

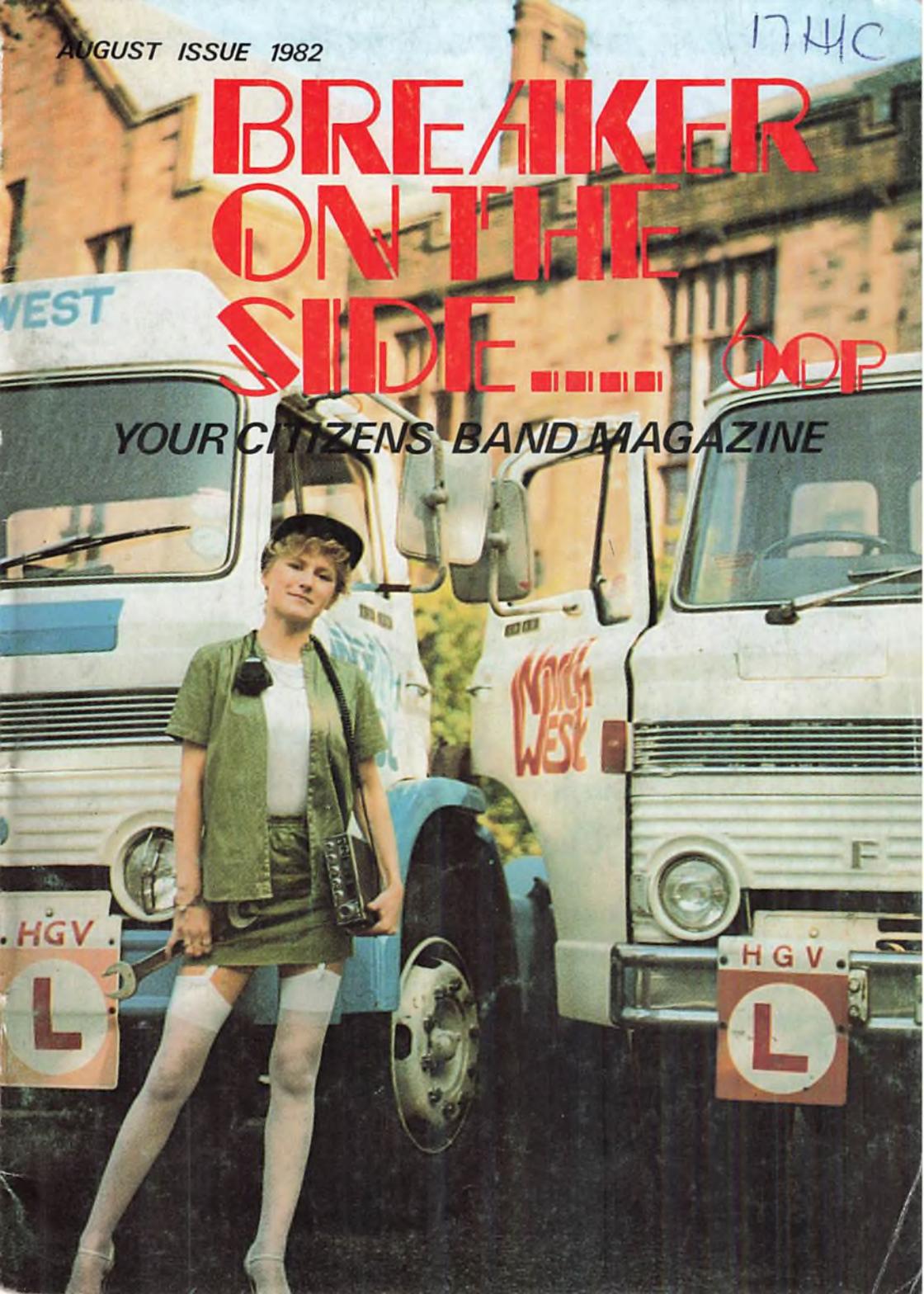
AUGUST ISSUE 1982

174C

BREAKER ON THE SIDE.....

600P

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- ★ WE PRINT YOUR LETTERS, YOUR POINTS OF VIEW.
- ★ WE PRINT YOUR REPORTS AND ACTIVITIES IN C.B.
- ★ WE STAND FOR C.B., WE ARE BREAKERS WITH YOU.
- ★ U.K.-F.M. : A.M. : F.M. : SIDEBAND : QSL-DXING

CB CLUB NEWS

MONKEYTOWN BREAKAWAYS BAMFORD SQUASH CLUB

c/o Shirley and Amy, 240 Alfred Street, Bury.

Just a few lines to let you know how the club is doing, since I last wrote to you we have had a change of committee. Astral and Blue Lady have now resigned and we'd like to say a big thank you for their help and assistance while they were with us.

Our new committee members are Fanbelt and Shy Lady. Fanbelt will be taking over Mad Professor's job as General Assistant as Mad Professor is now treasurer. Shy Lady, who has been a great help in the past organising the ladies darts and pool teams will be running the ladies social side of the club.

A big thank you to our ladies darts and pool team who have played the KENSINGTON GARDENS BREAKERS of Middleton twice, home and away, and won both times. At home we won 4-3 darts and 4-3 pool while away we won 5-2 pool and 6-1 darts (I lost to my shame). Bad luck K.G.B. Still we enjoyed ourselves very much and hope to play against you again. ANY CHALLENGES WELCOME.

Our football team is still undefeated and our next game should be against a club in Fleetwood thanks to your magazine. I will write and give you the details of this event when we have organised it.

We have also had a fancy dress party for Valentines Day and everyone enjoyed themselves thoroughly. Fanbelt won the mens prize of a camera as a very convincing bride and Blusher won the ladies prize of a cosmetic bag as a clown. Well done both of you.

Our next venture combined with the members of the K.G.B. of Mid. which I know will be a laugh a minute, is to drink a pub dry. So pity the poor pub which is in for a big surprise. Everyone from both clubs are practising hard as per usual.

Last of all, could you please send our good wishes to Zoro a member of our club and Easter Egg of Base 13, Bury, both of whom are in hospital and we hope will be well soon.

That's all for now. 10-10 take care 'cos we all care.
Whoosh we gone.

White Lightning (Secretary)

BIRDS OF A FEATHER

c/o 20 Manorstead, Skelmanthorpe, Huddersfield, West Yorks.

Will you please include the following in the breakers club section of your magazine.

We are a newly formed club called 'Birds of a Feather'. Our meetings are held weekly on Monday at the 'Chartist' in Skelmanthorpe at 8.00 p.m. All breakers welcome.

The annual subscription is £1.50p for adults and 75p for under 16's. Any breakers wishing to join please contact the secretary, Southern Comfort, at the above address.

We would like to thank everyone that has helped to make our club the success that it is.

Southern Comfort, Secretary

FLEETWOOD ASSOCIATED BREAKERS

c/o 15 Mowbray Road, Fleetwood, Lancs.

I am writing to give you news of the Fleetwood Associated Breakers Club, which formed just over three months ago. We have now one hundred and fifty members and still growing. The meetings are held the first and third Sunday in the month at the Marine Hall, Fleetwood.

Activities we have had, and are going to hold are, a flan flinging contest, treasure hunts, foxhunts, which are hilarious, QSL competition for home base stations, a dinner dance, a convoy/picnic to eyeball another club, and a treasure hunt for juniors on bicycles.

We have adopted Manchester Childrens Hospital (Cancer Unit) as our charity, and we are trying to raise money for an infusion pump which we hope to donate. So far we have raised £220. We are also collecting toys and games in good condition to send to them.

Any breaker, FM or AM who would like to join are welcome. Just come and eyeball us. I'll go breaker break.

Big Momma, Secretary

SOUTH PEMBROKESHIRE BREAKERS CLUB

c/o 19, Kavanagh Court, Pembroke Dock, Dyfed.

The South Pembrokeshire Breakers Club are to try to form a nationwide C.B. radio link, hopefully to involve some member of every C.B. Club in Wales, England & Scotland.

The idea is to send a message from this club at 12-01 am, using channel 4 on the 1st of May '82, to be picked up by any member of another club and repeated as exactly as they hear it.

We would prefer the C.B. Clubs of Gt. Britain to appoint one or two of their members to listen out for the message to avoid over-modulating on the channel and we'd also like them to have a pen and a postcard handy and to fill in the time they heard the message, what the message is and of course who heard it and on behalf of which C.B. Club.

We do realise that in some country areas the C.B. Clubs may be a fair distance apart, eg. I believe there is a club in Cardigan and one in Aberystwyth but I don't know of any between the two towns, in which case we hope any C.B. enroute will pick up the 10-5 (message) and pass it on, filling out a postcard with the time the message was heard, the message, the handle of the breaker and his/her 10-20 when the message was heard.

Our aim in this link is to see how fast and accurate a 10-5 can flash from one end of the country to another by C.B. radio.

We will, of course, inform your magazine of the results of this experiment so if the breakers involved in this link-up can post their postcards over the weekend of the link-up to the above address, we should have them read and sorted by your next issue.

The message will begin . . . "This is a 10-5 from the South Pembrokeshire Breakers Club". . . , the rest you will hear over the C.B. radio on channel 4 F.M.

Happy listening, 10-10.

Red Hen and Crazy Lady

KCB

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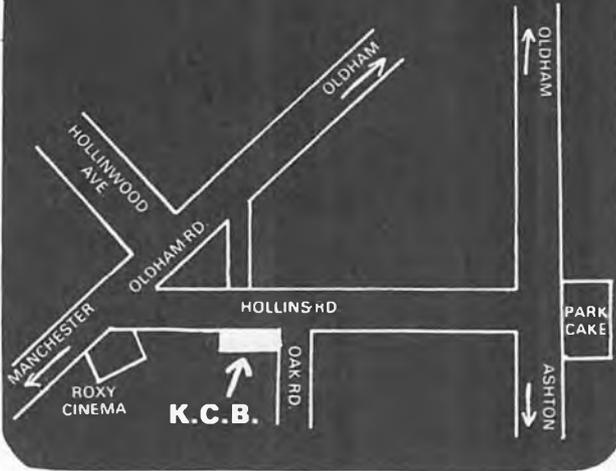
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THE DRAGON BREAKERS CLUB, LEYLAND

c/o 24, Young Avenue, Leyland, Preston, Lancs.

Our club was formed in October 81, and we have a growing membership of both F.M. and A.M. breakers. Meetings are held at the Roebuck, Towngate, Leyland, every Sunday at 8.00 pm. Membership is £1.00 per year, plus an entrance fee of 25p at each meeting.

We hold darts matches, discos, video evenings, and arrange activities for charity. A recent sponsored Disco and Pub Crawl in fancy dress, which were enjoyed by all participants, raised sufficient funds to purchase F.M. rigs for disabled people in the area. Many other activities are organised for the future, which hopefully will be successful.

Looking forward to meeting new breakers at the club, hope to see you soon.
Breaker, Break for now.

Melody Maker (Secretary).

NORTH FYLDE MOONLIGHTERS

c/o 15 Toronto Ave., Fleetwood, Lancs.

The North Fylde Moonlighters was formed in January 1981 and meets every alternate Tuesdays at the Fleetwood Rugby Club, Melbourne Ave at 8.00p.m.

The membership fee is £2.00 with 25p entrance and 50p for guests. The club has a disco, bar and raffles etc.

