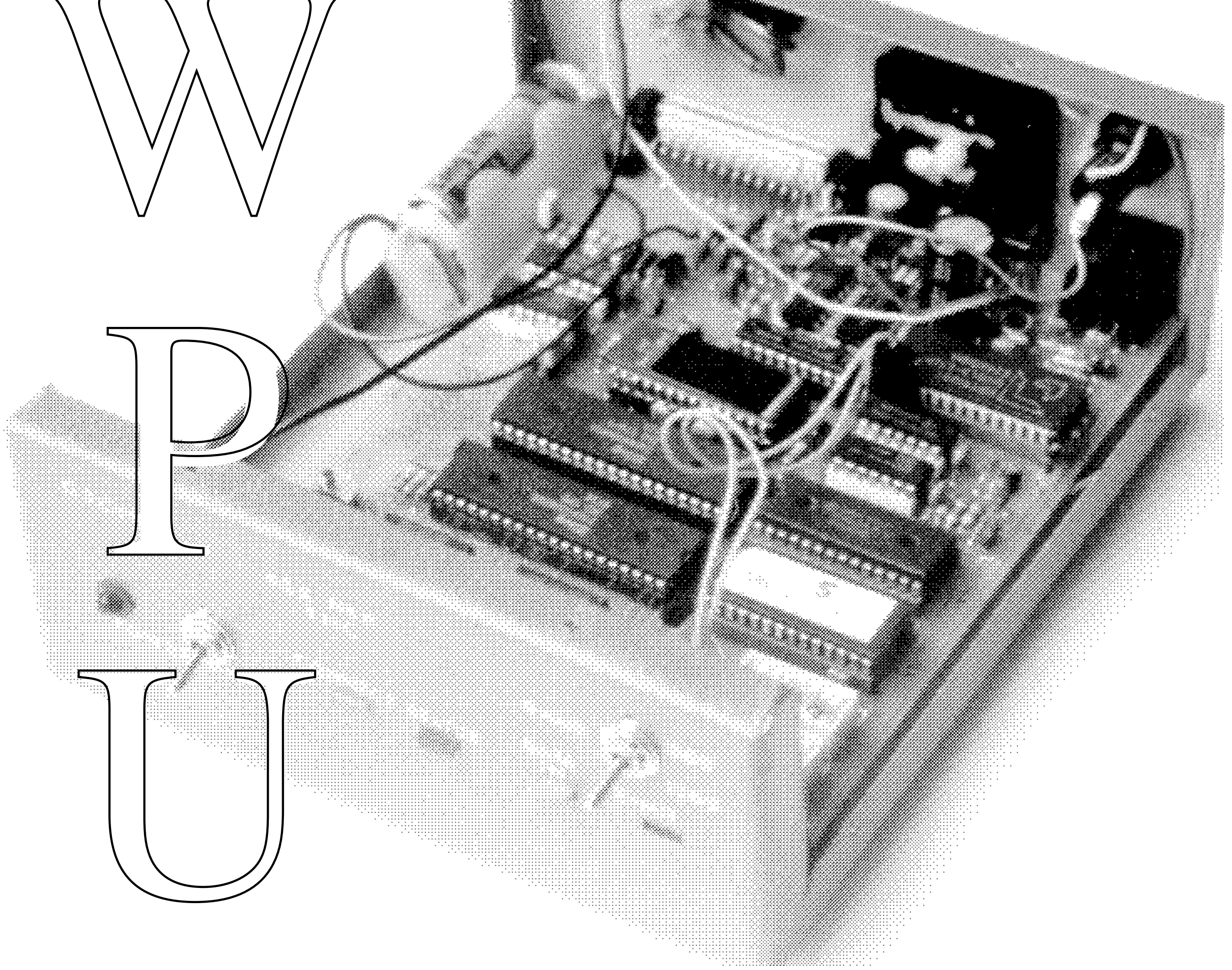
W P U G



Edited and Produced by
John, G1YYH

Editorial

The format of the Newsletter as changed a wee bit again this time. If you don't like it then please let me know and it may change again next time!.

The articles come mainly from the same small group of members, but that doesn't mean that articles are not welcome from other sources. With well over 220 members out there, someone must have an idea for article. If only 10% of the membership(22) produced something then there would be a pool of articles to choose from and it would keep the newsletter filled regularly, as it is now I runn out of articles with each issue.

The front cover shows the G0BSX tnc built and photgraphed by Raplh, G3CVW. The photograh was scanned at 300 dots per inch on a Hewlett-Packard ScanJet and then the resulting image output to a .TIFF file, which was then converted to a form acceptable to this DTP system.

What I would like to introduce in the future is a list of PD software that is used by members for Packet, i.e. which Terminal emulator, PBBS system or dare I say TCP/IP?.

To get the ball rolling. I currently use a version of TCP/IP running on the Commodore Amiga. This particular package originally written for the IBM-PC by Phil Karn (KA9Q), was ported to the Amiga by Louis Mamakos (WA3YMH), but ... wait for it! ... has been extensively modified by someone called John Heaton (G1YYH).

Bye for Now,
John G1YYH

P.S Don't forget the NWPUG AGM Details on Back Cover.

Contents

Chairmans Chat

A Happy New Year to you all, and I hope it will be a peaceful and happy one, although as I type this msg, the war in the Gulf has just started and it's anyone's guess what influence this is going to have on our everyday lives. One thing IS certain, and that is that packet will keep marching on, bringing in hundreds of new users again this year, and we must push ahead in improving the network and infra-structure to ensure capacity and better interlinking for Users in the North West.

I am still amazed looking around me at the number of stations who still feel that it is important to BEACON every few minutes... even though they are often not in the shack or at home. I have two stations close to me at the moment who have UNPROTO set to CQ when they should have it as ID, and so they send out a BEACON>CQ every few minutes !

I would suggest that the only time to use the BEACON command is when you are in the shack, looking for a real-time qso, and ONLY then... so PLEASE do us all a favour and SWITCH THEM OFF.

We are once again entering the time of the AGM, and renewal of membership, and this year it is as important as ever that you re-join. So far the Group has run on the basis of a 12 month calendar year from the AGM and clearly a number of members joined later in the year when the subs were reduced.

To be quite honest about the situation, we need all the money we can get if we are to invest in the many improvements we would like to make to the North West networks. We have therefore decided to run your subs on a calandar basis from date of renewal, so you get a full 12 months for your 7.50 and NWPUG get a full 7.50 from you. There is a small increase in overheads for us in admin. but we have had an offer to manage this side of the operation. If you are currently NOT a member of NWPUG for whatever reason.. PLEASE DO CONSIDER JOINING. As a user your mail and bulletins at your local BBS only arrive there thanks to the links which NWPUG have installed. Those using the real-time network and the links over to the YDX DX Cluster are those put in by NWPUG. Don't leave the contribution to a few... the more active members we have (currently 225) the better the North West Network will be.

Application forms are available in the NWPUG directory of the FILES section on every local BBS. Just print it out and post it to us with your cheque. Please make sure you and your friends are 'NWPUG FRIENDLY'

We hope to run another Packet evening some time in the Spring. Please let us know if you would like us to focus on NODES or BBS's or a bit of both. Come and meet us at the NWPUG stand at one of the local Rally's or send me message.

I hope 1991 is an excellent year for you and Packet... See you at the AGM

Best 73

de Neil, G4OAR

Modifying the BSX2 for State Machine DCD.

It is possible with a minimum number of passive components and using a spare on board Schmidt trigger inverter to allow he use of a STATE machine DCD system rather than the existing analogue DCD system provided by the on board AM7910 chip. This has a number of advantages over using the modem chip DCD signal, namely:

1 False DCD due to random noise is eliminated. The AM7910 modem uses an amplitude DCD detect system which gives a lot of false signals on noise. Using the state machine (a Phase Locked Loop system) provides a DCD signal ONLY when an incoming signal can be synchronised to the local 16x clock.

