OT 10.15/10.30, £2. TS, B&B, C. Pete, G3ZVI, 07714 198 374, g3zvi@yahoo.co.uk.

9 MARCH

WYTHALL RC ANNUAL RADIO RALLY – Woodrush Sports Centre, Shawhurst Lane, Hollywood, nr Birmingham B47 5JW on the A435, 2 mi from J3 M42. TI S22 (V44), CP, OT 10am, £3. TS, C. Chris, GØEYO, 07710 412 819, g0eyo@blueyonder.co.uk. [www.wrcrally.co.uk].

16 MARCH

DOVER RADIO RALLY - Whitfield Village Hall, Sandwich Rd, Whitfield, Dover, Kent. CT16 3LY. OT 10am,£2. TS, B&B, A, C, CP. Tables £10. Ian Keyser, ian.g3roo@googlemail.com

22 MARCH

2ND LOUGHERNE RADIO RALLY – Millenium Memorial Hall, Laugharne SA3 4QC. OT 10am to 2pm. £Free. Tables free. Matthew GW6KOA. 01994 427 581, matthew.twyman63@btinternet. Com.

6 APRIL

51st NORTHERN AMATEUR RADIO SOCIETIES ASSOCIATION EXHIBITION (Blackpool rally) – Norbreck Castle Exhibition Centre, Blackpool FY2 9AA. TI, CP, OT 10.15/10.30. TS, B&B, SIG, MT, LB, C, DF, RSGB book stand. Dave, MØOBW, 01270 761 608, dwilson@btinternet.com. [www.narsa.org.uk].

The above details are not available from the RSGB website.

Relays - and what they can do for you - Part II

Dave, G3PEN

First, let's consider the control voltages for the relays. It is possible to obtain quite compact relays that, typically, plug into octal valve bases, and use mains voltages for the switching. These are very nice, with large contacts and good spacing between the contacts, as they are typically used to switch mains-level voltages and currents, but it is really not wise to directly control these from outside the equipments, as trailing cables with mains voltages on around the shack is potentially very unsafe. They can be used within equipments, if controlled by other relays which themselves have low-voltage control leads.

For most purposes, and for safety, any relay with control power from outside the equipment should be at quite low voltage - typically this can be 12 V, although many relays are designed for 24 V (especially ex-WD units), some need 50 V, and a few types use less than 12 V, even down to 3 V. The majority at these voltages use DC, which can be fairly rough DC i.e. not very well smoothed, although some relays will buzz annoyingly if the smoothing is not sufficient. Some low-voltage units can be found for AC power - if the relay core is visibly laminated they probably use AC, but normally can also run on DC instead. (Incidentally, AC relays can also buzz continuously when operated on AC, which can become very annoying with time.) A separate single small power supply unit to provide power for all the shack relays needing DC is probably the most convenient and simple way of meeting any power demands, although it may also be possible to take power from within the unit being controlled. I prefer 12 V relays for most purposes, as this means that they can be powered from a car-type battery if the gear is used away from the shack, as can lower-voltage relays if fed via dropping resistors or Zeners - but this is wasteful of power for /P operation.

It should be noted that many relays will operate at much lower voltages than specified on them, but this can lead to erratic operation, and also to lower contact pressures, which can lead to burnt or high-resistance contacts, eventually needing replacement. The next consideration is what the relay is supposed to be doing. For many QRP-level

purposes, one relay with suitable sets of contacts (which may be different types) is suitable. However, once the relay has to switch HT, RF, and audio circuits, separate relays are advisable. So what characteristics are needed for these various functions?

Firstly, switching higher voltages ie anything above 50 V DC, which is the typical maximum working level of ex-telephone 2000-type relays, needs better insulation than the ex-GPO (sorry - ex-BT!) relay will provide. A cursory look at such a relay may give the impression of good insulation, but a closer inspection will show that the spacing of contact leaves to the relay core are not very great, especially within the relay-contact stack, while the little push-rods that actually operate the leaves are very short. Some are of metal construction, relying on small insulating pads on the armature for insulation. (I have taken such relays apart, and sometimes found signs of "tracking" from contact blades to the relay core, as evidenced by black carbon lines across the insulation materials, but with nothing evident externally.) For almost all purposes, if using what look like typical ex-GPO relays at higher voltages, the spacing between contact leaves, and indeed all clearances to the metal frame or coil of the relay, should be quite large. Such relays do exist, but are relatively rare.