Our proper 20, Fleetwood is called "Pompeii" and NOT Birds Eye Village, Lansend or Fishtown as printed in your mag.

Our club has a football team and are willing to challenge any other club to a match. If anyone is interested would they get in touch with paper plane at the above address.

Our committee members are Chairman – Scooby-Do, Vice Chairman – Mystic Lady, Secretary – Cointreau, Social Secretary – Straight Shooter, P.R.O. – Rainbow, Treasurer – Alpha Sud, Press Officer – Paper Plane and Liaison – Levis.
73's & 88's

Paper Plane, Press Officer

A.B.C. A.M. BREAKERS CLUB

c/o 4 Bowden Lane, Chapel-en-le-frith, Cheshire.

Since the club was formed over twelve months ago we have built a membership up to 550 plus breakers, all A.M. and side bands to a man. We too are obviously trying to get C.B. Radio legalised on 27 mhz A.M. and the fight will be even stronger in 1982 than it was in 1981 and we would be pleased to hear from any other club or clubs who are putting up the same fight. Our eyeballs are held every other Monday with discos, live entertainment and charity organising. Any A.M. breaker passing through Brake Tower on eyeball nights will be made most welcome at the club, just put a shout out on 19. Our motto for 82 is LET THE USERS BE THE CHOOSERS.

We are also members of NATCOLCIBAR.

Watchman & Silk Queen.

FORMBY AND FRESHFIELD BREAKERS CLUB

A few lines to introduce the newly formed breakers club in this area. The club is open to *any breaker*. Majority of the members are from the Formby area but will encourage breakers who live close to the district. (Southport and Ainsdale breakers).

We meet fortnightly in the Pram Club in Formby. The aim of the club is to promote the C.B. Radio and assist with various charities. At the time of writing the letter our first charity will be swinging into action. (Fancy Dress Football Match against N.W.B.C. and Southport Breakers. Proceeds to Jimmy Savile Stoke Mandeville Fund).

We have numerous activities planned during the next few months.

On the eyeball night there is present at the club a supplier of C.B. equipment which seems to go down very well. The eyeball commences at 7-30pm and at present we have in excess of 120 breakers.. Demonstrations of new electronic C.B. equipment were shown during the last eyeball and further demonstrations have been planned.

Activities between the Midway Breakers Club (Bolton area) and the Wirral Breakers Club are in hand for later in the year.

Breaking channel for Debtors Retreat (Formby) is 14.

Why not come along and see for yourself what C.B. is all about.

Hope to see you down there.

Breaker-Break.

The Smoking Squirrel (Secretary)

THE C.B. SEA DRAGON CLUB

c/o Kingsley House, Atholl Place, Peel, Isle of Man.

The Sea Dragon is an old lifeboat of the Britannic, which many years ago was converted into a Viking Longboat, and has been used to raise money for charity.

The C.B. Sea Dragon Club was formed last year after our 23 hour epic row from Portaferry in Northern Ireland to Peel in the Isle of Man. The voyage earned for charity over £2,000, and we formed the club to carry on the good work. This year we are planning to row round the Isle of Man, having functions every night in different ports of call, ending up in Peel, for a Viking Festival, and Boat Races.

Due to old age, and I must admit, a few careless moments, we are now in a desperate state for oars to carry on our good work. The boat carries a twenty man crew, two to an oar, ten oars in all. These are 17ft sweeps, but 16ft would do. If there are any good buddies over there in England who know the whereabouts of any oars of this size, and could let us know, we should be able to arrange collection. All we raise goes to charity, so if anyone would like to donate us an oar, it would be greatly appreciated, and be put to good use.

Please contact me at the above address, or phone Peel 3563 any evening.

By the way if any club would like to send a team to row in the races, hopefully August 7th, they would be made very welcome, and accomodation could be found for them. And anyway if anyone is over in the Isle of Man in the Peel area, give us a shout on 13, or call.

Hope to hear from you other clubs soon, so till then 10—10 and stay lucky.

Chris McVey, Secretary (Brown Eyes)

SOLDIER C.B. CLUB

c/o P.O. Box 23, Bolton

Just a few lines to let breakers know that the soldier club who meet at The Volunteer Arms every Monday night at 8p.m. can now be contacted at the above P.O. Box. The annual membership is £1 and 50p per meeting. If any breakers are interested in joining in on our P.O. Box for DXing etc., it is £2-50 per year.

The picture shows a presentation of an electric wheelchair, the club members raised a great amount towards this chair.

King Peanut, Secretary



TX21 CB RADIO CLUB

c/o 11, Stoney Holt, Clayton-le-Woods, Lancs.

As we haven't as yet been featured in your 'Club Spot' I thought I would write to you to tell you something about our club.

We are a serious breakers club and our main objective is to see CB legalised on ALL MODES of 27mhz. We meet every other Monday evening at 'The Ley Inn', Clayton-le-Woods, Leyland which is in the Preston area.

Membership of 'TX 21 CB Radio Club' can only be achieved by being proposed by an existing member and seconded by another. A vote by the body of the club then decides whether that applicant can become a member or not. The minimum age is 21 years and our club is one year old this March.

We do have social activities but as the age group we have is probably older than most clubs we only go in for the odd parachute jump or two. Other than that we restrict ourselves to serious drinking and excellent conversation.

We have a post office box to receive mail which is P.O. Box 21, Leyland, Lancs.

We are a member of NATCOLCIBAR and support their fight for CB on a suitable frequency.

May we at 'TX 21' wish your magazine every success and we will of course send you our club news from time to time.

73's and 88's.

Chapter One, Sec.

HILLBILLIE BREAKERS CLUB

c/o 11 Factory Hill, Horwich, Bolton. Lancs.

This is a new club which has just been formed and caters for all the family. We have just held our first eyeball and had 93 in attendance.

We meet at Blackrod Community Centre (BOOT HILL) at 7.00 p.m. every Tuesday and would welcome any new breakers who wish to come.

So, 10.10 Brass Monkey going down.

We're Gone.

Brass Monkey, Secretary.

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INVA-RAD DISABLED & ABLEBODIED BREAKERS CLUB

c/o 83 Kennet Drive, Bletchley, Milton Keynes

I would like to take this opportunity to introduce the above C.B. club which is the first of its kind in Milton Keynes.

We are a club that has gone forward and tried to help those who are Disabled in our area who would like to get into C.B. but could not afford to buy the equipment at the full cost price, so that our aim is that any disabled person who cares to become a member of our club can be helped in getting on channel by leasing the equipment at half the cost and the club pays the rest from the funds it raises through doing different things like the one we have on May 22nd, which is a sponsored Roller Skate at the AGORA, Wolverton, Milton Keynes, and is also being turned into a mass eyeball for any breaker that wishes to come along.

We had a large Raffle of which all the prizes have been donated and they are as follows: 1st prize a Midland 2001, 2nd prize a set of Roller Skates and boots, 3rd prize a Clock Radio, 4th prize is £5, in skating sessions.

We would also like to hear from any other clubs in the country who would like to become a branch of the above C.B. club and who are interested in helping the disabled members of our community, if there is they can contact me at the above address and we will send them details.

We hope you will print this in your next issue and would like to say thank you.

Shazram, Vice Chairman

THE MOUNTIES BREAKERS

I am writing to you to give you some information about our club in the hope that it will be published in your next club news slot.

Our club is named THE MOUNTIES BREAKERS so called after our Chairman The Mountie. We meet on a Wednesday night at 7.30 till closing time at the R.A.O.B. club on Comberton Hill, Kidderminster (Carpet Town) Worcs. Our membership is £1.00 per year and 30p each meeting for members, 50p visitors and 20p for under sixteens. Most of our breakers are F.M.ers but A.M.ers are more than welcome.

We formed our club in October 1981, and since then we have gone up to 120 strong.

One of the clubs aims is to rid the Carpet Town and district of bad language which we are getting a lot of just lately. Also we have a sponsored marathon modulation by one of our breakers "Vaquero" beginning at 12 o'clock mid-day on April 9th, channel 5. He is hoping to modulate for 48 hours.

We have a committee of seven who are all ex A.M.ers with experience enough to help new F.M. or A.M. breakers with any problems they might have.

Our committee is as follows: Mountie – Malc; Red Lorry – Brenda; Scaffold – Geoff; Highwayman – Mick; Sparrowhawk – Bill; Timesetter – Ivor; Pernod – John. There is always one of us on channel, 10-10 we gone.

Highwayman

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EDITORIAL

Have you heard those words after a tap on your car "I believe you are using an illegal wave band?" and have you replied a bit like the man who says "I only had one pint/I couldn't remember your address" "NO - try it for yourself" (after a flick of a switch or whatever secret device) and hey-presto U.K. F.M. and of course you never copied the handle you have been accused of and if your set has a fault and can be copied on A.M. well, of course you will go straight back to the shop and have it checked, even repaired?

Big brother is certainly alive with his presence felt. This editorial is not a claim for legal F.M. or A.M. but more evidence that on legal day we didn't quite get it right and it is still not as simple as F.M. legal - A.M. will not exist. C.B. came to Britain through a black market supplying worldwide provided C.B.'s which because of British W.T. laws the wave band was not U.K. licensed, but like an inoffensive Rubic cube grew in popularity and demand soon found a home with thousands - 4 for sure good bud. Now with more time gone by, British F.M.ers find their forty channels crowded and distance when mobile impossible because of driving into an area where other breakers using the same channel can blank out your transmission. A lot of complaint with C.B. is just lack of understanding. So today many converted to F.M. revert to the A.M. facility of more channels and now that Sidebanders try and stay away from F.M. bands, there appears more peace. I do wish many of you could drive along a busy truckers route and listen to 19 A.M. Truckers the die-hards of C.B. and it is so very harmless. It is little more than two cans and a piece of string between two cabs. It is company for drivers on a long journey, it is an extention of that cafe or loading bay conversation. Very truly, what harm is being done? Those 18 wheelers have it right with fully dressed cabs with two or four antennas and what is connected to what and with a F.M. rig on show who cares! Let's face it we are all C.B.ers together - birds of a feather.

Peter G.



Dear BOTS

You've got HEDGEHOG coming atcha from PORT CITY. I am writing to compliment you on your 'ACE' publication. I am an F.M. Breaker but I still long to see the day that brings an end to all these restrictions on A.M. and F. M. C.B. are lifted. I am in my mid teens and I and my brother TORQUEMADA own a Transcom GBX2000 and have achieved twice as much distance than the specs say although my school work comes first I somehow always find time for this great hobby. I dig the front and back cover pics especially the February 1982 edition. Before I go I would just like to say a big 'Hello' to all my Good Buddys down here in Plymouth. Well it's 10.10 from me.

Hedgehog down and on the side giving BOTS the thumbs up.
Ta Ta.

*Hedgehog
Port City*

Dear BOTS

For the past few days breakers in the Dagenham and Rainham area have been involved in the fund raising for the STOKE-MANDEVILLE Hospital, in order to buy a spinal injuries unit. The breakers held a C.B. Marathon on Channel 38, from Friday 26th March and

is still going on as I write this letter. The marathon was organised by Crewman & Ironside. Ironside himself a former patient of Stoke Mandeville.