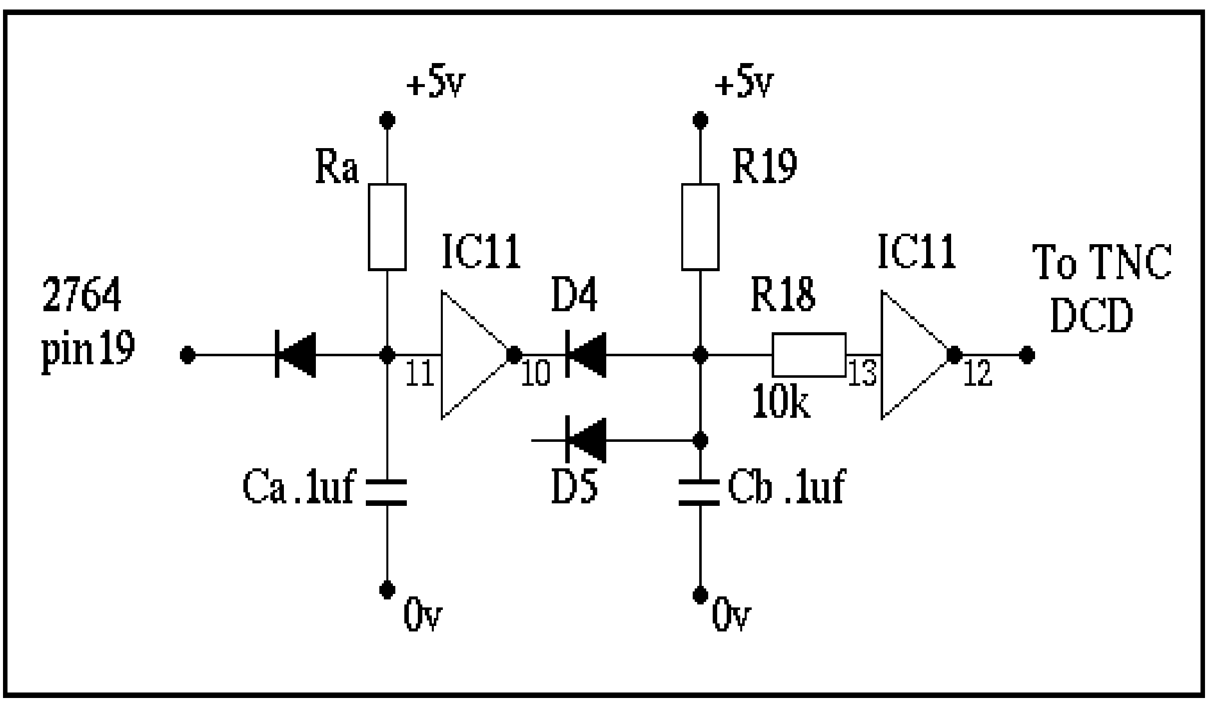
2 Shorter TXDELAY times can be used if all stations run it.

3 Higher audio volumes (with consequent better decoding) can be used on HF settings.

4 Since the receiver must be run with squelch open, squelch delays do not inhibit reception.

The BSX2 uses the TAPR state machine (with permission) which allows a modification using a couple of delay monostables to determine a useful signal based DCD signal.

To do this the STATE machine's carrier lock signal on pin 19 of the ROM chip needs to be utilised. The signal on this chip goes HIGH on DCD lock and shows a pulse train when no lock is present. The pulse train requires incoming random data for its existence and therefore, incoming audio must be sufficient to provide this and FM receivers must be run unsquelched.



In the resting state, a pulse train keeps Ca discharged via the diode. When a signal causes a dcd lock to occur, Ca charges up and switches the inverter. The value of Ra and Ca determine the delay before this occurs. This is necessary, of course, to prevent switching during the pulse train. Once the inverter has switched, this causes rapid discharge of Cb and thereby activation of the on-board DCD line. Once DCD lock is lost, the first pulse on pin 19 of the STATE rom will immediately discharge Ca and the inverter will again switch.

The discharging impetus now being removed from Cb will cause it to charge via R19 and, after a short delay, the on-board DCD will revert to "off".

The time constant of the first delay (Ra and Ca) is chosen so that it is longer than most intervals between pulses in the pulse train on pin 19. A value of about 30 milliseconds is adequate and is provided by 470k and 0.1uF.

The value of the second delay must be longer than the first so that a single false trigger will not cause loss of DCD. A value of 50-60 msec is adequate and is provided by 0.1uF and 820k (1M can also be used, specially if HF operation is contemplated).

Details of board modifications:

Issue 5 boards:

1 Unplug the AM7910 modem chip and bend out pin 25 before plugging it back in.

2 Unplug IC11 (74HC14) adjacent to the RAM chip and bend out pin 11 before plugging it back in.

3 On the UNDERSIDE of the board, connect a wire link from pin 10 of IC 11 to pin 25 of the AM7910 socket.

4 Replace R19 (10k) with a resistor of value 820k.

5 Solder a diode (1N4148 or equivalent) between pin 19 of the STATE eprom (IC14) and the bent out pin 11 of IC11 with the cathode (+ve) pointing towards pin 19 of the STATE EPROM.

6 Solder a 470k or 560k resistor between the bent out pin 11 of IC11 and the +5V rail (you can use pin 14 of IC11 if you wish) It would be easier if you soldered to the anode end of the diode rather than the actual IC pin - it could get pretty crowded on the pin if everything went there!

7 Solder a 0.1uF capacitor from the bent out pin of IC11 to ground (you can use pin 7 of IC11 if you wish).

8 Solder a 0.1 uF capacitor from the ANODE ends (-ve) of D4 and D5 to ground.

Pre Issue 5 boards:

In addition to the above, the following needs to be done:

1 Cut the track carrying +12V to drive the LED displays that runs along the bottom edge of the board.

2 Jumper the live ends of the LED current limiting resistors (R30-34) to +5V.

3 Connect the collector of VT5 (the DCD led driver) to pins 1/2 of SK4 (the modem disconnect socket)

4 Cut the track running from pin 10 of IC11 to pins 1/2 of SK4 (the modem disconnect socket).

*** The NWPUG TNC Project ***

Printed circuit boards and programmed EPROMs for the G0BSX TNC are available from the NWPUG. These will allow you to construct your own TNC from easily available components.

The G0BSX TNC is fully software compatible with all TNC 2 software currently available including the new CWID/PMS versions.

PCB together with state eprom (inc p&p)	£23.00
1.1.4 PD eprom	£5.00
WA8DED host mode eprom	£5.00
1.1.6 PMS eprom (Siskin version)	£12.50

To obtain your PCB and EPROMs send a cheque payable to NWPUG to:

Ian Conway G1VSJ
25 Hazelwood
Chadderton
Oldham

If you have any queries, Ian can be contacted on 061-626-2155

*** The NWPUG TNC Project ***

The North West Packet Group Map Project.

Tim Saxton, G3LJR @ GB7OAR

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In the Autumn newsletter last year Neil asked if there was anyone interested in producing a more comprehensive map than the one usually printed in the newsletters. Having spent long hours looking at node lists and wondering where stations were and what was the best way of connecting to them the problem appealed to me, as obviously a map would quickly show the physical relationship of stations to each other, and make understanding of the network much greater. (for me, anyway!)

The problems are twofold. The first is of course that the network is a living thing, and by the time the ink is dry on the paper, the map will be out-of-date. Whether this makes the whole thing a waste of time remains to be seen, but the impression I have got so far is that although there are many continual changes, there are also stations that are very stable and reliable and so maps can be used for some considerable period. The second problem is that making an accurate map is no trivial task, and if there are continual random changes to the map, the amount of 'cutting & pasting' would to say the least be considerable. This difficulty was tackled by 'letting the computer take the strain'. Having an Archimedes computer, which has some very advanced graphical and printing facilities provided as part of the standard package gave me a good start.

I now need to get slightly technical to explain how it is possible to produce maps automatically from text files. One of the Archimedes 'free' pieces of software is an application called !Draw. This is what is known as an Object Oriented Drawing Program. This means that as you draw things with the mouse, etc on the screen it doesn't keep a record of the bit pattern that appears, but instead keeps the definition of what you have drawn -eg a straight line X mm wide in Grey from Point Y to Point Z- or the Characters "G3LJR" 12 points high in the Homerton font starting at Point W. These instructions are translated into pixels within the computer to appear as best as they can on the screen. If you change screen mode (or add a multi sync high resolution monitor) it doesn't make any difference to what you tell the computer, the translation to pixels isn't your problem, you always get the best possible picture. Also the whole drawing doesn't have to be limited to the screen size. That's just a 'viewing window' onto a much larger world. In fact !Draw uses 32 bit signed integers for numbers, which are used to give a resolution of 1/200th of a thou over a drawing size of plus or minus half a mile!

There are many advantages to producing images in this way- scaling or altering individual parts of a drawing, moving sections or rotating one object that is already on top of another can all be easily achieved- very tricky if not impossible with bit map techniques- and oblique lines don't get jagged when viewed at large scale. Also for my particular map application the files that !Draw makes have a well documented protocol and layout, and it is quite easy to write a program to take text and associated line drawing instructions and create a !Draw file to place the correct callsigns, etc in predetermined positions on a drawing.

All very well you say, but how do you get that onto paper? Well included with the free software are several 'Printer Drivers'. These take in various types of information files and change them into the correct instructions for their particular printer. As you've guessed, !draw files can be sent to a driver, and it then produces the endless stream of bits to reconstruct the appropriate part of the drawing on your printer. Again, like the translation onto the screen, if you have a 9 pin dot matrix it'll do the best it can with that, but a Laserjet or 24 pin will naturally give the best results they are capable of. Now anybody who has tried writing software to make either screen images or control printers will realise from the above that all the hard work in producing drawings (or maps) has been done by these free applications. In fact my contribution necessary to produce the maps is only three Basic programs with a total length of about 40k bytes!

Let's now turn to the problem of what information is needed and how to display it. Apart from the callsign or alias, the position is the most important. Knowing that a station is in say Manchester is probably all right for you and me, but the Computer hasn't a clue where it is, and so doesn't know where to put it on the map. We need a consistent coding system for location that the computer can understand -of course, we already have one- the Maidenhead 6 character locator. In the UK this has a resolution of about plus or minus 3 km, which is quite adequate for our purposes. Not all stations include this in their 'Info' message, but most of the Lists circulated from time to time usually include it. Frequencies of operation and what sort of station it is (Node,BBS,etc) also need to be shown. That's quite a lot to show for each node, and it is quite possible to have 4 stations all within one locator square of each other. Therefore unless the map scale is going to be very large, this information has to be presented in as compact a fashion as possible. Several schemes were tried before settling on the present combination, which seems to have met with general approval.