The insulating support stacks will often be heavily grooved, to increase the tracking path, and the operating push-rods will be totally insulating, long, and moving much further than the ex-GPO type. (This needs the armature to also move a much greater distance.) Take a look at the genuine mains-switching relay for comparison of insulation thickness and spacing. Some relays can have different stacks of contacts, with normal "low-voltage" sets and high-voltage sets on the same relay. It should be noted, however, that even the best of GPO-style 2000-type relays with high-voltage stacks of contacts are unlikely to carry more than a few hundred volts in safety - OK for 300 V DC perhaps, but a no-no for anything much greater.

Next month - current carrying capabilities and surface coatings.

Don't forget!

March 17th at 20.00
RAYNET plus
RSGB Slides - Part 3

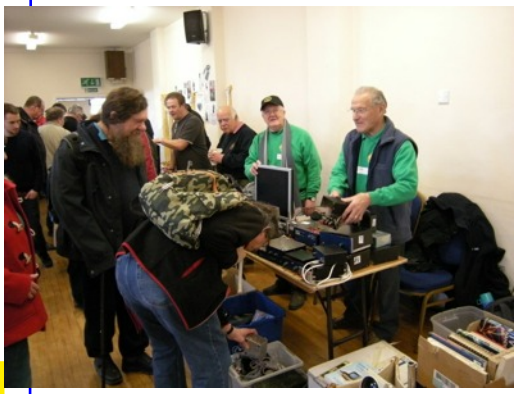
As most of you know, the club has been very fortunate to have donations of "radio related gear" over the last 7 or 8 months. Some of this came from club members, but most of it came from the estates of 2 "Silent Keys". Some items were sold at club meetings, but the majority of the donated items, along with some older and surplus equipment was taken to the Canvey rally where the club had a table booked.

Canvey Rally Report

Tony, GØIAG

On Sunday morning, at 7.30, Edwin, John and I set off in 2 cars (Edwin's loaded to the roof) and we arrived at the rally just as the doors opened to Traders. We set up the stall and were more than ready for the public by the time the doors opened. We were in the second hall which has less stalls and more room, as a result of that, more people could see what we were selling. Sales were steady and I had fun persuading people to part with a quid for a carrier bag full of "interesting items" from our Toot Boxes under the table.

Howard and Jim turned up and lent a hand for a short while, and they also helped us clear up at the end - my thanks to them. By 12.30 we had just about sold out, as the "punters"



were nearly all gone, we did the same.

Our unsold items only half filled a 24-litre plastic storage box, but the sold items raised £413 (net) for the cub. Not a bad mornings work.

Over the last year, the club has been very lucky with equipment donations and commission from sales, which has meant that new equipment purchases have not eroded the clubs finances. The FT897, LDG auto tuner (to fit the 897) and now a brand new Tent for events etc. are just 3 examples.

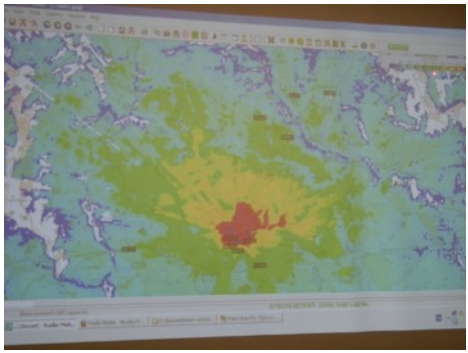
The 3 of us enjoyed the preparation, and the rally and the shed's of Edwin and John now enjoy more space. Perhaps we should start collecting to fill the spaces!

This evening we were shown the RF coverage plotting system used by Dave GØDEC, for RAYNET and club purposes.