To my knowledge we've raised nearly £1000 green shields. We write hoping other breakers from other regions will be encouraged to follow suit, for JIMMY SAVILLE STICK A BRICK FUNDS, Giros available from any Lloyds Bank to be sent to Lloyds Bank, Sandy Branch, Giro Number 7040074.

Cheers for everything.

*Inspector Clouseau
Dagenham*

The letter below is in answer to 'Witchfinder's' problem with his Marco Excalibur Mk2. We hope this will help him and others. Our thanks to Mr. B.E. Carter and Derek of Rugby Sideband Group whose letter was passed on to 'Witchfinder'.

Dear BOTS

Ref: June issue, Query by "The Witchfinder" of Manchester.

I suggest that the above Breaker contacts one of the following suppliers of electronic spares, as wafers and switch kits are available from both of them.



Special Delivery

Contd.

ELECTROVALUE LIMITED – page 16 of their catalogue shows one of these kits (Shafting assemblies and wafers are available separately).

680 Burnage Lane, Manchester M19 1NA. Phone 432 4945.

also at:

28 St. Judes Road, Englefield Green, Egham, Surrey TW20 0HB. Phone (STD 0784) 33603.

MAPLIN ELECTRONIC SUPPLIES LIMITED – page 278 of their catalogue
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(SHOPS)

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284 London Road, Westcliffe-on-Sea, Essex. Phone (STD 0702) 554000.

I have used this type of switch very successfully in the past to repair old or obsolete equipment and equipment which due to it being OF FOREIGN import no spares are obtainable.

I hope that this information is of use to the aforementioned and other Breakers.

*The Mad Mateloet
B.E. Carter*

Dear BOTS

Just a few lines to introduce the DELTA 2000, and to show how the C.B. enthusiast can build his own customised base unit.

The unit consists of (bottom) York 863 with a Tandy SWR, MOD, and power meter. Over the SWR meter is a frequency counter and digital clock, also two meters one for DC volts and the other for DC amps.

The unit houses a regulated power supply home built with a 338K variable voltage regulator. All the meters in the base unit light up in red.

The top unit consists of a graphic frequency equalizer, an LED vu meter for incoming modulation and also a vu meter for out going modulation. There is also three small meters for DC volts, amps and mains voltage.

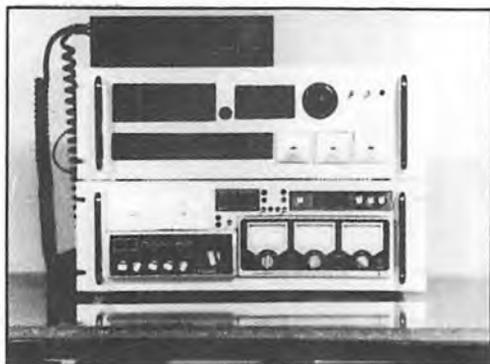
There is also a volume control knob for the stereo speakers to stop any feed back from the echo which sits directly on top of the unit.

Out going modulation is monitored through the ear phone socket or through the stereo speakers.

We hope you will show this to your readers to show them what a very fascinating hobby CB can be with a bit of imagination.

This unit was built by a breaker called DELTA from the Chadderton 20 for the Breakers Cabin, Middleton.

*Breakers Cabin
Middleton*



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Dear Bots

I have been active in the fight for C.B. since 1977 when I joined the C.B. Association. When people saw 'Citizens' Band' stickers on my truck they thought I was a part-time musician. We devised a system on 230 MHz which was so clever that if the government had introduced it, we would have had none of today's problems of skip, interference, T.V.I., wallies, bucketmouths and crowded channels. The whole world would have envied us and wanted a similar system; what a great chance for British industry.

When the 'Open Channel Discussion Document' came out in 1980, it was obvious that the government were not serious in wanting to introduce a C.B. service. They didn't regard C.B. as an essential service, to them it was just a toy, something for the kids and the idiots. I was disgusted.

The government had to act fast and introduce a V.H.F. F.M. C.B. system otherwise 27 MHz AM/SSB would become widespread. They did nothing until November 1981. By this time 27 MHz AM/SSB was so well established that the government really had no alternative but to legalise it, but they didn't.

They introduced a system which was carefully chosen to clash with and mutually interfere with the current system. These frequencies were obviously chosen out of sheer bloodymindedness.

Consequently all the pressure groups such as U.B.A., C.B.A. and Natcolcibar were opposed to the new F.M. system. So too were the British manufacturers. It was obvious that the government did not want C.B. to work. The Mobile Radio Users Association told us to boycott it, and all C.B.ers being good buddies, agreed to do so. There is however a bunch of scabs who call themselves Foxtrot Mike. Right now they are crawling out of the gutter to complain that they haven't enough channels, that their rigs suffer from interference and never stop crackling. They complain that they need to use illegal antennae in order to copy each other, and they complain that they can not take their rigs abroad but they are not prepared to raise one finger to fight for a better system. They are cowards and traitors.

About three weeks after Legalization day in the U.K. the European Standard was

changed. They increased the number of channels from 22 to 40 and the power from $\frac{1}{2}$ watt to 4 watts. They told the Home Office that they were about to do this and advised them to give us the F.C.C. frequencies. Our government lied to us about this but Natcolcibar now have documents to prove that Mr P. Cockram and Mr Tim Raison have been, and still are lying.

This ridiculous situation cannot be allowed to continue. We must fight for a European or World standard, where Britain must be made to conform. Total control of the airwaves must be taken away from R.R.D. and more control should be given to M.U.R.A.

Every C.B.er should be active in the fight for a change. They should:

1. **Boycott legal F.M.** and encourage others to do the same.
2. **Write 30 letters.** Keep bombarding their M.P.s, the Home Secretary, the Prime Minister, Timothy Raison and their Euro M.P.s with letters expressing their dissatisfaction. They need not be literary works of art, just short notes asking for a satisfactory, sound and appropriate set of specifications. Don't be afraid you will not get 'busted' for writing to them.
3. **Go along to any demos** for C.B. even if it means travelling a long way or giving up spare time. Take the whole family and make it a day out.

Rhys Bowen
Paraffin Lamp
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INSIDE INFO

HOW A RIG WORKS

Have you ever wondered how that little box of tricks you call a C.B. Rig enables you to communicate with someone miles away without anything between you but fresh air? Radio communications is now taken for granted but here I will explain without resorting to useless formulae you would need a degree to understand, just how the gubbins in your C.B. works. To give a complicated and in depth explanation of every transistor and I.C. would be entering the realms of Amateur Radio so I will keep it as simple as possible.

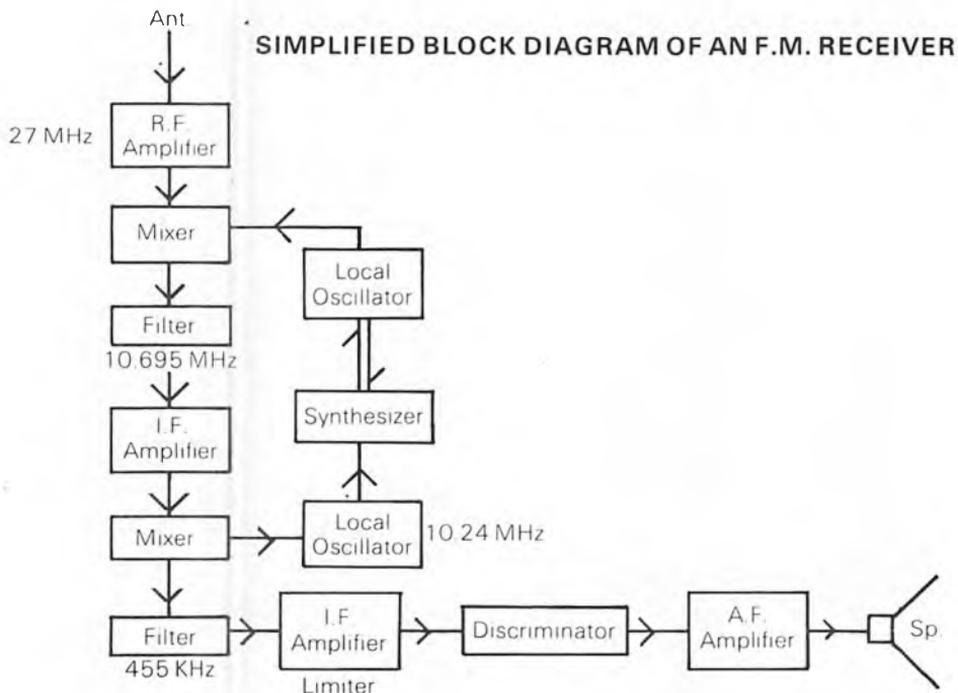
We'll start with the receiver side first using the F.M. system, but I will explain the differences in the A.M. system later. The strength of the signal arriving at the antenna socket can be very small indeed, less than one millionth of a volt (1·0uV), obviously therefore this signal has to be amplified considerably if it is to be any use, this is achieved by using a series of amplifying stages. The first stage the signal encounters is the Radio Frequency (R.F.) amplifier, this is tuned to 27MHz (i.e. the signal frequency) and after being amplified many times by this stage the signal is mixed with another frequency generated inside the rig to produce another signal at 10·695 MHz which is then amplified further by the Intermediate Frequency (I.F.) stages. There are two main reasons why the frequency is changed and not amplified at 27 MHz throughout, firstly if too much amplification is used at one frequency feedback would occur and the stages would oscillate uncontrollably, and secondly it is possible to obtain much sharper tuning (or better selectivity as it's called) at lower frequencies, well below 27 MHz, so that you receive only one channel at a time. After amplification at 10·695 MHz the frequency is changed again to 455 KHz for the reasons I've just described, highly selective filters are used at 455 KHz to ensure the receiver only responds to one channel at a time. Following amplification at this frequency, the signal is now large enough to be turned into an Audio Frequency (A.F.) signal by a stage known as a discriminator, this senses the small variations in frequency of the signal caused by the modulation process at the transmitter. The discriminator converts these into variations in amplitude corresponding to the modulation and these are then amplified by the A.F. stages to sufficient power to drive the loudspeaker.