The beauty of a computer is that once you've told it how to do something once it can do the same as many times as necessary without getting bored. While the original need was for something for the NWPUG area, the Locator is world-wide, and there is no reason apart from availability of data why any area cannot be shown. I therefore designed the software to be fairly universal, and the area covered and number and type of stations shown is determined largely by the information it is fed in the various input text files. Thus the packet station information is kept in one large text file, with currently over 650 entries, and this covers the whole British Isles (including Eire). By telling the software to select different geographical areas of interest and types of station, !Draw files containing only information and positioning data for the relevant stations can be produced. It is possible to process the whole lot to make a very large map -printing this out is a bit tricky (or rather sticking all the sheets together is)- but those of you who've attended the NWPUG stands at some recent rallies may have seen the interesting result. As an aside, the way the amount of information grows as the data is processed is quite amazing: The text file describing the 650 stations is some 20kbytes long. This when combined into a drawfile with the outline of the the British Isles turns into 250kbytes, which in turn would translate into some 20 A4 sheets, each being over 800kbytes at 300 dots per inch, ie over 16 megabytes!

Having software to put the callsigns and other information in the correct relative position is all very well, but there has to be an underlying outline showing the coastlines and towns, etc. To obtain this, many happy evenings were spent with a Road Atlas and !Draw, using the Ordnance Grid system and and the mouse to put in by hand all the information. The left hand part of Scotland was the worst, as it is 'very crinkley'! Now having an underlying map to place the station info on and a program to change the text list into accurately positioned information the job was almost done. Scaling the map to fit the text and combining the two showed to my horror that the two systems did not correspond! A bit of thought and it became obvious why not- the OS grid system is linear (ie one inch on the map equals a certain distance on the ground) whereas the Locator system is a geometric system, where the characters of the Locator refer to Angles, which do not translate directly into distance on the ground! A lot of chewed pencil and back to school geometry showed that fortunately the translation was not at all complicated, a quick addition to the main BBC basic program 'MapMaker',and now the accuracy of fit from one end of the country to the other is excellent, and well within the basic accuracy of the locator system.

Printing out the maps is easy enough on a laser printer, but these are usually A4 size, and most of the maps are A3, so there is some real 'cutting and pasting' of two A4 sheets before the whole lot is run through an A3 photocopier. Unfortunately there is a significant loss of quality and resolution in this final copying process, and care has to be taken in the font sizes to ensure it is easily readable on the final product.

What of the future? The recent 70cm debacle shows that the principal of using text files is sound, as it was easy and quick to alter them to reflect the multitudinous changes in the network that would have been quite impossible with a real 'cut & paste' job. The format of the present maps seems acceptable to most (at least I haven't had too many complaints) but I want to improve the grid system and cross-reference listing. The latest versions have had the KAnodes removed, and this has allowed a smaller scale, and much larger areas of the country to be covered on one map. Whether they are re-instated depends really on what feedback comes from users. I could also add to the maps lines indicating good quality routes. The danger with this of course is that if everybody starts to use them then they will be so congested that they will no longer be good quality routes! I might try that for an experimental map, but I think careful consideration would need to be given to actually publishing that info! I hope soon to have access to an A2 bubblejet printer, which means that my wall will have some really nice maps, but unless someone has an A2 copier, they won't be more readily available. (hint, hint) I have also printed out a map in colour on an Integrex printer- it took ages, but looked very nice, blue motorways, brown town names, etc, but I think photocopying in colour is still prohibitively expensive. Nice to know though that the system is ready for the day.

Of course the data doesn't have to be packet station data, and I have already tried the system with Repeaters and I have plans for a beacon map, although this will have to show beam headings as well so will need a little development. I have recently obtained data files for the whole world outlines, so potentially maps for anywhere can be made, but getting the station info will be the real problem there. Again repeater and beacon lists are more stable than packet, so perhaps a European beacon list next?

The UK DX PacketCluster Network

One of the most popular innovations in Packet Radio to hit the U.K. in recent times is the DX PacketCluster system. Regarded as a "secret weapon" by our U.S. cousins, PacketCluster gives real-time DX information to those who are connected and definitely gives its users "the DX edge".

The PacketCluster advantage is obvious, instead of relying on one's own ears alone, or even a 2m voice net, everyone connected to the cluster can listen for everyone else. "During contests" says John Crovelli, W2GD, "the effects of a spotting network callout are dramatic, instantaneous and easily identified. The pileup explodes, as dozens of additional stations call" Crovelli, holder of many records as W2GD and

P40GD, credits PacketCluster for the increased business contesters love. "The string of stations worked invariably are from a small regional area, often representing the boundaries of a contest club," Crovelli says. "Everyone benefits and the fun and excitement are enhanced."

How true this is, and was evidenced by the recent DXpedition to Malpelo Island (HK0) which is very rare and was last activated in 1983. Bill Hawthorne, G3MCS, one of the users of GB7YDX "found" HK0TU on 14145 SSB. My packet monitor screen read the following:

14145.0 HK0TU 4-Nov-1990 1905Z
Listening 160-165 (G3MCS)

Within minutes, nearly all the 24 people who were connected to the PacketCluster worked the HK0 for a "new one" (except G3VMW that is !) How good it was to hear that HK0 coming back to G after G, all alerted by Bill's DX spot! My DXCC total has crept up to 307 thanks to PacketCluster, and believe me, with my cloth ears and lousy antennas, I need all the help I can get !

Dick Newell, AK1A, the father of the PacketCluster, is especially proud of his offspring's ability to put a tremendous amount of information at an operator's fingertips. Not only can data bases such as the W6GO/K6HHD QSL List; WWV information and beam headings be accessed by local users, data bases can even be shared among Cluster hosts. Aside from traditional mailbox functions and talk mode between users, roundtable discussions can be done as well (during slack DX times, please!) Newell's next goal for PacketCluster is to support even more and varied data bases, especially those on CD ROM. Call directories at your fingertips !!

WHAT IS A DX PACKETCLUSTER ?

The basis of the system is a PacketCluster host or node, such as GB7YDX, which is similar in many ways to a BBS but with more facilities. GB7YDX is based on an IBM PC clone, with DRSI TNCs and radios for the interface to the Packet Network. Currently, GB7YDX supports 64 simultaneously connected local users. These users simply connect and remain connected, feeding in DX "spots". The DX information is then re-transmitted to everyone else who is connected to GB7YDX. Each time someone puts out a DX spot, an alert beep is sent to all those connected to the Cluster and a short DX message appears on their computer screens. All an end user requires is a TNC, a terminal and a radio. A dumb terminal is sufficient.

PACKETCLUSTER COMMANDS:

OK, you are connected to GB7YDX through the node network, what do you do to get any information ?

SH/DX
Will display the last 5 DX reports received.
SH/DX/10 15
Will show the last 10 15m band reports.
SH/DX/10 20 XF4
Will show the last 10 reports of 20m activity by XF4
SH/H XF4
Will show the beam heading to XF4
SH/M HK0
Will show the MUF and LUF to HK0.
SH/SUN VK
Will show sunrise and sunset times in VK.
SH/WWV
Will show the last five WWV solar reports.
SH/CON
Will show the callsigns of all those connected.

SH/OBLAST 123
Will give details of Russian Oblast (123).
SH/FILES
Will display a list of files in the file area.
TYPE/FILES (file)
Will display a file identified from SH/FILES.
TALK (call) (msg)
Sends a one-line message to another user.
DX (freq) (call)
Sends a DX alert to all those conmnected. Your callsign and the time is automatically appended.
?
Gives a list of items with help files available, e.g. HELP SET or HELP SHOW etc gives more info on a particular topic.

A QSL Managers Database has now been added to GB7YDX and SH/QSL will give some further information.

To obtain details of the QSL manager for a particular station, for instance 7O8AA, enter SH/QSL 7O8AA. The address of the QSL Manager for 7O8AA will then be shown.

GB7YDX has a Mailbox and current DX News and User Messages can be displayed by a DIR command.

THE U.K. DX PACKETCLUSTER NETWORK:

There are four more DX PacketClusters in the U.K. - GB7DXI at Wokingham; GB7DXC at Cheltenham; GB7DXH at Hemel Hempstead and GB7WDX in Crediton, Devon. Depending upon the amount of traffic on the packet network, GB7YDX, GB7DXC, GB7WDX, GB7DXI and GB7DXH automatically link together to create a much larger DX PacketCluster.

The GB7YDX and GB7DXC PacketClusters can link reasonably reliably over the 173 mile path. GB7DXH, GB7DXI and GB7WDX link to GB7DXC on a less reliable basis, although much work is in progress to provide 23cms links in the South-East across to GB7DXC and GB7WDX in the South-West.

Four more DX PacketClusters are currently in the planning and NoV stages:

GB7DXS Burgess Hill, Sussex
(Awaiting NoV)
GB7SMC Southampton
(Now operational)
GB7BPQ Nottingham
(Operational as G8BPQ-1 awaiting NoV)
GB7RDX Near Oakham
(Planned)

A UK Cluster Working Group has been established to provide network co-ordination and to seek publicity for the UK PacketCluster system. John Clayton, G4PDQ (SysOp GB7DXC) was elected Chairman at the inaugral meeting earlier this year. A Cluster SysOps net takes place on Monday evenings at 1900Z on 3773 kHz +/- QRM and provides a useful forum for the exchange of information. Users are most welcome to join in.