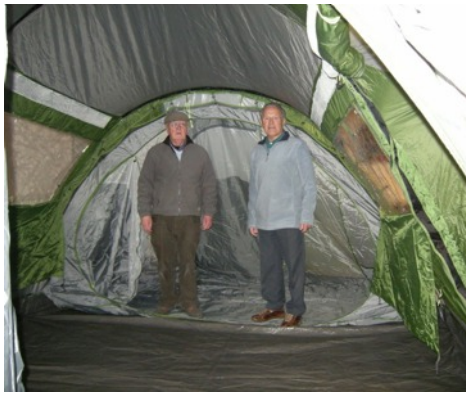
Club Meeting Report

Tony, GØIAG

Dave explained that using coverage plot predictions helps in siting aerials in the most effective place for maximum coverage on different frequencies. The software used is a free download called Radio Mobile. Combined with Ordnance survey mapping downloads and contour mapping from Shuttle Radar Terrain mapping, the whole system is very effective.



Dave spent some time showing the coverage plots of some of the members individual stations, and answering questions on the system. A very interesting talk. Thank's Dave.



Also at this meeting, the new club tent was on display. This was purchased to replace one of the old tents that was leaking like a sieve at last years JOTA. The new tent is big enough to have 2 stations operating at opposite ends, and even with a sewn in ground sheet, is considerably lighter than it's predecessor.

Wanted

I would like to buy the following items to add to my Trio/Kenwood TS-530s.

MC-50 or MC-60 desk microphone.
SP-230 base speaker.
VFO-230 remote vfo.
Can you help?

Tony GØIAG. 01376 330853.

Earthing System - A Follow-on from June '12

Dave, G3PEN

I suppose the oddest local effect was after I developed my "earth" system. I was on holiday at home when I found that the council was replacing all the back-garden fencing (which was very dilapidated) with new chestnut-paling fencing - this was the usual sort, with wooden staves about a yard long, held together at about 4 inch intervals by twisted steel galvanised wire near the top and bottom. Each length of fencing was about 60 feet long, and joined by twisting the galvanised wires together. The local back gardens were each about 60 to 70 feet long, and about 25 feet wide, and back to back. The result of the replacement was rather like the spine of a herring, with a total length of the main spine of at least 180 yards and umpteen ribs of about 120 feet long, connected to the spine in the middle. I realised the possibilities at once, and persuaded the foreman that it would do no harm if I followed the gang doing the installation and soldered every twisted joint with a very potent spirit-powered soldering iron, a copious amount of non-corrosive flux, and a lot of solder. (I also provided a lot of tea and biscuits during the work, which no doubt helped my cause.)

I was able to go into every garden between my QTH and Andy's, and a bit beyond, and also about 70 yards the other way, without any opposition from the residents, although one or two did eye me at work with some doubt. I then drove about 8 8ft 1/2" copper water pipes into the ground round my (parents') garden, which was easy, as the soil was pure London Clay, and soldered these to the fence wires, joining both levels of steel wires together at the same time. This assembly was then connected to the shack earth.

This new earth/counterpoise system went into use at the end of over a week of work, and I went on the air as usual, in time for the weekly local net. Signals seemed much the same as usual, which was a bit of a disappointment, until Andy reported that he was getting a very peculiar effect. He had a signal-strength monitor - essentially a small crystal set with a meter, which picked up a signal from his aerial and allowed

effective tune-up (no VSWR meters etc in those days). He saw that when I was transmitting, his meter showed almost the same level as when he was on the air! It turned out that he had also seen the new fence-line, and had attached his own shack earthing to the fence by his shack, with the result that effectively we were both using the same earth/counterpoise. After this, we made sure that we were never trying to have separate QSOs on the same band at the same time, in case of mutual interference.

I think this earth system was in fact very effective in practice, as I enjoyed regular 160 m QSOs the length and breadth of the UK for a number of years after, mainly using a middle-loaded vertical of 40 feet total length (the top half was made from an ex-WD tank whip 20 feet long, mounted on a 20 ft scaffold pole), before moving to Braintree in 1967. One winter I also worked a couple of East Coast American stations on 160 m, using my home-brew AM TX with about 5 watts output, but never repeated this feat, sad to say. (Tank whips were only 16 feet long, but it was possible to add another 4 ft section, which made it somewhat fragile in high winds.)

Construction Challenge

The committee has issued a challenge to all members.

Build anything you like to fit inside a recycled computer switch box, approx. 6 (w) x 4 (d) x 1.5 (h) inches (150 x 100 x 40), supplied by the club and shown on the front cover.

The project box may be modified in any way you please.