The main differences between an A.M. and a F.M. receiver lie in the final stages of I.F. amplification, F.M. receivers have a stage which limits the signal and keeps the amplitude constant, this reduces the receivers' response to amplitude modulated signals such as car ignition noise. An A.M. receiver does not have any limiting stages and relies on a device known as an Automatic Noise Limiter (A.N.L.) to reduce ignition noise, and a simple detector stage is used and not a

contd. over

HOW A RIG WORKS contd.

discriminator. An A.M. receiver uses Automatic Gain Control (A.G.C.) to increase the sensitivity of the receiver on weak signals and reduce the sensitivity on strong ones, this keeps the audio output fairly constant as the signal strength varies and prevents strong signals overloading the receiver. As the audio output from a F.M. receiver is not dependant on signal strength, A.G.C. is not required.



contd. on page 10

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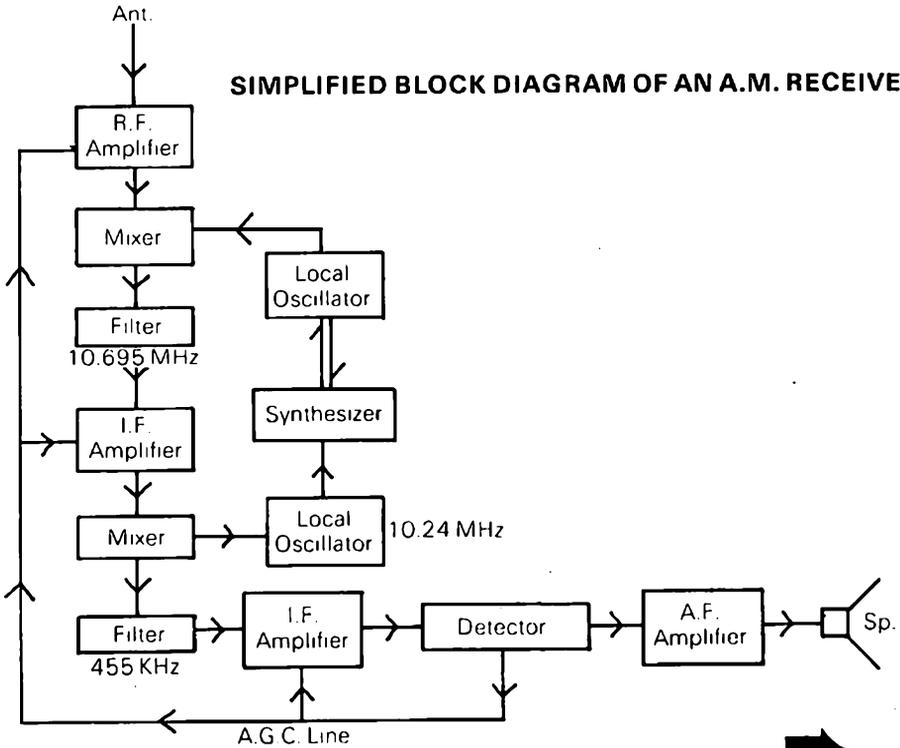
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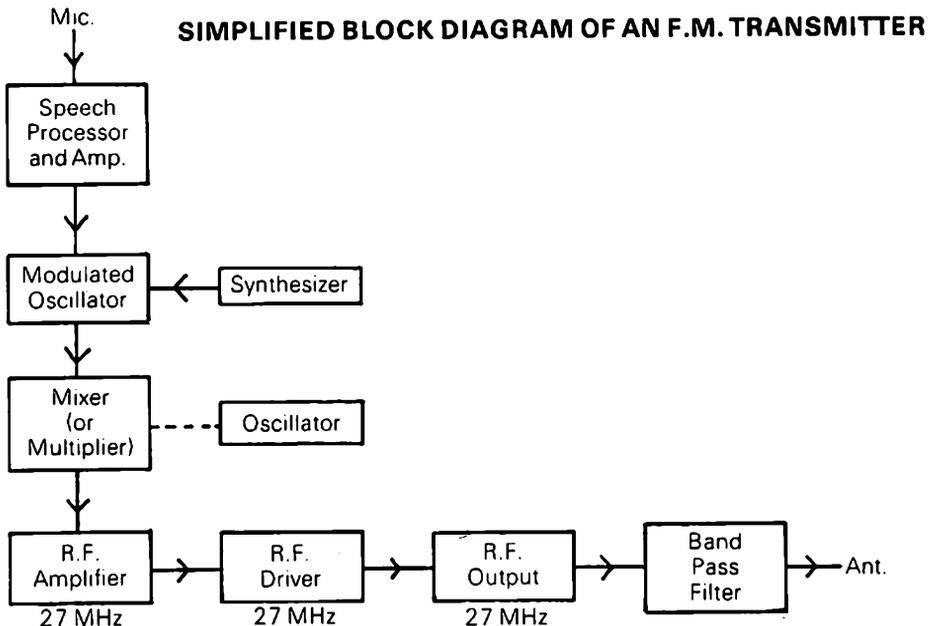
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As yet the synthesizer stages have not been mentioned and a detailed description of their operation would be outside the scope of this article, suffice to say the synthesizer and the first local oscillator generates a frequency that when mixed with incoming signal, produces the I.F. of 10.695 MHz. As the I.F. is constant at 10.695 MHz, altering the frequency of the synthesizer would mean that the frequency accepted from the antenna would also be altered and this is how channel selection is achieved. A 10.24 MHz oscillator provides not only a reference frequency for the synthesizer but is mixed with the 10.695 MHz I.F. to produce the second I.F. of 455 KHz.

Like the receiver the transmitter has a number of amplifying stages. Dealing with the F.M. version first, the signal is created in a small oscillator the frequency of which is controlled by the synthesizer. After being amplified the audio signal from the microphone is fed to the oscillator which varies its frequency slightly in sympathy with the speech. The frequency modulated output from the oscillator is then amplified and depending on the make of rig, is then either multiplied in frequency or mixed with another to produce the required 27 MHz signal. Further amplification at 27 MHz brings the signal up to the required 4 watts and after passing through a band-pass filter to get rid of harmonics and other frequencies not intended for transmission, it is fed to the antenna. Amplitude Modulation of a transmitter is a bit more involved. The basic line up of the stages is the same as with F.M. except modulation is not applied to the oscillator. Instead an audio

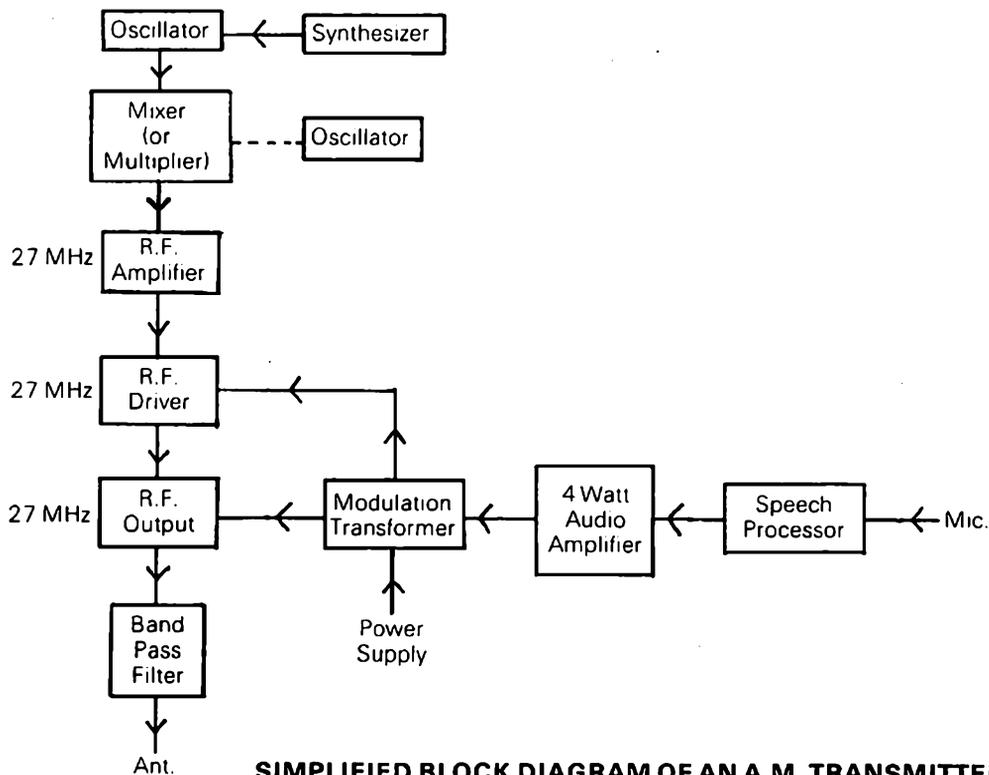


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HOW A RIG WORKS contd.

amplifier capable of supplying the same amount of power as the transmitter (i.e. 4 watts) is used to vary the power supply to the transmitter output stages in step with the speech fed to the audio amplifier input, this is called high level modulation and gives better quality than most simpler forms of amplitude modulation. For economy the audio amplifier is also used to drive the loudspeaker on receive.

In both A.M. and F.M. transmitters the audio signal from the microphone is processed before reaching the modulator, this is to filter out audio frequencies outside the range of normal speech to reduce bleed-over (this is why music sounds so awful when played over the C.B.), the processor also prevents over-modulation and improves speech clarity.



There we have it then, only a general explanation of the workings of a C.B. rig but to delve deeper into the technicalities would turn B.O.T.S. into an Amateur Radio mag. If this article has not satisfied your thirst for knowledge, the Radio Society of Great Britain (R.S.G.B.) can supply many publications on the subject of radio communication, their address is 35, Doughty St., London.

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PRESS RELEASE

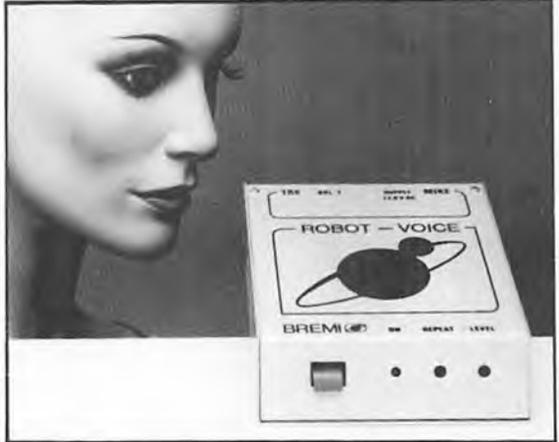
ROBOT VOICE

New from OCT is the synthesised voice unit, the Robot Voice.

This is a device that connects between the microphone and C.B. Transceiver for distorting your speech pattern. All the words are still distinct, but they sound as though they have been uttered by someone from Star Wars.

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S.O.S.

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Latest in the line of emergency C.B.'s is this kit from Harvard called the Harvard S.O.S. These kits can be stored virtually anywhere and are designed to provide help in the kind of emergency situations people sometimes find themselves in.

The Harvard S.O.S. features a 4 watt 3 channel C.B. (channels 9, 14 and 30), can be powered by batteries, home base power supply or car cigar lighter, low battery warning light, squelch, volume and attenuator. It comes with may mount antenna and a 9-section (148cm) retractable or "rubber duck" aerial (optional). Comes in a watertight case with instructions.

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INVISIBLE TWIGS

Before any of you out there get any funny ideas about this article please note that it *is* a serious (and not too technical) contribution.

What is a twig? And who wants an invisible one?

Well, even the newest newcomer to CB will have found that a good “twig” makes all the difference to his or her copies. The twig, or antenna, to give it its proper name, is the vital link in the chain. It does not matter a darn how good (or how expensive – they are *not* the same thing, you know) your rig is. It does not matter whether it is a straight 40 set (ugh) or if it is a 3 million channel all singing, all dancing microprocessor-controlled monstrosity that cost you your car, your wife and all her savings. No twig, no copies! It’s fairly obvious that if nobody can hear you then you are wasting your time shouting 14 for a copy, or something like that.

Your antenna does a very important job for you. It gets the signal from the rig out into the sky and out to all those other breakers who want to copy you.

So it’s obvious that what every breaker needs is a large antenna (or twig, if you insist) as high as possible and as far away from the old enemy, the TV aerial, as possible. Yes, it really does help to avoid or reduce TVI if you can keep the antenna (CB) away from the telly.

Since breakers need good twigs, why not just put up a dirty great mast and the biggest twig you can afford?