SOFTWARE:

GB7YDX runs the Pavillion Software PacketCluster Version 4.4, obtainable from Dick Newell AK1A, Pavillion Software, P.O. Box 803, Hudson, MA 01749, U.S.A. Current cost is $203 including postage.

John Wiseman G8BPQ is developing his node software to run with PacketCluster and, in this respect, we lead the world! Only in the UK is it possible to access the PacketCluster Network with a L4 connect from distant packet nodes. GB7YDX was privileged to Beta-test the first ever version of the BPQ software, capable of supporting PacketCluster. John has now refined the rather primitive TNC buffer flow control in PacketCluster to work in a more efficient manner and, as a consequence, PacketCluster works a lot better! BPQ V4.01 is now being used at GB7YDX and GB7DXC. In recognition of John's work, Dick Newell has donated the software for GB7BPQ, free of charge.

HARDWARE:

GB7YDX has the following hardware. Multiplex 386SX PC Clone running at 20 MHz with a 65 Mbyte hard disk and 4 Mbytes of RAM. Two DRSI Type 2 TNC cards provide 4 radio ports:

PORT 1 1299.575 MHz
Kenwood TM531E, 10W to a 23 ele
Tonna @ 35' LDF4-50 Heliax feeder

PORT 2 432.675 MHz
Kenwood TM431E, 10W to a WX1
colinear @ 38' LDF2-50 Heliax feeder

PORT 3 144.675 MHz
Kenwood TM231E, 5W to a WX1
colinear @ 38' LDF2-50 Heliax feeder

PORT 4 70.4875 MHz
Pye Westminster, 15W to a vertical
dipole @ 30' RG-213U feeder

Two further ports are planned on 6m (to the CY node in York) and 24cms (to the XGN node at Queensbury, Bradford) in the near future.

ACCESS:

GB7YDX is supported by the BRAM:G3VMW node. Currently, the node is running a Beta V4.01 of the G8BPQ node software which supports the PacketCluster software. L4 access to the alias DXCLUS:GB7YDX is possible from any of the nodes in Yorkshire and the North. The LEEDS:G3WNR node is linked to GB7YDX on a dedicated 23cms (1299.575 MHz) link. The LEEDS node has a 70.325 MHz port which provides a Trans-Pennine route to DELPH4:G3KLL-4 for users in the North West as well as having ports on 50.690 MHz, 144.650 MHz, 432.675 MHz and 1240.450 MHz. DELPH4 is a joint NWPUG/YAXPAK venture and has proved that mutual co-operation between neighbouring Packet Groups can be of great benefit. Thanks to Ian, G1VSJ for his hard work in keeping DELPH4 running.

The newly established SHEF node, near Sheffield provides linking and user access to Derbyshire, Humberside, Lincolnshire and Nottinghamshire. A dedicated 24cms link, SHEF91:G0NZC-1, provides the link to the LEEDS:G3WNR node. SHEF has three additional ports:

SHEF60:G0NZC-6 on 50.650 MHz
SHEF41:G0NZC-4 on 70.325 MHz
SHEF90:G0NZC-7 on 432.675 MHz.

Future plans are to link direct to NOTTS:G8BPQ-3 on 1299.450 MHz and then from G8BPQ-3 to G3SDC-8 at the Leicester Polytechnic. This should provide a link for the proposed GB7RDX Cluster and also form the basis of a second North-South trunk link for Mail Forwarding.

Incidentally, YDX22 and YDX41 are user access nodes at Oswestry and are run by Ron, GW3YDX to provide, amongst other things, access to GB7YDX via the DELPH4 node. Ron constantly reminds me that he is the "real" YDX!

AND FINALLY:

The PacketCluster system is not limited to HF DX and we are always very happy to receive DX information for 6m and 2m openings, auroral warnings etc. Several users in the North West are keen 6m operators and use the facilities provided on GB7YDX to check the latest 6m DX openings.

There is no compulsory subscription to the system, but all the PacketCluster SysOps sell comprehensive User Manuals which describe the system in much greater depth than th is short article. These donations are used to reinforce the packet network and help defray the cost of upkeep. In return for donations, we all send out an AUTO-TIMER which helps keep people connected through the node network during times of inactivity.

Good DXing and Happy Hacking!

de Steve Wilson G3VMW

SysOp GB7YDX DX PacketCluster & BRAM/SHEF nodes
Technical Manager YAXPAK

Modification information on GB7SAM

Various BBSs around the country have tended to specialise in particular areas, and the Northampton BBS GB7AAA was no exception. Thus when its closure was announced a few months ago, there was a possibility of the loss of the "MODS" directories. I had taken a particular interest in these areas of GB7AAA, and had collected most of the modifications held there to make them available to SAM's local users. It was thus a logical step to take, after consultation with AAA's sysop, for SAM to take over the server function for modification files.

From SAM's introduction into the network, a policy of total indexing and editing had been introduced, and thus it was possible to offer a service improvement by easing the problems of locating a particular reference or file within the modifications directory. This was further enhanced by the availability of an extra server or searching function written for the W0RLI BBS software by Chris G6FCI, sysop of GB7FCI, but more of that later.

At this point it should be stated that packet can cater for only fairly simple text-based modifications, due to display limitations inherent within the system. Effective circuit diagrams are extremely difficult to convey, and complex modifications invariably require a diagram for clarification. Having said that, however, I was impressed by the range and scope of the material available from AAA, but noted that it was available only in an "as received" condition, complete with many variable styles of presentation, identifiable only by the cryptic DOS filename and in some cases in contiguous files of up to 14K in length. Thus followed the time-consuming tasks of editing all of the material to a reasonably standard presentation, removing all surplus spaces and formatting to reduce file sizes, splitting long files into smaller ones (max. 5K) for transmission over the network and also generating the indexing system. This was completed before the first of September 1990, and a flood bulletin was issued to announce the availability of the revised service. The flood bulletin has been re-issued at the beginning of each month since then, and its effect is quite noticeable in the increased traffic seen at the start of each month. I try to make the bulletin as informative and helpful as possible, but it is evident that around 10% of our fraternity still have problems with the system. Help is available for those who are "hung up" on a minor point, but although in many cases it is easier to act as a surrogate researcher by finding the file the enquirer is seeking and sending it to him, I prefer to spend time and effort in educating the enquirer to enable him to "do it himself". The fileserver function which responds to REQDIR, REQFIL and FNDFIL is nly run in attended mode, in order to trap the user-generated "glitches" which could cause problems for either SAM or the network.

Examples of these are:

The inconsiderate amateur who sent in 56 consecutive REQFIL messages which was then further compounded by his HomeBBS throwing a wobbly and duplicating every one of them. This would have generated over 250K of data in one block, which would have thrown an unfair load on the network and caused possible inconvenience to its other users. The "clever" lad, who found a way to search the entire BBS for a text string of "the". He was only curious to see what would happen, and I couldn't criticise him for that!

Before appending copies of the monthly flood bulletin and the excellent documentation provided by G6FCI, I would draw your attention to the final paragraphs of the flood bulletin and ask that if you do have any information which could be of help or interest to others, please please send it to me so that others may benefit from your efforts. Finally, as this is written, I am awaiting a response from the sysops of GB7PLY and GB7BIL, both of whom have indicated a wish to exchange copies of their locally-held modification information with that held on SAM.

Monthly flood bulletin:

Mods from GB7SAM

GB7SAM now holds over 230 mods., all easily available via REQFIL, so why not take a look to see if someone has come up with a way of improving your equipment's performance?

(A list of additions/updates for the preceding month is normally inserted here)

GB7SAM is able to provide more than the standard REQFIL and REQDIR functions as follows:

1. The BBS is fully indexed, so there is no longer a need to place reliance on cryptic filenames to guess what a file contains. By downloading the appropriate index file, a brief explanation of each file's function may be seen.

   Index filenames are:
   INDEX.A-E
   INDEX.F-F
   INDEX.G-I
   INDEX.J-S
   INDEX.T-Z

2. A search routine is available which works on complete words. This can search the mods. directory for a given reference and return a list of all files containing the required text string.

Examples

Requesting a directory listing (not very helpful, just a list of filenames:

SP REQDIR @ GB7SAM
Subject: **E** (mods. on SAM are in the E directory)
Message: **(CTRL-Z or /EX)** (no text, just terminate the message)

Requesting one of the index files:

SP REQFIL @ GB7SAM
Subject: **E\INDEX.A-E**
Message: **(CTRL-Z or /EX)**

Requesting a file (downloading a file):

SP REQFIL @ GB7SAM
Subject: **E\TS430S.MOD** (E directory\FULL filename of wanted file)
Message: **(CTRL-Z or /EX)**

Finding files containing a specific reference (eg. TS430S):

SP FNDFIL @ GB7SAM
Subject: **E\TS430S**
Message: **(CTRL-Z or /EX)**

(Note: Filenames should not contain additional characters or spaces; they should be sent exactly as seen, otherwise your efforts are wasted.)

The response to your request will be returned addressed to your callsign at the BBS where the request was entered.

Why not give it a try, and if there are any problems or queries, please feel free to drop a message to the sysop, who will be happy to assist wherever possible.

ALSO, IF YOU HAVE A MOD. WHICH WORKS, WHY NOT HAVE IT INCLUDED IN THE DIRECTORY SO THAT IT CAN BENEFIT OTHER AMATEURS?.