Projects will be scored in the traditional way as part of the annual construction competition that will continue as normal.

Any member requiring help and/or assistance with designs and components should contact any committee member.

Items which you may consider building:

Morse Oscillator, Nicad Charger, QRP SWR Bridge, Station Power Monitor, Balun 4-1 or 1-1, Any QRP Item, or anything else!

Good Luck, GØLPO

During the heat-wave last June I dug out, what was to be, a wildlife pond. This turned out a lot easier than I had hoped as the soil is very soft with few if any stones for the first foot or so of depth.

Garden Capacitors

Ian, G8MKN

As there were no sharp stones I lined the pond with some foam laminate flooring insulation, rather than old carpet. Over this I spread the standard pond liner and started to fill the pond with a hosepipe.

Being in the hot spell I was in shorts, and while kneeling on the bare ground to adjust the liner, so that it fitted reasonably into the irregular shape of the dug-out, I accidentally touched the water in the pond. To my surprise I got, what I took to be an electric shock.

Being unsure of the state of the electrics as we had only moved in in February, I was concerned that the electrical supply 'earth' wasn't truly at earth potential so pulled out my meter (no not the supply companies meter), setting it to 240 V ac, dug my fork well into the ground and checked between this and the water in the pond. The meter flicked up to almost 100 V! but dropped immediately to zero. I repeated the test and got the same result.

My conclusion was that this was a static build-up similar to that from a Van de Graff generator with electrons being added to the pond as the hose water flowed, and that the pond was acting as a Leyden jar (capacitor) - but does anyone have another explanation?

I have not yet attempted to find out the value of this capacitor. Watch this space…

Can you help?

Do you have any 1940's (wartime) domestic broadcast radio receivers, or should it be "wireless's". I wish to put on a display of domestic and military radio's at a '40s themed day later in the year, in Lincolnshire. They don't have to be working but need to be of the right era. I am hoping to borrow, but would be willing to buy, if not too expensive.

Contact me by phone, e-mail, or at the club. Tony, GØIAG.

Braintree and District Amateur Radio Society

Braintree and District A.R.S. meets every 1st and 3rd Monday of the month at The Clubhouse, Braintree Hockey Club, Church Street, Bocking. Doors open from 7.30 pm for an 8 pm start to the meeting. Prior to 8 pm, and during the refreshments break, when a cup of tea or coffee is available free of charge, members have the opportunity to sell or exchange equipment etc. Meetings normally finish at 10 pm.

The Club Membership fee is £16 annually; Senior members (State Retirement age) and Junior members (under 18) pay a reduced club subscription of £10. Door fees are payable per meeting. Rates are £1 for members and visitors.

A Club Net operates on the 2nd and 4th Mondays (excluding Bank Holidays) under the callsigns G6BRH and G3XG. The net commences at 20.00 local time on V30 (S15) - 145.375 MHz and SU23 - 433.575 MHz, unless QRM. In months with 5th Monday the net operates via GB3BZ 430.850 MHz.

BARSCOM is sent to members by e-mail on the first of the month; paper copies are available at the first meeting of the month. Members unable to attend club meetings may lodge S.A.E.s with the Editor for printed copies. Usual deadline for copy is the 28th of each month.

Members advertisements are published free of charge.

For more information and pictures of events and projects see our Web Site at www.badars.co.uk

The next edition will be published on April 1

The deadline for submissions for the next edition is March 25

Please contact our Publicity Officer for details about commercial adverts.

Contests

VHF/UHF

March

1-2 1400-1400 March 144 432MHz
4 2000-2230 144MHz UKAC
9 1000-1200 70MHz Cumulatives #2
11 2000-2230 432MHz UKAC
18 2000-2230 1.3GHz UKAC
25 2000-2230 50MHz UKAC
25 2000-2230 SHF UKAC

April

1 2000-2230 144MHz UKAC
6 0900-1200 First 70MHz Contest
8 2000-2230 432MHz UKAC
13 0900-1200 First 50MHz Contest
15 2000-2230 1.3GHz UKAC
22 2000-2230 50MHz UKAC
22 2000-2230 SHF UKAC
29 2000-2230 (Local) 70MHz UKAC