TVI – a few facts

Let’s take a realistic view of TVI for a moment, because it has a lot to do with what follows. The first most breakers know about TVI is:

- (a) when the family start playing hell
- (b) when the neighbours start playing hell
- (c) when BUZBY arrives with a warrant.

What most breakers still do not understand is HOW Buzby manages to turn up on the doorstep. They all know WHY he has arrived (they are breaking the law, in the shape of at least the 1949 W.T. Act and perhaps also the Customs & Excise Management Act) but *how* does



Buzby turn up at the right 20? That's a very important point, because it certainly is *not* the result of hours of patient detective work with complex electronic snooping gear! Buzby would like you to think that he has got marvellous monitoring gear, with all sorts of deadly accurate tracking equipment that homes in on you like an Exocet missile. Not a bit of it . . . radio hams have better gear than Buzby does.

Now for the truth (in at least 99% of cases) . . . Buzby gets a TVI (or hi-fi, or radio) complaint. It goes to the bottom of a BIG heap. Eventually it surfaces and is checked out. In a lot of cases there is absolutely no mystery about the source. The guy who files the complaint *knows* who is responsible and he tells Buzby where to look for the breaker. After having your TV screwed up for a few months you would tell Buzby too. So when the hard men arrive with their warrant they are not being all that clever.

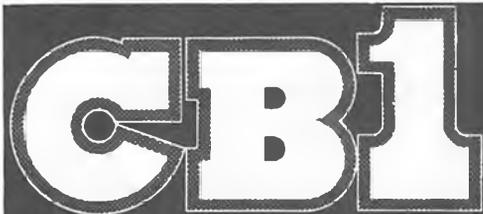
They do take a few precautions. The favourite one is to sus out the area . . . for any sign of an unusual twig. If there is a GP27 on the roof then it's odds on that they need not look much more. So now you know. If you are into DX-ing and you have a decent antenna you may turn out to be top of Buzby's hit list in your area when TVI raises its ugly head.

Unfortunately it does not matter that you may not in fact cause TVI. If Buzby manages to hear you on the air whilst sussing out the area, you will surely touch out for somebody else's TVI trouble. Remember that Buzby does not care that you have taken precautions against TVI around your station; all he knows is that you are a sitting target and that if the TVI is still there after he has done you, then he can come back and bust some other breaker. Now perhaps you see why putting up a decent twig can cause you big grief. What you need is an invisible twig.

How to vanish a twig

Firstly if you are a serious breaker you will forget using an indoor twig. They are great for TVI and for copies up to a few streets away, unless you are high up in a block of flats. Even if you have a high 20 then indoor twigs often mean aggro with TV and stereo systems . . . they are too near

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DXing.....WE

Last month came the announcement of the winner of the Q.S.L. card competition. Next month we will show you the official B.O.T.S. Q.S.L. card. Once again a hearty congratulations to Vince Dickens of Oldham, Lancs. who is our winning designer.

To this months Q.S.L. club, The Norway Amateurs Club, of P.O. Box 3538, Tjensvoll, N-4001, Stavanger, Norway. The club first started in March 1979 by Andy NAC01 and has well over 1,400 members at the time of writing. The club package costs 18 U.S. Dollars plus of course 10 signed and dated Q.S.L. cards. Andy along with his good lady wife Lizz compile a club package that's got to be voted one of the best in the world, including the now famous N.A.C. rubber stamp and a beautiful 3 colour wall certificate which is suitable for framing, also a beautifully coloured club Q.S.L. card is available at around £40 per 1,000 including postage with your own details on them (see Q.S.L. cards). If you want to know any more about Norway Amateurs, then please write to Andy and of course mention B.O.T.S.

Talking of Q.S.L. cards brings me nicely on to my next item. I gety a lot of mail asking where they can get their Q.S.L. cards made at a relatively cheap price including Olive Oil, Donut City Breakers (July special delivery). I have mentioned it before but perhaps you'd like to get in touch with Andy Cookson p.o. box 48, Preston, Lancs who will see a card nicely designed for around £8.00. The total cost of 1,000 cards is £35.00, 1 colour.

Back in June I said I would give away 5 Q.S.L. cards to anyone who sent a S.A.E. and a local postcard. At the time I didn't know what I was letting myself in for and the response has been absolutely tremendous. Cards and letters flooded in from all over the place including Northern Ireland (cheers Tracker), and a specially designed Q.S.L. card hand drawn from R. Skinner, 53 Efford Lane, Efford, Plymouth, Devon. I thought it was quite funny and if you want one just for the laugh why not drop him a line. If anything Hedgehog that'll teach you to write to me asking for Q.S.L.'s.

Also in June I was a guest of the Silly Tower Q.S.L. Club for the second annual meeting of their members in Rotterdam. Apart from meeting a lot of Q.S.Lers and DXers alike I surprisingly met Captain Kremen (Paul) of the Tango Whiskey D.X. Club of Tonbridge Wells, Kent. We enjoyed a good laugh and a chat and came up with a problem we both are experiencing about the lack of communication and dedication that is becoming very clear to people who join various D.X. Q.S.L. organisations in Great Britain. As a Q.S.Ler & Club President of such an organisation I understand only too well what is expected of me when people take the time to drop me a line, either to swap Q.S.Ls or to ask a question on the D.X. Q.S.L. scene.



QSL, YOU QSL

There are some clubs around who feel that once they have your membership fee tucked up inside their Bank Account feel they have no longer anything else to do. One club in particular is run by a 15 year old school-girl and doesn't answer all the mail that is sent to them, for instance one of their members wrote to me asking for the address of another club member because after writing 3 times to them and getting no reply decided that I might be able to help. I phoned the Club President, got the address that was needed and duly sent it off. I am also a member of this club and when I received my package was led to believe after reading the contents that I would receive up to date newsletters and members lists every quarter, so far none of this has happened. Again, I telephoned as a member and asked for these items and was told "We haven't had the time or the money to spend to get them done".

So a warning to anyone starting a Q.S.L. club don't say you're going to do something unless you mean it.

Another Q.S.L. club gets politically motivated and is forever sending its members including me asking to bang on the houses of local M.P.s demanding that we get them to legalise A.M. and S.S.B. This must cost the club a packet in postage and printing costs, which would be far better spent improving the club package.

Another pain is a club that costs too much such as one in London who have now upped their price from £10.00 – £12.00 plus £3.50 for the rubber stamp plus £2.00 per annum for the usage of their P.O. Box. This is totally out of order and anyone thinking of joining ought to think twice.

If you join a Q.S.L. club and are not happy with your club package whether it be in England or abroad write to me and let me know including Big Ben members if you are not happy with what you paid for. As far as I'm concerned a good club has value for money and puts its members first.

Together with your comments, hints and tips I will compile a top 10 Q.S.L. club list and a bottom 5 that a couple of other club presidents and myself will be putting together shortly for a future article.

A point worth remembering and thanks to Mr P. Bradshaw of Powys, Wales for bringing it up is when joining clubs abroad whether via B.O.T.S. or just an application form you received through the post please send all money in U.S. Dollars stapled between two Q.S.L. cards and sent by recorded delivery.

So you like my new rubber stamp eh? and you want to get one made up of your own design drawn to your special handle. Well this was made for me by Mick Marks of M.M. Rubber Stamps, 10 Tolcarne Road, Newquay, Cornwall TR7 2NQ.

contd. over

DXing

WE QSL, YOU QSL contd.

He will be happy to supply you a quote upon request or if you want a price list and example impressions of some of the best designed Q.S.L. Rubbers Stamps then drop him an S.A.E. It might be handy to know that members of Big Ben and Papa Bravo can receive stock stamps at half price but only if you quote your club unit No.

Next month I am off to Gibraltar to meet the Golf-Sugar Baker D.X. group and Spain to meet members of Radio Amateur Club of Spain. Look forward to telling you about that later.

On a personal note I would like to ask anyone if they have received a World Cup Q.S.L. card. I heard on frequency that they are about, but I haven't had one myself. If you have a spare send it to me and I will send you 20 of the B.O.T.S. cards (not a bad swap eh).

Take care of yourselves and have a good summer holiday. In the meantime, don't forget: "We Q.S.L., you Q.S.L." ●

DUKE QRT

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the twig. Most good commercial twigs are dead sus, and when in use outdoors, on the roof (the best place for most people to put their twig) then how can you make them invisible?????

OK, we admit it; you cannot make the dam' things vanish, but you *can* make them look like something else.

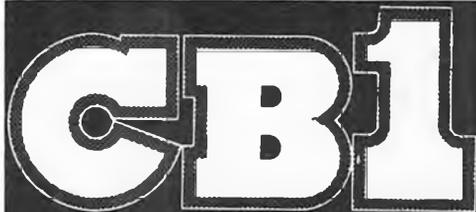
The favourite and most practical CB antenna is made up of a length of aluminium tubing stood on its end vertically, with some sort of groundplanes (actually they are "radials") sticking out roughly horizontally at the bottom end, where the feeder cable is fixed on.

At this point we have to tell you that there is no magic about ordinary antennas. No matter how fancy they look, they are all basically the same. Yes, the makers all claim that *their* Model XZB Paralyser will out-shoot any other twig, but the truth is that the breaker at the other end has only the signal to judge by. He does not care that you forked out a load of bread for the XZB Paralyser; all he knows is that he can copy you. So who cares if the twig is homemade or not, if it works AOK? What is not too well known is that the length of the vertical tube is not that critical, if you are careful to follow certain very basic rules. These are:

- (a) the tube should be from 9 to 15 feet long, to avoid problems
- (b) the radials can be made of wire; four of them, each 10 feet long will do. They can be sloped down the slates if you like
- (c) most important, you must have an antenna tuning unit and SWR bridge (meter) in the shack to connect the twig feeder cable to the rig.

By now some of you will have guessed the name of the game. It is called putting up a fake TV aerial. Just think about it. If you put up a normal TV chimney lashing kit or a normal TV wall bracket kit and a TV aerial mast, who is going to notice it? Right, nobody but nobody notices TV aerials after the first five minutes. The real trick is to make it perform like a CB antenna. For a start the vertical tube (the TV mast) must be *insulated* from the lashing kit or brackets. Short lengths of plastic tube can be used for this job. I have used plastic hose pipe for this; polythene water pipe is best but PVC hose will do. It goes around the tube, between

contd. over



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INVISIBLE TWIGS contd.

the tube and the clamps. The radial wires can be bolted or clamped to the lashing kit metal work (NOT to the vertical tube, dummy!) The radial wires can be spread down the roof slope, to cover as much roof area as possible. String (plastic garden twine) can be used to anchor the free ends of the wires to the guttering.

Most of you will be ahead of us now; yes, it is a good idea to try to match the colour of the wires and string to the colour of the tiles, although they may not be very visible from below. Buzby looks for the unusual . . . don't give him a chance. The less there is to see the better. The exact number of radial wires is not critical, but it is definitely a good idea to spread them out to cover as much roof area as possible. The feeder cable is fixed with the inner conductor to the vertical tube and with the outer braid to the radials. The joints **MUST** be electrically sound and they must be weather-proofed, for example with grease or Denso sticky tape. At all costs you have to keep water out of the cable, because cable is costly and water ruins it.