Don't worry if it's a bit messy, provided it is understandable, it can be tidied up very quickly. Just send it in as a private message addressed to SYSOP @ GB7SAM. All contributions will be acknowledged in the mod. text and by personal message.

Finally, please treat the network with consideration, and request no more than two or three files at a time. Those who send in lots of consecutive requests will receive three. Those who want to obtain the complete set for whatever purpose, are advised to send a formatted 3«" or 5 " disc (any capacity), plus return postage to G3TJP, QTHR.

73 Dave L, G3TJP, sysop GB7SAM

(Note. The following text is courtesy of Chris, G6FCI)

REQDIR server for W0RLI BBS software

The REQDIR.EXE program is an equivalent to the REQDIR utility available for the MBL BBS software. It is designed for use with the SERVER.EXE program supplied with the W0RLI BBS software. It allows users of other BBSs to obtain a list of files held in the W0RLI files areas. When a request is sent to the BBS the REQDIR.EXE program processes that request and returns a message to the originator containing the file listing.

Use of REQDIR.EXE

File listings can be requested by sending a message to REQDIR in the following way:

SP REQDIR @ yyyyyy

where yyyyyy is the BBS on which the REQDIR.EXE program is running. Obviously if that is the BBS that you are logged on to you can omit the '@ yyyyyy'. Make sure that 'SP' is used rather than 'SB', otherwise the message will not be deleted from the system as the BBS will consider it to be a bulletin.

The entry on the subject line defines the directory listing required. Three possible entries are allowed:

i) A blank line will generate a list of the directory areas available on the BBS.

ii) A line containing only a single letter corresponding to one of the directory areas will return a list of all the files in that area.

iii) A line with the format 'x\yyyyyyyy.zzz' or 'x/yyyyyyyy.zzz' will return a list of file(s) in directory 'x' matching the file name 'yyyyyyyy.zzz'.The 'yyyyyyyy' or 'zzz' parts of the filename can contain the usual Dos wildcards ie ’?’ allows the character to match any character and ’*’ allows the character and all subsequent characters to match any character.

If the directory cannot be found, then the requestor is notified. Likewise if no files matching the filename are found the requestor is notified.

NB. Unlike the MBL REQDIR, the user doesn’t need to enter their home BBS on the subject line. The program is intelligent enough to obtain that data from the message containing the request. An alternative return BBS address can be tagged onto the end of the subject line if required. The subject line format then becomes:

Either ’@ BBScall’
Or ’x @ BBScall’
Or ’x\yyyyyyyy.zzz @ BBScall’

If a directory letter or file name is specified, the space before the ’@’ is ESSENTIAL. If the space is omitted, the directory listing will NOT be generated correctly. If no alternative BBS is supplied on the subject line the program will use the originating BBS callsign from the message header. The alternative BBS should be specified by Callsign rather than _nnnnn number as in the MBL REQDIR server. The W0RLI server translates the BBS callsign on importing the message into the BBS.

REQFIL server for W0RLI BBS software

The REQFIL.EXE program is an equivalent to the REQFIL utility available for the WA7MBL BBS software. It is designed for use with the SERVER.EXE program supplied with the W0RLI BBS software. It allows users of other BBSs to request files from the W0RLI files area of a remote BBS to be forwarded to their home BBS. When a request is sent to the BBS the REQFIL.EXE program processes it and returns a message to the originator containing the file.

Use of REQFIL.EXE

File listings can be requested by sending a message to REQFIL in the following way:

SP REQFIL @ yyyyyy

where yyyyyy is the BBS on which the REQFIL.EXE program is running. Obviously if that is the BBS that you are logged on to you can omit the ’@ yyyyyy’. Make sure that ’SP’ is used rather than ’SB’, otherwise the message will not be deleted from the system as the BBS will consider it to be a bulletin.

The entry on the subject line defines the file required. The format of the subject line must be ’x\yyyyyyyy.zzz’ or ’x/yyyyyyyy.zzz’ where ’x’ is the letter corresponding to the directory containing the file and ’yyyyyyyy.zzz’ is the name of the file. Wildcards are not allowed and if the requested file cannot be found the requestor is notified.

NB. Unlike the MBL REQFIL, the user doesn’t need to enter their home BBS on the subject line. The program is intelligent enough to obtain that data from the message containing the request. An alternative return BBS address can be tagged onto the end of the subject line if required. The subject line format then becomes:

x\yyyyyyyy.zzz @ BBScall’

The space before the ’@’ is ESSENTIAL. If the space is omitted, the requested file will NOT be correctly identified and thus the user will probably get a ’File not found’ message back. If no alternative BBS is supplied on the subject line the program will use the originating BBS callsign from the message header. The alternative BBS should be specified by Callsign rather than _nnnnn number as in the MBL REQFIL server. The W0RLI server translates the

BBS callsign on importing the message into the BBS.

File Finder - A server for W0RLI BBS software

The FNDFIL.EXE program is for use with the SERVER.EXE program supplied with the W0RLI BBS software. It allows users to request a search of all the files in a specified file directory for a chosen word.

Use of FNDFIL.EXE

Requests for file searches can be sent in the following way:

SP FNDFIL @ GB7xxx

where GB7xxx is the callsign of the BBS on which the FNDFIL.EXE program is running. Obviously if that is the BBS that you are logged on to you can omit the '@ GB7xxx'. Make sure that 'SP' is used rather than 'SB', otherwise the message will not be deleted from the system as the BBS will consider it to be a bulletin. The subject line should contain the directory to be searched and the word to be searched for in the following format:

azbbbbbb.....

where 'a' is the directory letter (or number) to be searched. 'z' is a delimiter character (any character, except '@', may be used as a delimiter, but it MUST be present). 'bbbbbb.....' is the word to be searched for. The word will be matched against whole words in the files and case is ignored. Punctuation is ignored in both the requested word and all words in the searched files. Examples of valid subject lines are:

a\modem
f!Funny
i"IBM" (The final " is allowed as punctuation is ignored)
P=PACKET
1:BBC512

An optional return address can be added to the subject line. The address takes the form ' @ GB7xxx' where GB7xxx is the callsign of the BBS which you would like the reply to the request sending to. Use this when you have to send the request from a BBS other than your local one, so that the reply will be returned to your local BBS. Note...unlike WA7MBL the BBS callsign can be used as W0RLI translates the callsign into the _nnnnn NTS number on import. It is also important to note that a space MUST be left between the end of the search word and the '@' if the return address is to be used. Use the return address if you want the reply to be sent to a different BBS from the one used to issue the request.

A point to note....

The search routine isn't infallible. It treats commas, full-stops and spaces as word delimiters. Therefore, if you search for IBM you will not find ocurrences of I.B.M.

Getting Started on DigiCOM

By Jack G4BFH

Some twelve months ago, when I was thinking of changing my ATMOS computer Alan, G4BDM suggested a Commodore 64 as it could be put on packet at minimal cost. A few months earlier, my interest in packet had been aroused after a talk and demonstration at the local radio club by Chris, G6FCI and Ray, G4YVQ. When Alan sent me details of the DIGICOM system, I soon acquired a second-hand C64 and 1541 disk drive.

Being keen on construction, I prepared a PCB from the layout provided and, having checked it out, ordered the AM7910 chip crystal and the other bits that my junk box couldn't provide. The modem converts the audio tones from the transceiver into TTL levels for the computer and vice-versa. All the other functions usually provided by a TNC are carried out by the DIGICOM program. The AM 7910 IC which is used in many TNCs was the most expensive item at |10 but the total cost should not exceed |30. A switch was added to change the tones for HF working together with a PCB containing a 7402 and 7404 and two LEDs to simplify the tuning of SSB packet signals.

Connection to the computer is made via the cassette port. The TX data is taken from pin C3 which is normally used to drive the cassette motor so opto-isolators are included in the modem. In newer C64C models, a ceramic cap. C51 has been added (to bypass nasties from the motor?). This must be disconnected by cutting one leg (it can be reached without opening the case) otherwise there will reception but no transmission.

The computer program was written by Florian, DL8MBT a few years ago and like all computer programs has been passed through many versions. The current ones are V 3.51 and V 4.01C but some DIGICOM operators are still using V2.10. The program consists of two parts, the main program approx. 30K and a Parameter file, loaded as the main program is run. This file contains all the preset constants such as baud rate, PACLEN, TXDELAY, RETRY etc. text for beacon, contact-welcome, mailbox and node instructions. Up to ten of these parameter files can be kept on disk and loaded as required, e.g. with different baud rate for HF working or different welcome messages for attended or unattended operation.

Although most of the functions in the two current versions are similar there are very important differences. V4.01 has a personal mailbox system of the WA7MBL type where a subject is requested before a file is opened on disc. With V3.51, the system can be set up so that a file is opened on connect and closed on disconnect. The contacting station only has to leave his message. This system can accept up to four connecting stations at the same time and opens a separate file for each station.

Both versions can be used as digipeaters and nodes, but the V3.51 has a more advanced node almost up to NetRom standard. V4.01 has a built-in CW identifier transmitting every 30 mins but can be switched off if required. Patch CW-ID programs are provided for V3.51 both in C64 and C128 versions.