May

3 1400-2200 432MHz Trophy
3 1400-2200 10GHz Trophy
3-4 1400-1400 432MHz-248GHz
6 2000-2230 144MHz UKAC
11 0900-1200 70MHz Contest CW
13 2000-2230 432MHz UKAC
17-18 1400-1400 144MHz May
18 1100-1500 144Mhz #1 Backpackers

HF

March

3 2000-2130 80m CC DATA
8-9 1000-1000 Commonwealth Contest HF Championship
12 2000-2130 80m CC CW
20 2000-2130 80m CC SSB

April

6 1900-2030 RoPoCo SSB HF Championship
7 1900-2030 80m CC CW
16 1900-2030 80m CC SSB
24 1900-2030 80m CC DATA

May

5 1900-2030 80m CC SSB
14 1900-2030 80m CC DATA
22 1900-2030 80m CC CW

June

2 1900-2030 80m CC DATA
7-8 1500-1500 NFD
11 1900-2030 80m CC CW
19 1900-2030 80m CC SSB

July

7 1900-2030 80m CC CW
16 1900-2030 80m CC SSB
20 0900-1600 Low Power Contest
24 1900-2030 80m CC DATA
26-27 1200-1200 IOTA Contest

On September the 1st 2013, ML&S were appointed a direct factory distributor for Yaesu Musen Japan, a first for a UK retailer. ML&S are now able to liaise direct with the manufacturer on new products, repairs, support and advice. A proud moment in twenty-three years for the World's Favourite Ham Store.

ML&S YAESU

FRIENDLY, HELPFUL ADVICE
OUR ORDER HOTLINE
0345 2300 599

The New FTdx3000

HF/6m Base from Yaesu Musen

- **TX Frequency Coverage: 160 - 6 meters**
- **RX Frequency Coverage: 30kHz - 56MHz**
- **Operating Modes: USB, LSB, CW, AM, FM**
- **Digital Noise Reduction**
- **Large 4.3 inch (dia.) colour TFT display**
- **Power Output: 5 to 100 watts HF - 6m**
- **IF DSP**
- **Built-in Electronic Keyer**
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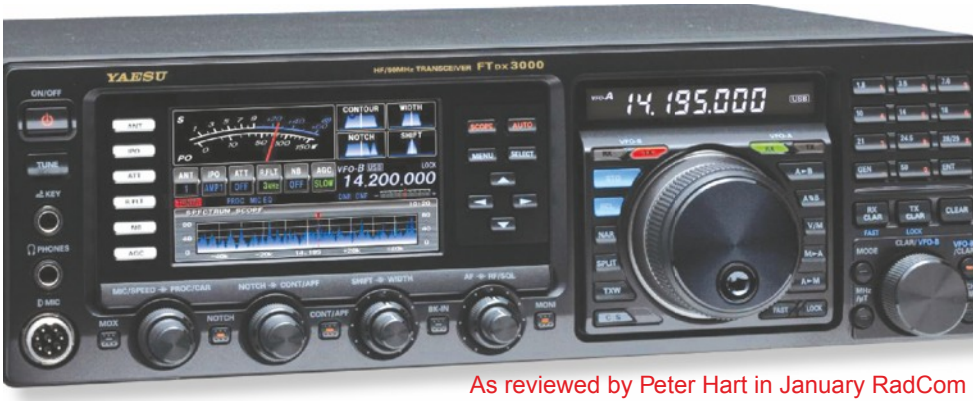
- **High Speed Spectrum Scope**

The successor to the FT-2000



As reviewed by Peter Hart in January RadCom

The new FTdx3000 HF+50MHz 100 Watt Transceiver is another exciting new product that is certain to capture the hearts of determined DXers and Contesters as well as casual operators looking for solid communications. Using the newest down conversion and sharp edged crystal roofing filter technology, this fabulous radio attains outstanding receiver performance inherited from Amateur Radio's leading HF radio; our proud FTdx5000. The market has been waiting for a reasonably priced transceiver that takes a major performance leap forward – the FTdx3000 is that feature filled compact radio package.

The Yaesu FTDX3000 transceiver provides ultimate weak signal receiver performance in crowded, strong signal environments.

NOW IN STOCK

ML&S ONLY £2195.95

For more information see: www.hamradio.co.uk/ftdx3000

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