OK, now for the wise guys who say that a TV mast with no TV antenna is dead conspicuous. The answer is to put a small TV antenna on top . . . just for effect. It does not even have to be a working antenna, just so long as it looks good. Now you know what to do with the old telly aerial that fell down.

Operationally, the DIY disguise twig works like any other twig. Remember that all twigs give different SWR readings on different channels and that very often the SWR in your particular set-up bears absolutely no relation at all to what is in the makers' instruction book. They rarely work out as the book says. With the disguise twig you have to SWR it, using your tuning unit and SWR meter. After some practice you will get to be good at it and it will not be a problem, so be patient if it gets on your wick at first.

What do you get for all your trouble? Well, you get the benefit of knowing that you just built a twig that looks like a TV aerial and which

contd. on page 24

The logo for CBI (Centre Base One) features the letters 'CBI' in a large, bold, white font with a thick black outline. The 'C' is stylized with a small circle inside it, and the '1' is a simple, blocky numeral.

**CENTRE BASE ONE,
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MANCHESTER M20 9AF**

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RIGS SUPPORTED BY
AN EXTENSIVE RANGE
OF ACCESSORIES AND
THE GREATEST RANGE
IN AERIALS.**

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RIG REVIEW



As the C.B. radio market gradually becomes saturated then of course the cost of rigs in the shops steadily drop as manufacturers reduce their prices drastically to avoid being lumbered with otherwise unwanted rigs. I remember my first legal rig cost me nearly £80, now the same rig costs less than £50. This month's rig is one example of the host of cheap rigs available at the moment and was seen in one retail shop in Manchester selling for under £40.

The DOMICO CONVOY 1 is a forty channel mobile transceiver with no more than the minimum number of controls all on the front panel. As well as the channel selector there is a volume/on-off control, a high and low power switch and a squelch/P.A. control, also on the front panel are the microphone socket (still on the wrong side), the signal/R.F. meter and the red channel readout.

On test the rig performed very well with good sensitivity and good strong signal handling (a very important feature to look for in a rig). The sound quality is very good, not distorting too much when the volume is turned up full whack. One of the reasons for this was obvious when I took the case apart, revealing a larger than usual loudspeaker rather than the poxy little things found in a lot of rigs. By the way there is even a larger than usual CB 27/81 stamp on the front panel in case you get stopped by a short-sighted smokey! On receive the signal meter is illuminated with a white light, this changes to red when the microphone key is pressed, quite a pleasant effect really.

Although the CONVOY ONE is a fairly basic rig the performance was better than most and at the prices it's selling for, good value for money.

SPECIFICATIONS

Channels – 1–40 (27.60125 MHz – 27.99125 MHz).

Sensitivity – 0.5µV for 20dB S/N.

R.F. Power Output – 4 watts (in 'Hi' position) into 50 ohms.

Audio Output – 2 watts into 8 ohms.

Modulation – F.M. (+ 2.5 KHz max).

Power Requirements – 12 volt (or 13.8v) @ 2 amps.

Size – 150mm (5 $\frac{7}{8}$ ") wide x 50mm (2") high x 200mm (7 $\frac{7}{8}$ ") deep.

Buzby will not spot without a lot of luck/effort. You also got yourself a twig which can be used effectively on any channel, thanks to the tuning unit. You can SWR it *anywhere* you want and there are no expensive parts up there on the roof to get damaged by the weather. The whole thing should cost less than any commercial DX antenna, but it should work out as well as many. Certainly it should work at least as well as any cheapo brand twig.

Questions?

Question – I have to use an end wall with nowhere to put radial wires. What do I do about that?

Answer – You can use two radials and fasten them to nails stuck in the wall. The whole antenna will then look like an upside-down Y if seen from the side, (looking at the end wall.) If the wires match the brickwork they will be hard to see from any distance.

Question – Why does the exact length of the vertical tube not matter – all the commercial twigs seem to be very accurately sized.

Answer – They are accurately made so that they will work out on at least one channel without any alteration. What we are doing to our system is to use the tuning unit to kid the rig that it is connected to a perfect SWR antenna. The tuning unit is making the DIY twig behave like an ideal antenna, as far as the rig is concerned.

Question – I dare not use anything on the roof. What else can I do?

Answer – There are a lot of breakers who dare not stick up even a TV aerial, because of tenancy agreements etc. There is an even less sus

contd. on page 28

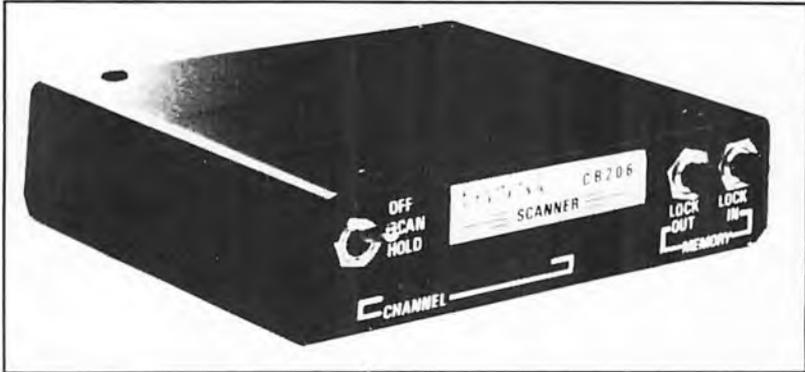


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TELEPHONE: 061-445 8918

BREAKER ON THE SIDE brings you THE CB 206 SCANNER



CB 206 scans through all 40 (AM/FM) CB channels, automatically locking on to any active channel.

The scanner will stay locked on channel, until the channel clears, automatic delay waits for four seconds of silence before scanning resumes.

Memory lock-out/lock-in switches, allow you to skip unwanted channels and pre-program the memory for the channels you wish to scan.

Channel hold allows full-time monitoring of any single channel (useful for holding channel during periods of silence).

Normal CB operation is resumed whilst the CB 206 is switched off. Whilst switched on the scanner automatically switches the CB set through all 40 channels, when the scanner locks on channel, normal CB functions resume i.e. transmit or receive.

TECHNICAL SPECIFICATION

Number of Channels	40 AM or 40 FM
Memory	Programmable 40 Channel Lock-out/Lock-in
Channel Hold Time	During Silence 4 Seconds, stays locked during talk.
Scan Speed	40 Channels in 10 Seconds
Channel Hold Switch Function	Full Time Monitoring of any Single Channel.
Power Supply	12 Volts at 100Ma

COMPREHENSIVE FITTING INSTRUCTIONS

PRICE: **£34.95** INCL. P.&P.

Enclose remittance and order (cheques and P.O.'s payable to Concept & Associates) and send to: CONCEPT & ASSOCIATES,

84 HIGHER RIDINGS, BROMLEY CROSS, BOLTON BL7 9XS

46MHz 4 UK OK!

If you're a regular reader of B.O.T.S. (and if not, why not!) you will no doubt read my ramblings on about the merits of a Citizens' Band around forty odd megahertz. Just to summarise, 27MHz whether A.M. or F.M. is a mainly unsatisfactory frequency for a C.B. type service, due to the high level of skip interference and due to the fact that practical antennas at this frequency are very inefficient regardless to whether or not they conform to H.O. specs. A higher frequency band is required to alleviate these problems, but not too high as to increase the cost of equipment considerably and make the range less than a C.B. service demands (934MHz for instance). Such a band does exist and is the band between 41 MHz and 68 MHz currently occupied by the old black and white 405 line TV stations owned by the B.B.C. and shortly to be closed down leaving this band clear.

There are many other organisations trying hard to get their greedy hands on parts of the band, mainly for commercial P.M.R. use, as if they haven't got enough space as it is, and radio amateurs have a legitimate claim on 50 MHz which used to be theirs anyway. Despite this there is still plenty of space for a 0.4 MHz (40 channels) or 0.8 MHz (80 channels) sub-band for C.B. Any frequency between 41 MHz and 68 MHz would give good performance but a sub-band starting at 46 MHz would be ideal for one very good reason, the rigs are available now! C.T.V.R. have introduced a 46 MHz 40 channel F.M. rig suitable for the 'ideal' C.B. (I wonder if they've been reading B.O.T.S.), they also supply suitable antennas for use with the rig. The price at £146-95 may seem a bit high but these rigs are manufactured to higher standards than most 27 MHz rigs and would be worthy of a 'CB 46/82' stamp, how about it Willie? Brief specifications are given below:-



MODEL – CTVR–40

R.F. Power Output – 4 watts into 50 ohm load.

Audio Power Output – 3 watts into 8 ohm load.

Modulation – F.M. + 2.5 KHz.

Channels – 40 @ 10 KHz spacing (46.00 – 46.39 MHz).

Sensitivity – 0.2uV for 20dB S/N.

Size – 241mm (9½") depth x 165mm (6½") wide x 57mm (2¼") high.

The makers quote a range of up to 20 miles mobile and 35 miles base to base. I have as yet not had a chance to put these claims to the test and I am inclined to think they are a little optimistic, nevertheless the range will certainly be in excess of that obtainable on 27 MHz and 934 MHz. A 46 MHz band would be much less affected by skip and the problems of inefficient antennas than 27 MHz, also the problems of high signal loss through solid objects such as trees and buildings would not be so apparent as at 934 MHz.

There are a couple of disadvantages with 46 MHz at the moment. First of all as I said before 46 MHz is in the old 405 line T.V. band and although the B.B.C. are gradually closing down their transmitters it will be a few years yet until this process is complete. This means that if the rig is used in areas where a strong T.V. transmitter is operational especially on 405 line channels 1 and 2 there could be some desensitising of the receiver resulting in weak signals or background noise, however the rig is unlikely to cause interference to T.V. sets unless in very close proximity as 46 MHz is between channels 1 and 2 not directly on top of any channel, how many people do you know with 405 line tellies anyway? The second snag of course is that transmitting on 46 MHz is illegal although the same importing and manufacturing restrictions that apply to 27 MHz A.M. do not apply to 46 MHz. The fact that transmitting is illegal is unlikely however to deter too many breakers from using 46 MHz, it didn't stop many of us from using 27 MHz A.M. did it!

There is a lot to be gained from getting this new band legalised, for one thing it would bring down the prices of equipment as production increased, also it would spur on the B.B.C. to close down their obsolete transmitters even sooner, and of course it would mean that you wouldn't have to put up with that old 27 MHz A.M. preoccupation of having to look over your shoulder for smokey every time you pressed the mike key.

If you want more information about these rigs I suggest you contact CTVR at 35 Oxford Street, Grantham, Lincolnshire. I would also suggest you write to your M.P. or better still send a letter to the Home Secretary telling him what a wally he was dithering about so much in getting C.B. legalised in the first place, and asking him if he would like a second chance to get it right and legalise 46 MHz ●

antenna which can be used, in an emergency like that. As long as you have a tuning unit and an SWR meter, it is perfectly possible to make use of a wire aerial, running from the house to a tree or to another house. As high and as in the clear as possible is the rule for wire aerials, but to make life easier it pays to make the *total* length from the tuning unit (no coaxial cable is needed for a "long wire" antenna) an odd number of quarter waves long. That means an odd number times 9 feet, in round figures. The longer the wire the more the signal tends to go off in the direction of the wire, just like a beam if the wire is long enough.

Question – Are there any snags to wire aerials . . . I can see that if the wire is thin it will be invisible to casual passers-by.