The maibox system on V3.51 and earlier versions seems to confuse some stations more used to the WA7MBL type and where there are few DIGICOM stations as in the Blackpool area, V4.01 has advantages. Apart from that, V3.51 is more advanced technically and I advise any new DIGICOM user to try both versions, it only costs a disk and postage.

Send a formatted 5.25" disc for the version required, in the usual protective envelope, enclosing a stamped addressed returned mailer to:-

Jim Mahoney, G6FCL
89 Tyefields,
Pitsea, Basildon
Essex SS13 1JA

Recently J.S.M.Electonics have produced an cartridge version of V4.01C which they designate DIGIPROM V4.05. A disk version of this is now available as DIGIPROM V4.05D under the same terms from:-

Robert McElroy, GI0ECC
39 Abercorn Park,
Portadown
Co. Armagh
Northern Ireland

I believe DIGIPROM is a longer program and some bugs have been squoshed (the only one I had heard of in V4.01 was with some printers!). However, I have not seen it yet so can’t comment. Both DIGICOM V3.51 and V4.01 have worked without problems here.

Both DIGICOM and DIGIPROM come with Word Processors and a Manual on the disk for printing out.

The Making of a Node Sysop

I suppose it all started when a friend (Peter G4WCE) lent me a TNC. After he set it up and I was on the air, Packet didn’t grab me much, but by about the third day I was hooked. Many hours and several late nights were causing me to wander about at work looking like a Zombie. After the initial few weeks of looking around, connecting to, and reading Mailboxes and typing to friends. I thought I would try out the Nodes to get around the country. I was amazed, I found I could connect Northwards to Aberdeen in Scotland and down to Exeter in the South. This was great fun, even later nights were spent in front of the monitor. I even put out CQ’s through the Nodes and actually got chatting to a few people. I had to have my own TNC. To my delight I bought a TNC-200. As I was using a BBC Computer, Ian G1VSJ gave me a nice terminal program for packet. I was now into file transfer as well.

Then I had a thought (careful Roy sit down), I wondered what it would be like to have a Node of my own. ’How do I go about it ?’. My task, should I accept it, was to find out what I had to do to get one on the air. Of course I would accept it, I was lusting after knowledge and couldn’t wait to get started. Ian blew me an Eprom for The NET so that was sorted. I thought ’Easy this init’. I put the Eprom in the TNC and connected up. Nothing on Screen, not a thing, but the DCD was flashing away merrily so plenty of activity. Oh dear! I was so disheartened. This is where the panic line started. I called Ian (Where would I be without you Ian?!!). ’Nothing on Screen Ian’ I yelled. ’Well there won’t be’ he said, and then went on to explain that with the Node Eprom in the TNC instead of the normal Eprom, I couldn’t monitor the channel I was on. Hmmm!, perhaps this wasn’t as good an idea as I first thought!!

I had a flash of inspiration, what I needed was another TNC which could be wired in parallel with the node TNC, little did I realise that this was only the start!. At the same time I came to realise that there are responsibilities to having a Node on the air. If you are going to put a Node on it must always be there on the same frequency. How do I look around the other frequencies ?? I would need another radio as well as a TNC. So I looked around for a cheap TNC and Radio, no chance. Then I found out about the BSX board and old PMR radios. That meant I had to build up a BSX board. I had only ever built small bits and pieces before, so it was quite a project for me.

Well, off we went to a couple of Rallies to buy the bits and pieces. I say we, because by this time my wife Win G1GSJ had also got the bug, Packet not tummy. Each time I went into the shack I had her looking over my shoulder, worst of all when I went down to make a coffee I returned to find that she had commandeered my BEEB and was chatting to some strange man!! I had to think quickly, it was then that I remembered the old saying ’if you cant beat them ......’ and who can beat a woman with the bit between her teeth? Well, how could I get her on packet, more expense. Another radio, TNC and a Dumb Terminal later and she was happily typing away on the other side of the room with her back to me, oblivious to all. She has been licensed for 8 years and I thought she was still a bit mike shy. Now she is typing away most of the evening and doing the ironing between overs. We seem to spend most of our lives in the shack. If only I could get some early nights. It is generally gone midnight, usually well gone when we at last switch off and go to bed, but my babies need looking after. In fact, Win went to put out a note for the milkman one night. Unfortunately, he had already been and gone.

However, I am digressing. As well as Win's set up I obtained the bits for the BSX and three or four evenings later it was built. It almost worked first time. Oooppss, I had put in a 10K resistor instead of a 1K !!! The Radio was a Pye Westminster that Bob G8VLJ helped me convert and get going. That was the start. Since then it's just grown and grown and grown. Now there are Seven TNC's (Eight if you count Win's). Four that I've made, Two borrowed and Two bought. This doesnt take account of the three that I blew up. The wiring in my shack is horrendous, so I'm told. It looks OK to me. I think that when I go to bed at night a gremlin comes up and tangles all the wires.

During my two years in Packet radio I have learned more about radio than I did in the eight years before. The shack seems like a PMR graveyard, bits here, bits there, some working, some never again to work. I look around and grin to myself, 'I'll be careful not to do that again' I think, as I look at some of it.

Bob G8VLJ has helped tremendously by lending me some 2 channel radios. This brings me to a problem that happened a couple of months ago. Those damn gremlins saw me go out and knew that I would be away for some time. I was going to the Llandudno Rally, whilst I was away there was a power cut, the problem arose because when ALT22, which is on 144.675 MHz came back on it came on 144.650mhz, that meant I had Two Nodes on the same frequency, ALT21 and ALT22. That caused a bit of chaos, luckily it was only for a few hours.

I now have 5 Nodes linked together with a Diode Matrix Board. What a good evenings work that was, soldering 60 or so diodes in the correct sequence, or almost the correct sequence. Two are on 2 metres, One on 4 metres and One on 6 metres, with ALTALK wired between them. We have a good route to the DX Cluster at Wetherby in Yorkshire which you can connect to from ALT22 or any Node with DXCLUS in its nodes list. The route goes from 2 metres, onto 4 metres through ALT41 to DELPH4 then LEEDS and on to 23cms to Wetherby. And thereby hangs another story. Again I was not very popular some time ago. I went away for the weekend, leaving at about 1-45pm on the Friday afternoon, by 4-00pm my 4 metre TNC had decided to go on permanent transmit. It was like that until Sunday evening when I arrived home to find people had been DX'ing to my PMS and telephone answering machine. How nice of them, to go to all the trouble to tell me that I was blocking 4 metres from Shrewsbury to Leeds. A very quiet Roy that night, hiding in the corner and taking a deep breath each time the door bell rang, with a red face and much apologising to be done!!!

The house now looks like a Porcupine with all of the aerials, I think there were 13 at the last count. The next step is to employ the services of an Architect as I'm running out of gables to bolt them to. My next door neighbour is quite used to seeing a ladder almost permanently up.

Oh! HELL, I'll have to go, there's a funny smell comming from behind the computer.........., if anything else happens (IF!! Ha! ha!), I'll let you know in the future. Seriously though, I think if I was starting again with Nodes I would ask around other Sysops first but it has been good fun learning.

Bye for now ...
Roy G6SLE @ GB7NWP

How to Receive APT Pictures from the NOAA Satellites

So you have decided you want to receive the NOAA and Russian METEOR orbiters and you have a radio that receives 137.500 MHz and a computer. So now what do you do? I hope this short dissertation will steer you in the correct direction.

To display a picture from the orbiting birds you need several things. First you need to 'acquire' the satellite. This means you need the program to calculate its position at any time and determine if you can hear the signals from the 'bird'. The best place to get this program is probably AMSAT-NA an organization dedicated to AMateur SATellites. They have several very good tracking programs for the IBM and also for Commodore and Apple as well. After you have acquired the program and have it running on your computer, you then need the Keplerian Elements for the NOAA satellites. These elements as well as some tracking programs are available from the CELESTIAL RCP/M, run by TS Kelso, at 513-427-0674 (Fairborn,OH) and from the Weather Fax and Remote Imaging DATALINK BBS run by Dr. Jeff Wallach, N5ITU as bulletins for some 80 + sets of satellite data. Another bulletin also tells you to what the printed numbers correspond so you can enter them into the computer program. Use the newest elements you can find as the orbiting satellites are subject to forces which change their orbits. If you use Keplerian Elements more than 3 or 4 weeks old, your chances of hearing the bird are reduced.

Once you are tracking the birds you should hear them on your receiver. They will be on 137.62 (NOAA-11), 137.500 (NOAA-10), 137.850 (Meteor 3-2), 137.4 (Meteor 2-16), 137.3 (Meteor 2-17 and 2-18). Now comes the first thing different about NOAA orbiters. The frequency deviation of the FM transmission is about +/-18-20 kHz. This is 4 times the normal deviation of a police call and 1/3 the deviation of the FM broadcast band FM signal. If you receive the signal on the regular communications width of the scanner the light areas of the picture will be noisy and the signal will sound distorted and the picture will basically be useless. If you use the FM broadcast bandwidth (assuming your scanner will let you), the signal will be weak and there may be too much background noise to see the picture.

So what now ? Well there are two ways to fix the problem, find a receiver with the proper I.F. bandwidth filter of 50 kHz, or modify the I.F. of your scanner to about 50-80 kHz. The simplest mod which has been found to be workable is to remove the narrow communications I.F. filter and replace it with a 0.01 uFd capacitor. This provides for good Wefax pictures from GOES and pretty fair NOAA orbiter pictures. It can of course result in retuning the radio, voiding the warranty and making the squelch not work properly.

The other characteristic of the NOAA satellite transmissions is THEY ARE WEAK. To get good pictures over a large area we have found a pre-amplifier to be essential. A GaAs-FET type can be obtained from various sources at a reasonable price but still about 50-100 dollars. You can also build one for about 25 dollars from plans for a pre-amp for the 2-meter amateur band and tune it to 137.5 easily.

Lastly, but importantly, the antenna can be of an omni directional, uniform pattern type such as a turnstile antenna similar to those used in the FM broadcast reception business but of course tuned to 137.5 MHz. Mount the pre-amp at the antenna if possible. Crooked coathangers on broomsticks have been known to work, and it is not difficult to build the antenna. Of course 2-meter beams with Az/El tracking will do the job well.

Now that you have a nice audio signal from the satellite, what happens next? The audio tone of 2400 HZ which is the carrier tone that is used to carry the picture information (video), must be detected and the video data converted from analog to digital and then displayed on the computer monitor by the software. The hardware and software to do this is available from several sources with more coming along. Several stand-alone boxes are also available that produce some form of computer output either in printed form or on the display. In addition the people on the DATALINK BBS may also have some data to share with you regarding this equipment.

One of the best sources for information is the WEATHER SATELLITE HANDBOOK available from Dr. Ralph Taggart of Michigan State University at 602 S. Jefferson, Mason, MI 48854 for $15.00. Taggart also writes the monthly WEATHERSAT column which appears in ’73 Magazine. A must is THE JOURNAL OF THE ENVIRONMENTAL SALELLITE AMATEUR USERS’ GROUP-JESAUG - which is published quarterly. It is available for $30.00 per year from the editor, Jeff Wallach, PO Box 117088 Carrollton, TX. 75011-7088
Back issues of the JESAUG are also available.

At the present the simplest software for the IBM is the Elmer Schweittek MULTIFAX software. A hardware kit is available from A&A Engineering which includes the video dectector circuit and A/D converter. Input to the PC is via the game port. If you want to build your own, complete documentation to build an interface circuit on an IBM PC prototyping board is available from H. Paul Shuch, N6TX, for $6.00 - FAXBOARD.

The WEPIX(tm) software and hardware is available from Encomm. It will produce pictures of 1200 lines by 800 samples per line displayed at 640 x 350 pixels in 16 shades of gray or 16 colors using an IBM PC with 640kB, EGA card and at least one 360k disk.

Sources:

NOAA Data / Keplerian Elements:

DATALINK RBBS, N5ITU, Dr. Jeff Wallach, 214-394-7438,
DALLAS REMOTE IMAGING GROUP ELECTRONIC BULLETIN BOARD UPDATES ON NOAA BULLETINS, SATELLITE LAUNCHES, FREQUENCIES DISPLAY PICTURES FROM NOAA SATELLITES ON YOUR OWN P.C.
CELESTIAL RCP/M, TS Kelso, 513-427-0674, NASA Prediction Bulletins are online and updated several times weekly

Satellite Tracking Software:

AMSAT-NA, PO Box 27, Washington, DC 20044, Software Exchange, phone 301-589-6062 (voice), N4HY - QUIKTRAK, W0SL - ORBITS II,III,IV
Roy D. Welch, W0SL, 908 Dutch Mill Drive, Manchester, MO 63011, phone 314-391-1127, ORBITS II-EGA, ORBITS III-EGA, ORBITS IV-VGA
DATALINK BBS, download SATTRAKx.ARC, SEESATxx.ARC and others
CELESTIAL RCP/M, TS Kelso, 513-427-0674, SATTRAKx.ARC or SEESATxx.ARC
Astronomical Data Service, Rodger Mansfield, 3922 Leisure Lane, Colorado Springs, CO 80917-SPACE BIRDS program and

Newsletter, $40.

Receivers:

Vanguard Labs, 196-23 Jamaica, Hollis, NY 11423, phone 718-468-2720
Hamtroincs, Inc.,65-D Moul Road, Hilton, NY 14468-9535 phone 716-392-9430
DARTCOMM, Mr. N. Hearn, DARTCOMM Ferndale, Postbridge, Yelverton, Devon PL20 6SY, Great Britain, UK, phone 011 44 0822 88253

Crystals:

JAN Crystals, 2400 Crystal Dr, Fort Myers, FL 33906-6017, phone 1-800-237-3063 or 813-936-2397

Pre-Amps:

THL/Encomm, Inc, 1506 Capital Ave, Plano, TX 75074, phone 214-423-0024
Spectrum International,Inc., Box 1084, Concord MA 01742, phone 617-263-2145
Vanguard Labs, Hamtronics and GLB for Helical RF Filters for intermod
Ehrler-DuBois Very High Performance LNA for 1500-1750 Mhz, contact Greg Ehrler or John DuBois via DATALINK

Antennas:

ARRL Handbook, 1986, turnstile over ground antenna.
ARRL Satellite Experimenter's Handbook by Martin Davidoff, K2UBC
Modern Electronics, September 1988, Hank Brandli article, page 82, Receiving Satellite Weather Photos

Hardware Interface to PC:

A&A Engineering, 2521 W. La Palma, Unit K, Anaheim, CA 92801, phone 714-952-2114 - both AM dectector and A/D converter, input to PC via game port (4-bits) or parallel I/O Interface (8-bits) - kit is $50. - assembled and tested unit is $70.
Microcomm, H. Paul Shuch, N6TX, 14908 Sandy Lane, San Jose, CA 95124, phone 408-377-6137 - FAXBOARD - A Weather Facsimile Display Board for the IBM PC - Complete documentation to build your own interface circuit on an IBM PC prototyping board - video and an 8-bit A/D interface - $6.00

Video Detectors:

RTM Circuit Boards, 205 Elm St.,Van Horne, IA 52346-0400,
QST Magazine, video detector (the 'Wilson Board')Jan '86 and Vince Coppola's article in Oct 1988 73 Magazine
QST Magazine, August 1985, Grant Zehr article, page 27, video detector circuit

A/D Converter & Parallel I/O Interfaces for the IBM PC:

MetraByte, 440 Myles Standish Blvd., Taunton, MA 02780, Model PIO-12 board for the IBM PC, phone 617-880-3000
John Bell Engineering, Inc, 400 Oxford Way, Beimont, CA 94002, phone 415-592-8411

Display Software and Hardware - 'Amateur':

Encomm, Inc. 1506 Capital, Plano, TX 75074, WEPIX(tm) system, phone 214-423-0024
Multifax, Elmer Schwittek, 2347 Coach House Lane,Naples, FL 33942, phone 813-434-2268 - Multifax 3.3 for EGA, 2.x for CGA on the IBM-PC

Clay Abrams Software, 1758 Comstock Lane, San Jose, CA 95124, software for the ROBOT 1200 - see QST Magazine, Jan ’86

Ralph Taggart, 602 S. Jefferson, Mason, MI 48854, Weather Satellite Handbook Scan Converter - for the Radio Shack CoCo3 - see 73 Magazine, Nov ’84 and Dec ’84 and Handbook. Ralph Taggart also writes the WEATHERSAT column for 73 Magazine.

ImageWise Display/Receiver, Circuit Cellar Inc. - Micromint Inc., 4 Park Street, Vernon, CT 06066, phone 203-875-2751 - BYTE Magazine, May, Jun, Jul, Aug 1987. JESAUG 88-2 and Oct 1988 73 Magazine have information on how to build the video and A/D interface. Ver 2.0 software supports VGA graphics and 640 samples per line at 64 gray levels. With VGA the ImageWise Display unit is not required. The software is available for $29.95 from Vince Coppola, N1VC, 6 Bobbin Road, Terryville, CT 06786

ASAT: An Apple-based Satellite Imaging System by Grant Zehr, WA9TFB - QEX Magazine, March ’88 - has complete information to build an excellent unit using the APPLE with a Redshift Ltd graphics card giving 256 * 256 pixels at a full 256 levels of gray.

AMIGA Imaging Software - Dallas Remote Imaging Group, PO Box 117088, Carrollton, TX 75011-7088, Voice 214 394 7325, Uses standard Amiga hardware - no special display, Powerful NASA digital enhancement curves built-in, Digital image processing capabilities, Uses A&A Engineering $49 demodulator, Image saved for use by other graphics programs, Full histogram analysis, Full 8 bit data is stored on diskette or hard disk Unattended operation Can be setup in 30 minutes. Call for special pricing

IBM-PC Interface Card and Software - Jim MacLean and Paul Atkinson, 2112 Parsons Avenue, Melbourne, FL 32901, 407-727-3646 - plug in card for IBM XT or AT, 9600 samples/second at 8 bits, automatic synchroniztion for NOAA, METEOR and WEFAX, data saved realtime to hard disk, supports CGA, EGA, and VGA, $300 for hardware and software

Complete Systems - Hardware and Software:

Dallas Remote Imaging Group, P.O. Box 117088, Carrollton, Texas 75011-7088, 214 394 7325, Complete Earth-Scan Amiga turnkey system ready to put on air

YU3UMV Digital Storage and Scan Converter for Weather Satellite Images, described in VHF Communications Magazine, Winter 4/82 and Spring 1/83 - Modifications are described in the Satellite Users’ Group Journal - JESAUG - available from Jeff Wallach. Back issues of VHF Communicatons and the YU3UMV printed circuit boards are available from Fred Sharp, TimeKit, P.O. Box 22277, Cleveland, OH 44122, phone

Loren Johnson, P.O. Box 219, Cleveland, MN 56017, system for the IBM-PC - $750, phone 507-931-4849

WEATHERTRAC[tm] IBM-PC Based Satellite Image Acquisition and Animation System - $1885 for EGA - $3495 for VGA, Fred Bartlett, Softworks, Inc, Allentown, PA, phone 215-395-4441 or George Isleib, Lehighton, PA, phone 717-386-4032

TRUfAX by CompuMAX IBM-PC based facsimile system - $600, Compumax Corporation, 26 West Boylston Street, West Boylston, MA 01583

Satellite Meteorology:

Satellite Imagery Interpretation for Forcasters - a 3 volume set published in 1985 for NOAA now available from the National Weather Association, 4400 Stamp Road, Room 404, Temple Hills, MD 20748, 301-899-3784, $32 for members, $45 for non-members (Membership is $20.)