Answer – The biggest snag is that like all antennas the long wire needs some sort of earth return connection. Unfortunately, you have not much control over it and you can get signal onto the mains wiring. That is why it is obviously best to use an odd number of quarter waves, e.g. 27 feet. The odd number minimises the risk of trouble. The only answer is to try it and see what happens. Same applies even to commercial twigs, of course. Until you try the things out you have no idea what problems you will run into. You may have to alter the length a bit. One other point: a long wire antenna sends out horizontal signals . . . no kidding, it's true! Without getting deep into theory, just remember that other breakers using vertical twigs will not get as good a signal from you as will a breaker using a horizontal yagi. Still, who cares, if it is the only way you can get any sort of outdoor antenna at your 20?

Question – If I have a TV mast disguise antenna with a real TV aerial on top, will I get more TVI?

Answer – The TV antenna will have no effect at all, as long as you do not connect it to the telly! It's just a dummy. Whether you get more TVI will depend on how bad your previous twig was. If your old twig was very inefficient then going to a roof top job that is tuned to maximum power/best SWR may make TVI worse. It stands to reason that if you are putting out a heap more signal then some of it may find its way into the telly. All we are saying is that you can make your own disguise antenna and that it will work effectively. TVI is another matter; whatever you do you may get TVI trouble. What we suggest is that you can make the source of the TVI less obvious. Why should you cop out for all the TVI in your area? A lot of it may not be your fault.

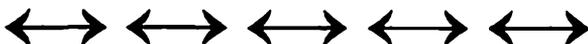
Question – You have gone to a lot of trouble and I'm not sure I have understood half of it. Is it really worth the effort? Surely Buzby does not care all that much. Nobody has been busted in this area for ages.

Answer – True, it looks that way. If you look back a few paragraphs to



our description of how Buzby finds breakers you will see that he relies on complaints, plus a few very simple on-the-spot checks. What is even more true is that the number of TVI complaints is still running at a very high level, despite the legal CB system (FM) causing practically no TVI. That is why the HOME OFFICE has recently told Sir Patrick Wall, M.P. that they see no alternative to major changes in the law. Seizure of rigs is clearly going to be made much easier. If nobody knows (from your antenna) that you are into CB DX on sideband then the only way you will get caught with an illegal rig is if they actually trace the signals or if some plank drops you in it.

Editor's Note: This magazine is NOT in the business of encouraging illegal actions, but we know that many of our readers are into DX-ing. It is fact of life that everyone has to live with and if and (we hope) until DX-ing is legalised we cannot just ignore it. That is why we maintain a policy of presenting the truth, even if it means telling breakers how to reduce the risks they have *already* chosen to run, without our encouragement. We are not telling you to do anything that you do not already do—right?



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Prices include postage and packing.

BREAKER ON THE SIDE 29

SOME
MORE

LEGAL F.M. RIGS



CB900

This is a 40 channel 4 watt C.B. receiver and transmitter and incorporates the latest LED indicator system to give you immediate registering of channel indication, power output, signal strength and transmit and receive mode. Rotary controls include tone, squelch, On/Off – volume and RF gain.

A microphone with coiled lead is supplied while an integral speaker is incorporated on the underside of the unit. Sockets are provided for standard aerial fitting, power connection and external speaker. The unit comes with a full fixing kit and instruction manual containing installation and operating instructions and a comprehensive guide for use.

PRICE £70 (APPROX)



CB901

Special features which differentiate this unit from the CB900 are automatic channel 9 switching – which gives immediate selection of this now officially recognised emergency channel; public address system – allowing speech to be amplified; and roger bleep tone – which notifies the person receiving the transmission that the message has ended.

A microphone with coiled lead is supplied while an integral speaker is incorporated on the underside of the unit. Sockets are provided for standard aerial fitting, power connection, external speaker and PA speaker. The unit comes with a full fixing kit and instruction manual containing installation and operating instructions and a comprehensive guide for use.

PRICE £80 (APPROX)

U.K. SPECIFICATION CB 27/81 N



Cybernet Beta 1000

A very compact transceiver with slimline styling provides all the essential requirements for personal CB radio contact without the need for technical knowledge. Digital indicators and click switching ensure clear definition of channel location and signal strength. A fully variable Squelch control permits only wanted signals through the internal speaker, so you can leave the set on standby without annoying background noise. Just dial the channel number, adjust the volume and you are instantly available for contact.

PRICE £72 (APPROX)



Cybernet Beta 2000

Combines all the features of the Beta 1000 in the same compact size with added advanced features giving versatility and improved "working" in extreme signal conditions. The Beta 2000 can be used as a Public Address amplifier at the touch of a switch using the additional external speaker socket fitted. The DX/LOCAL switch provides protection against overpowering local stations, and when receiving poor transmissions, the Tone Hi/Lo control dramatically reduces high frequency noise, improving intelligibility. Transmit and receive LED indicators give clear indication of the operating condition.

PRICE £80 (APPROX)

contd. over

LEGAL FM RIGS contd.



Cybernet Beta 3000

This top of the range set offers all the special features required by the most enthusiastic of C.B. operators. Volume, Squelch, Tone and RF gain are all on infinitely variable controls, permitting precise adjustment for optimum operating. Direct access to Channel 9 for emergency transmission and spot checks of this distress channel are available at the press of a switch, illuminating the channel 9 beacon LED. For night time operation the DIM switch reduces instrument light level. Maximum workable transmission range is ensured by the CLEAR switch which alters the speech bandwidth for maximum clarity of transmission.

PRICE £95 (APPROX)



Harvard H401 Base Station

This new base station from Harvard has an 8-pole crystal – for better sensitivity.

H401's features are volume and squelch, a built-in full SWR meter and a forward refer switching for SWR, this set also features a SWR warning light.

Also has a channel 9 button, PA/CB facility and attenuator. Mike gain and RF gain knobs, TX/RX and power on indicator lights.

All the knobs click and the channel selector is large and easy to use.

PRICE £149-95

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BREAKER ON THE SIDE IX

What's Your 20?

What's Your 20 (contd.)

H

High and Dry	AlderleyEdge
High Town	Haslingden
High Town	Toppesfield
Hill Climb Town	Barbon
Hill Town	Colne
Hill Town	Heaton Moor
Holiday Village	Fairbourne
Hollywood	Dobcross
Holy City	Holywell
Holy City	Liverpool
Holy City	St. Helens
Holy City	Tintona
Holy City	Waterfoot
Holy Grail	Church Town
Honky Town	Newton
Hook Town	Grappenhall
Hopkins Town	Pontardawe
Horse Trough	Delph
Hospital Town	Stonehouse
Houses of Parliament	Four Bridges
Howard Hughes	Effingham
Hungry Lover	Hawarden
Hutchtown	Marple

I

Ice-Cream Town	Elswick
Inky Town	Pensby
Iron Town	Aintree
Iron Ora	Poulton Bridge

J

Jail Town	Bodmin
Jamboree Town	Dingle
Jam Land	Audley
Jam Town	Bramhall
Jaw Town	Abergele
Jet Town	Whitby
John O'Groats	Fleetwood
John Willies	Lees
J.D. County	Cwmgiedd
Jungle Village	Boduan

K

Kamakazi Town	Hale
Kellogg County	Keyingham
Key City	Willinhal
Khyber Pass	Blackburn
Kids Town	Falkirk
Kings Town	Kirkham
Kite City	RAF Bawdy
Kit-Kat Town	Keddington

Knot End
Kodak Corner
Krazy Town

L

Lady Town
Lager Town
Lake City
Lake City
Lake City
Lakeland City
Laker Town
Land of the Blue
Jersey
Land of the
Green Jerseys
Land of the
Tartan Tammies

Land of Hope
and Glory
Lands End
Lanson House
Las Vegas
Las Vegas
Laughing Town
Laughing Village
Law Breakers City
Ledger Town
Lego Land
Lions Den
Little America
Little Bird Cage
Little A
Little A
Little A
Little A
Little A
Little B
Little B
Little BC
Little B
by the C
Little C
Little C
Little C
Little D
Little E
Little E
Little Egypt
Little G

Farleton
Backbarrow
Knutsford

Anfield
Wrexham
Combs
Gosfield
Rishton
Enniskillen
Wythenshawe

Govan/Ibrox

Brigeton/Parkhead

Hampden

Hope
Lytham
Castle Howard
Barmouth
Walkden
Giggleswick
Tickhill
Crook, Co. Durham
Leopard
Farbouch
Ginwick
Burtonwood
Lakenheath
Abererch
Acomb
Ammanford
Ash
Askerm
Baslow
Bluntisham
Bishops Cleeve

Buxworth
Charlton
Corbridge
Crewkerne
Dawlish
Eggbrough
Exning
Glensford
Gilberdyke

What's Your 20 (contd.)

Little G	Grindleford	Mill Town	Rossett
Little H	Haltwhistle	Milktown	Huddersfield
Little H	Hayton	Milk Town	Chwilog
Little H	Hermitage	Mini Slab	Fabian Way
Little HB	Haydon Bridge	Mining Town	Poynton
Little I	Ilchester	Minor Town	Heaton Norris
Little K	Kinsclere	Mintcake Town	Kendal
Little L	Llanbedrog	Miser City	Cardigan
Little Lights	Morecambe	Misty	Delabole
Little M	Malton	Model Village	Thurnscoe
Little M	Merriott	Money City	Monifieth
Little M	Mistley	Monkey Town	Heywood
Little N	Newborough	Monkey Town	Morrison
Little P	Pocklington	Monkey Town	Silverdale
Little P	Presbury	Monster City	Widnes
Little R	Rosyth	Moonbase Alpha	Billinge
Little T	Thorne	Moonlight City	Belford
Little Tinker Town	Wolsingham	Motion Lotion City	Ellesmere Port
Little Village	Cockerton	Motor Town	Newton-le-Willows
Little Village	Llannor	Mud Banks	Sandside
Little W	Witchurch	Mudflats	Arnside
Lobster Pot	Filey	Murders Paradise	Darwin
Lock Town	Latchford	N	
Long Pier	Southend on Sea	National Trust	North Tawton
Long Village	Holme-on-Spalding Moor	Neon City	Newport
Long Village	Melford	New Face	New Maske
Lords Seat	Halkyn	New York	Nuneaton
Lords Town	Burnley	New City	Oldtown
Lost Village	Londesborough	Nikel Town	Clydach
Lost Village	Winton	No Go Area	Netherley
Low Isaac	High Newton	North C	North Cave
Low Town	Helmshore	Nitsville	Natland
Luckness	Neston	Noisey City	Darlington
Lumpy Town	Llandudno	Nuclear City	Newbury
M		Nuts & Bolts	Darlaston
M and N	Midsomer Norton	Nutsford	Denbigh
Maggies Garden	Bamber Bridge	O	
Magic Slab	Ystalyfera Bypass	Oak City	Yoldham
Magic R	Huntley	Oat Town	Meal Bank
Miaden City	Derry	Oggie Town	Great Plumpton
Manhattan	Martock	Oil City	Grangemouth
Many Town	Moreton	Oil Rig City	Aberdeen
Margerine Town	Stamford Bridge	Oil Town	Heysham
Marine City	West Kirby	Old Face	Maske
Market City	Stockton-on-Tees	Oklahoma	Omagh
Market Town	Dewsbury	Old Town	Old Hutton
Market Town	Mold	One Way City	Atherton
Market Town	Swaffham	One Way City	Liskeard
Masons	Rhuddlan	One Wheel Town	Barrow
Matchstick Town	Salford	Onion City	Kelso
Maxiland	Glynneath	Open Zoo	Knowsley
Merlin Town	Cardarthen	Orange Ring	Edgworth/Turton
Mermaid City	Mablethorpe	Orange Town	Rugby
Mexico City	Mexborough	Overspill	Buckley
Microwave	Market Weighton		
Mill Town	Leek		

What's Your 20 (contd.)