Bibliography - Online DATALINK Bulletins: (214 394 7438 -- BBS)

NASA Satellite Prediction Bulletins, NASA-PB.xxx,
How to use NASA 2-Line Keplerian Elements
AMSAT Bulletins and Weekly Notes / Orbital Elements
NOAA APT NOTES
NOAA User Bibliography
Summary of Soviet Meteorological Satellites by Grant Zehr
How to Build a Weather Satellite Groundstation (This Primer)
Wrasse Dedicated System Review
GOES VAS Imaging System for the IBM PC, John DuBois W1HDX

LNA for WEFAX-VAS-HRPT-GPS, John Dubois and Greg Ehrler
GOES WEFAX Information Note 89-W1 (3/88)
GOES I-M Converence Summary, Dallas Remote Imaging Group online Image Files

Review DATALINK RBBS bulletins for current information ====> 214 394-7438

DALLAS REMOTE IMAGING GROUP
DRIG
Voice: 214 394-7325
Data: 214 394-7438
P.O. Box 117088
Carrollton, TX 75011-7088
ATTENTION: Jeff Wallach, Chairman

Richard Crisp crisp@mips.com
MIPS Computer Systems
!decwrl!mips!crisp
928 Arques MS 2-02
(408) 524-8177
Sunnyvale, Ca 94086

Editors Note: This article was received as an electronic mail message from the rec.ham-radio newsgroup on USENET.

The NASA Predictions can be obtained from almost any GB7... bbs, and are usually less than a week old. I pick them up from rec.ham-radio either on a Monday or Tuesday of each week. (using The G1EMM version

NWPUG Membership Listing

Correct to: 26th November 1990.
G0ASI

G0BHP	G0HII	G0MAI
G0BJR	G0IFX	G0MJG
G0BJW	G0IWW	G0MOD
G0BLM	G0JAS	G0MPP
G0CMM	G0JGX	G0MRM
G0DOR	G0JHC	G0MZV
G0DTO	G0JPC	G0NGL
G0DUB	G0JVY	G0NKM
G0FFD	G0JYK	G0NKV
G0FIH	G0KIZ	
G0FPJ	G0LBE	G1DBC
G0GER	G0LDU	G1GOP
G0HAL	G0LHT	G1GSJ
G0HEX	G0LVJ	G1GSW

G1GYC
G1HSG
G1ILW
G1INV
G1LAC
G1LDG
G1NWN
G1OCA
G1OMY
G1RLK
G1SCL
G1SHJ
G1UHO
G1UKQ
G1ULB
G1UOI
G1UTM
G1UTP
G1VSJ
G1VWP
G1YEF
G1YYH
G1ZMQ
G1ZPA

G2DVA
G2FZN

G3BSA
G3CVW
G3KLL
G3LEE
G3LJR
G3LWK
G3NFB
G3OWO
G3PAK
G3PER
G3RTU
G3TJP
G3TPY
G3UFO
G3UNM
G3UVQ
G3VFP
G3VOM
G3VYV
G3WCS
G3WFK
G3WFW
G3WGQ
G3XJI
G3YRT
G3ZFJ

G4BDE
G4BFH
G4BVE
G4BYP
G4DBG
G4DRH
G4GVQ
G4HDU
G4HGF
G4HSS
G4HUF
G4LBJ
G4NKH
G4NRN
G4OAR
G4OJR
G4ORC
G4OTW
G4OUG
G4ROY
G4SAF
G4SCI
G4SHC
G4TFU
G4TMM
G4TPA
G4TZK
G4TZT
G4UQC
G4UUV
G4UXD
G4VPS
G4VSS
G4WAL
G4WBW
G4WCE
G4WKD
G4WSD
G4WXI
G4XLX
G4YRQ
G4YXO
G4ZGQ
G4ZYQ

G6AWD
G6BMK
G6BMY
G6CRV
G6CZV
G6DHI
G6DOM
G6DQO
G6FCI
G6FPX
G6HCI
G6HMD
G6HNF
G6HWD
G6HZJ
G6HZQ
G6IFS
G6III
G6IIM
G6JAP
G6JNS
G6LFG
G6LXU
G6OCW
G6RUK
G6SLE
G6VGH
G6WCW
G6WZG
G6XRE
G6XYA
G6ZXH

G7AAA
G7AIM
G7ALT
G7BBF
G7BYP
G7CCP
G7CKN
G7DEC
G7DOY
G7DWD
G7EFC
G7EKH
G7ETK
G7EVY
G7EZG
G7FFK
G7FXD
G7GHW
G7GVN
G7HHR
G7HPS
G7HWR
G7HYC

G8COQ
G8CVF
G8DQK
G8GBK
G8GWX
G8GYO
G8IC
G8MMM
G8NDD
G8PLW
G8RFF
G8TKD
G8TOE
G8TZJ
G8UAS
G8UHO
G8UZZ
G8VVP
G8WPL
G8WQB
G8XNQ
G8YUK

GW1ATZ
GW1IAW

GW2HCJ

GW3KNZ

GW4DMR
GW4GTE
GW4HDR
GW4IGF
GW4PHB
GW4VOL

GW6ZHQ

GW8UGJ

TOTAL: 228 members.

Sunny Ramsbottoms Rally Round-up

JANUARY

20th Oldham ARC Rally
Queen Elizabeth Hall
Civic Centre, Oldham
Details from Kathy, G4ZEP
on 061-624-7354

27th The First Lancastrian Rally
jointly run by Lancaster University ARS and the Central Lancashire ARC
Details from Sue Griffin G1OHH
on Lancaster 64239
or Mike Shirlock G4ZYN
on 0257-452287

MARCH

2nd Tyneside ARS Rally
North Eastern Exhibition Centre
Gosforth Park Race Course
Details Terry G6VEG
on 091-264-8196

17th Norbreck Amateur Radio, Electronics and Computing Exhibition
Norbreck Castle Exhibition Centre, Blackpool
Details from Peter Denton G6CGF
on 051-630-5790

24th Cunningham & District ARC Magnum Rally
Magnum Leisure Centre,
Irvine, Ayrshire
Details from Bob Low GM0ECU
on 0294-72233 (day)
or 0563-35738 (evening)

(March)

24th Pontefract & District ARS Components Fair
Carleton Community Centre, Pontefract
Details on 0977-615549

31st Centre of England
Easter Amateur Radio Rally
Motorcycle Museum, Brickenhill
Nr. NEC, Birmingham
Details Frank Martin G4UMF
on 0952-598173

APRIL

7th White Rose Rally 1991
The 24th White Rose Rally will be held at the usual venue.
Leeds University
Doors open at 11:00 am.
P O Box 73, LEEDS, LS1 5AR

14th Trafford Rally
"The Great Northern Rally" at the G-MEX Centre in
Manchester City Centre
Details from Graham Oldfield
G1IJK on 061-748-9804

28th Bury ARS Annual Rally
Castle Leisure Centre
Bolton Street, Bury
Details from Laurence Jones
G4KLT on 061-762-9308

27-28 National Radio Convention
NEC Birmingham
Details from G3MVV QTHR.

Bye for now, Tony G6CZV@GB7CRG

NWPUG

North West Packet User Group

When Completed, Return to:

c/o Nigel Watkinson
32 Lawnswood Drive
Swinton
Manchester
M27 1NH

MEMBERSHIP APPLICATION FORM

I wish to join the North West Packet User Group and enclose my subscription of ______ including a donation of ______

(minimum subscription is £7.50. Donations are optional and will be used to establish and maintain maiboxes and network nodes within the group's area)

Name ______ Callsign ______

Address ______

(Please Use Block Capitals)

Postcode ______ Telephone ______

RSGB Member [ ] YES [ ] NO

Local Mailbox GB7

Packet Equipment Used ______

Data Protection Act: I am willing for my Name, Address and Callsign to be held on a computer. This information will not be disclosed to any person outside the group's Committee and will not be used for any purpose other than sending me information about the Group.

[ ] YES [ ] NO

Signature ______

Date ______

PLEASE MAKE ALL CHEQUES PAYABLE TO THE NORTH WEST PACKET USER GROUP

IMPORTANT:

4th NWPUG AGM

24th February 1991
7:30pm

Grappenhal l Community
Centre

Grappenhall, Nr Warrington

cmd: ***disconnected