P

Paddling Pool
Paint City
Pallet City
Panel Town
Panorama Town
Paper Town
Paper Town
Paper Town
Paper Town
Paper Town
Paradise
Paris
Passion Mountain
Pay Town
Pea in the Pod
Pearl Harbour
Pearl Harbour
Pearley Way
Peculiar Town
Pen and Ink
Pencil Town
Pensioners Paradise
Peyton Place
Pier Town
Pig City
Pig Town
Pigeon Town
Pirate Town
Pit Stop
Plague Town
Plain Wrapper
Town
Plastic City
Playpen
Polomint City
Polo Town
Ponderosa
Ponderosa
Pongo Town
Ponytown
Pool Town
Pork Pie Town
Port City
Porridge Town
Poser's
Posh Town
Pottery Town
Powder Town
Power Town
Power Town
Print Town
Priory Place
Pub City

Bridlington
Stainforth
Diggle
Llanfllin
Barrickmore
Holmes Chapel
Prudhoe
Overton
Beetham
Winchcombe
Abersoch
Puriton
Gwrhyd Mt.
Selby
Peasdown St. John
Amble
Criccieth
Croyden
Masham
Newton Abbot
Keswick
Brampton
Abercrave
Wigan
Stisted
Swinton
Dove Holes
Penzance
Ynysir
Eyam

White Colne
Peterlee
Chilwall
East Kilbride
Rossington
Partington
Cark
Settle
Newmarket
Bamford
Melton Mowbray
Plymouth
Walton
Newby Bridge
Hale Barns
Hornsea
Little Hulton
Kearsley
Elton
Paulton
Breadsall
Bagillt

Pudding Town
Pump House
Pure City
Pure City
On The Side
Push Bike
Pushover City

Q

Quarry Town
Quarry Side
Queen City
Queens Town

R

Race Town
Railway Town
Rainy City
Ram Town
Rambler Town
Raspberry Hill
Record Town
Red City
Red City
Red Light District
Red Metal
Rest Home
Rhythm City
Rich Town
Riverside
River Town
Roast Lamb
Robin Hood City
Roller Town
Rolling Stones
Roman City
Roman City
Rose Garden
Royal Barge
Royal Town
Rubber Town
Rusty Town
R.A.F. Town

S

Sage and Onion
Saints Town
Sala Town
Salmon City
Salt and Pepper
Salt Town
Salt Lake City
Sand City
Sandy City
Sandy Tree

Bury
Watchgate
Braintree

High Garrott
Rydale
Prestatyn

Leyburn
Witherslack
Drumquin
Wesham

Epsom
Crewe
Manchester
Derby
Edale
Raskelf
Long Preston
Redruth
Warrington
Moss Side & Hulme
Higham Ferrers
Ilkley
Tempo
Bendington
Sturmer
Heaton Mersey
Cranleigh
Nottingham
Bardfield
Hale Moss
Bath
Chester
Worsley
Queensferry
Lytham St. Annes
Melksham
Shotton
Greasby

Hathersage
Wickham St. Pauls
Alford
Berwick-upon-Tweed
South Petherton
Middlewich
Winsford
Southport
New Brighton
Copper Beech

What's Your 20 (contd.)

Satelite City	Bradfield	Snob Town	Caldy
Sausage Town	Cookstown	Soldier City	Catterick
Saxon Town	Bradford on Avon	South Pole	South Brent
Scarlet Town	Llanelli	Spa Town	Buxton
Sea Side	Benllech	Space Town	Hilltop
Sea Wall	Wallasey	Spaghetti City	Birmingham
Seven Lamp City	Westhead	Span Town	Menai Bridge
Shakeyside	Crosby	Spanish Village	Penrhyndeudraeth
Shakey Village	Comrie	Spark Town	Flint
Shaky Town	Farnham	Spark Plug City	Upton
Shaky Town	Kidsgrove	Spinnaker	Lymington
Shanty Town	Sudbury	Sparrow Town	Abbey Hay
Shanty Town	Llandrindod	Spire Town	Chesterfield
Sheep Dip	Ramsbottom	Spring Village	Good Manham
Sheep Town	Welshpool	Spud City	Blackmore Edge
Shoe Town	Bootle	Square City	St. Annes
Shoe Town	Northampton	Square Village	Polesworth
Sheet Town	Pateley Bridge	Stable Town	Malton/Norton
Sherwood	Knightwood	Steam Town	Keighley
Sherwood Forest	Greenfield	Steam Train	Little Sutton
Sherwood Forest	Gortin	Steel City	Bilston
Sherwood Forest	Arrow Park	Steel City	Motherwell
Ship Town	Glasgow	Steel Town	Kilbirnie
Sick City	Hamilton	Steel Town	Kilbrine-Glenarnock
Sierra 20	Ruthin	Steel Town	Sheffield
Sin City	Andover	Steel Town	Bidston
Sin City	Colbren	Sticky Town	Biddulph
Sin City	Little Lever	Stone Boat	Rock Ferry
Sin City	Rugeley	Straight Jacket Town	Denbigh
Sin City	Underwood	Straw City	Fairfield
Silk Town	Macclesfield	Straw M.P.	Haywards Heath
Silver City	Stirling	Straw Town	Hayfield
Skate City	Altrincham	Straw Village	Inchinnan
Skull City	Birkenhead	Strawberry Corner	Nafferton
Slave City	Hillington	Strawberry Patch	Sailsbury
Sleepy Hollow	Howden	Strawberry Town	Winsbeck
Sleepy Hollow	Shipton Thorpe	Sugar Mountain	Palleg
Sleepy Town	Pitney	Sugar Town	Sankey
Sleepy Town	Bedford	Sugar Town	Bury St. Edmunds
Sleepy Valley	Deganwy	Summer Wine City	Holmfirth
Sleepy Valley	Ripon	Sun City	Rhyl
Slow Town	Wilmslow	Sunny Hunny	Hunstanton
Smelly Town	Bridgewater	Surf City	Skegness
Smog Town	Northwich	Sweet Water	Renfrew
Smokey Dragon	Cardiff	Swingy Town	Swindon
Smokey Town	London	Synagogue Town	Prestwich
Smokey Town	Port Talbot	T	
Smokey Town	Salford	Tall Trees	Everingham
Smokey Town	Pickering	Talk Town	Speke
Smokie Town	Arbroath	TakeAway Town	Withington
Sole City	Street	Tanker Town	Winestead
Sod Cutter City	Lathom		
Snotty Ash	Bowdon		
Snob Hill	Ludgate		

What's Your 20 continues next month

CLEAVER
 35 Martindale Road,
 Weston-Super-Mare,
 Avon/England/BS22 80F.
 G.B 190

73's

88's

FM 8145
 HERE - NOT
 CHEAP!

I'M AM
 AM
 LYVEN

**PIDGEEON
 ROD**

Q.S.L. ers

**SUPERSONIC
 JEAN**

Mr. R. YOUNG
 17 Keats Avenue
 Todmorden
 Lancs
 OL14 8AJ
 England

Romeo Yankee
 340

Take care
 'cause
 We care

100%
 QSL

141

73's - 88's

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 UNITED KINGDOM

**THE
 DUKE & DUCHESS**
 PRESIDENT & VICE PRESIDENT
 Big Ben DX & QSL Club

Box 14
 Cockingham,
 Surrey,
 England
 GAT 11Y

We Qsl, You Qsl

55s

**BRITISH PIRATE
 RADIO STATION**

LIMA DELTA 12

MAJOR TOM

OLDFATHER QSL CLUB
 3's 8's
 H 015
 SOUTH AFRICA

RUBBER STAMPS



SEA HORSE Q.S.L. SWAPPERS CLUB 1980
 #360
 P.O. BOX 522-2280 PM
 RIJSWIJK • HOLLAND



UNIT
 FLYING DUTCHMAN
 Q.S.L. CLUB
 THE NETHERLANDS



QSL Code:

NATIONAL SIDEBAND "Q" SIGNALS

- QRA** – What is the name of your station?
QRB – How far are you from my station?
QRD – Where are you bound and where are you from?
QRG – Will you tell me my exact frequency?
QRH – Does my frequency vary?
QR1 – How is the tone of my transmission? 1. Good 2. Variable 3. Bad
QRK – What is the intelligibility of my signal? 1. Bad 2. Poor 3. Fair 4. Good 5. Excellent
QRL – Are you busy? or I am busy?
QRM – Interference from other stations
QRN – Interference from static.
QRO – Shall I increase power?
QRP – Shall I decrease power?
QRT – Shall I stop sending? or Stop sending.
QRU – Anything further for me?
QRV – Are you ready? or I am ready.
QRW – Shall I inform — that you are calling him on —?
QRX – Will you call me again? or I will call you again at — hrs.
QSY – I'm listening to — on — Khz.
QRZ – Who is calling me? OR You are being called by — on — Khz.
QSB – Are my signals fading? OR My signals are fading.
QSL – Written verification of QSO.
QSO – A two-way conversation.
QSP – Will you relay to —? I will relay to —.
QSY – Shall I change frequency?
QTH – What is your location? OR My location is —.
QTR – What is the correct time?

Phonetic Code:

- | | | | |
|-------------|--------------|-------------|-------------|
| A – Alfa | H – Hotel | O – Oscar | V – Victor |
| B – Bravo | I – India | P – Papa | W – Whiskey |
| C – Charlie | J – Juliett | Q – Quebec | X – X-Ray |
| D – Delta | K – Kilo | R – Romeo | Y – Yankee |
| E – Echo | L – Lima | S – Sierra | Z – Zulu |
| F – Foxtrot | M – Mike | T – Tango | |
| G – Golf | N – November | U – Uniform | |

Note down your call sign _____

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14 Buxton Road, Heaviley, Stockport. 061 477 6483.

**Sole importers of
this new carrying
case. Ideal for
Camping,
Mountaineering,
Walking, (even
Space Travel!!)
Send £6.95 plus
75p post and
package now,
and we will send
you this case and
aerial bracket.**

Callers welcome.



**TRADE - TRADE
24 Hour
Delivery Service**

**PORTABLE
CARRYING CASE
FOR THE UNIACE
100!**



JANUARY

S	M	Tu	W	Th	F	S
31					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

FEBRUARY

S	M	Tu	W	Th	F	S
	1	2	3	4	5	6
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28						

MARCH

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APRIL

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MAY

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JULY

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AUGUST

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29	30	31				

SEPTEMBER

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26	27	28	29	30		

OCTOBER

S	M	Tu	W	Th	F	S
31					1	2
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17	18	19	20	21	22	23
24	25	26	27	28	29	30

NOVEMBER

S	M	Tu	W	Th	F	S
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DECEMBER

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			1	2	3	4
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