

GB3SK located near Canterbury, Kent
TX frequency: 433.150 RX frequency: 434.750
CTCSS: 103.5 Hz or by Tone Burst: 1750 Hz
Manager: Dick Dickason G6DIK

This repeater originally came into service during 1978 at a site near Folkestone. Due to local difficulties, including problems with a nearby Syledis station, the repeater was moved to a new location at The University of Kent at Canterbury in 1984.

The repeater has now been completely rebuilt. The present hardware was installed during June 2007, replacing the Pye 460/461 and GB3US logic which had been in service since 1984

The antenna system consists of separate full wave dipoles for Tx and Rx. Cavity filters are used to obtain the requisite separation between Tx and Rx.

The repeater sends its callsign "GB3SK" in morse approximately every 12 minutes whether it is in use or not. Time out is 30 minutes and therefore should not bother many users! GB2RS news is transmitted from SK on Sundays at 18.00 hrs local time.

Mar09

REPEATER ACCESS & USAGE

GB3CK & GB3EK are CTCSS only.

All the other voice repeaters in Kent can be accessed by:

1750 Hz tone of between 200 m/seconds and 1 second

OR

CTCSS tones of 103.5 Hz

followed by at least 3 seconds of audio - this can be achieved by giving your own callsign twice - to ensure the repeater is opened properly.

ALWAYS wait for the over signal, usually a 'K' or a 'G' between overs before transmitting. The 'G' indicates access by CTCSS.



**Kent
Repeater
Group**

A TECHNICAL AND OPERATIONAL OVERVIEW OF THE GROUP'S REPEATERS

**GB3CK GB3EK GB3KN GB3KS
GB3NK GB3RE GB3SK**

**The Kent Repeater Group was formed in
1974 to co-ordinate the provision and
maintenance of VHF and UHF
repeaters in Kent.**

**Kent Repeater Group on the world wide web.
<http://www.krg.org.uk>**

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The Group supports 7 repeaters: On 2 metres – GB3KN near Maidstone and GB3KS near Dover . On 70 cms – GB3CK near Charing, GB3EK near Margate, GB3NK near Erith, GB3RE near Maidstone and GB3SK near Canterbury. For a detailed description of each repeater click on ‘The Repeaters’ on the left.

Like most UK repeater groups, the KRG is financed **SOLELY** from the subscriptions of users and the generosity of local amateurs and amateur radio suppliers. Although affiliated to the RSGB, the Group receives no direct financial help from them. The Group needs to raise about £1,000 per annum to rent sites, pay for insurance, and to maintain, replace and improve the repeaters.

The building, development and maintenance of each repeater is carried out by a local working group under the direction of a Repeater Manager. These groups may consist of several people each responsible for his own particular speciality or may consist of a Manager who will co-opt assistants as required. The working groups are all unpaid volunteers. Most don't even claim expenses. If you feel you could be of assistance to your local team, you should contact the relevant repeater manager, or any member of the Committee who will help you to get in touch.

The day to day running of the Group is carried out by a Committee, elected from the membership. The Committee consists of a President, Chairman, Secretary, Treasurer, Newsletter Editor, two Ordinary Members and the Repeater Managers. With the exception of the President, who is elected for a term of 3 years, all these officers are elected annually at the AGM. The AGM is usually held in May or June.

Further information on the Group's repeaters may be obtained by contacting the relevant Repeater Manager, or any committee member. Membership information may be obtained from the Treasurer, J.A.Wellard M0ZAA by e-mail: john@wellardj.fsnet.co.uk.

The Group is always happy to give talks at radio clubs please contact the Chairman: Martin Stoneham G4RVV, who is QTHR or e-mail g4rvv@krg.org.uk or call 01474 853014 or any Committee member.

In early March 2003 it was connected to the internet, using Echolink Software, which can be identified, when active, by the callsign being spoken every 10 minutes, and when the internet is on line, a spoken “stations connected, please leave a pause” every time there is a carrier drop on the input.

GB3RE located near Detling, Kent
TX frequency: 433.275 RX frequency: 434.875
CTCSS: 103.5 Hz or by Tone Burst: 1750 Hz
Manager: Spike Bernard G4AKQ

First commissioned on July 5th 1987 it was sited at Chattenden near Rochester, courtesy of the Royal Engineers. When the barracks closed, the site was lost to the group and it was not until October 1995 that licensing permission was granted for operation at a PMR site previously vacated by GB3KN, at Detling, 5Km. NE of Maidstone.

The control logic is similar to that of ‘KN though in this case the “over” signal will be “RE” ,or “G” if 103.5 Hz. CTCSS is used on the previous “over”. If the repeater is set to “Beacon only” mode due to interference, the callsign will be sent every 15 minutes, followed by the QTH locator JO01HH.

The transmitter is from a Storno 662 PMR base station and the receiver is from an SMC1045 unit, which is extremely sensitive. The antenna is a Turnstile Stack employing a set of 4 dipoles giving 360 degrees coverage. The Tx has an erp of approximately 12.5dBw.

The repeater is set to 2.5 kHz. deviation, with transmitted 103.5 CTCSS tones at 350 Hz. Users should adjust their deviation to not exceed 2.5 kHz.

Kent Repeater Group on the world wide web.
<http://www.krg.org.uk>

isolation between TX and RX frequencies. The insertion loss of the duplexer reduces the power to 15 watts at the base of the feeder. Coverage of south and east Kent is achieved by means of a 3 element beam pointing approximately north-west.

The repeater incorporates a custom logic unit designed and programmed by G4TKR. GB3KS can be accessed by CTCSS or 1750 Hz tone, once accessed the repeater is carrier operated until it closes down and sends its call sign.

The repeater will send a “K” in morse code each time the received carrier ends while in “Standard Mode”.

Should the repeater be kept open for more than 12 minutes continuously then it will revert to “CTCSS Mode”. In this mode the repeater can only be accessed with continuous CTCSS and the repeater will send 2 beeps after each over. This mode will continue until the input frequency has been clear of signal's for 6 minutes. Should an over exceeded 4 minutes while in CTCSS mode the repeater will close down until the frequency has been clear for 10 seconds and then revert back to CTCSS mode again.

GB3NK located near Erith, Kent

Input - 434.700; TX frequency: 433.100 – RX frequency: 434.700

CTCSS: 103.5 Hz or by Tone Burst: 1750 Hz

Manager: Phil Wolfe G4EGU

Originally built in 1976 by the North Kent Repeater Group, NK worked well from a site near Orpington. Three years later the NKRG merged with the KRG and NK was resited to a much better location at Wrotham Hill. Following notice of a substantial increase in site rental it was moved to its present location in Erith in December 2001.

Coverage includes some of North West Kent, parts of Essex and parts of South East London.

New hardware was commissioned in 1990 using Pye equipment and incorporating customised GB3US logic. The inter-over signal is a “K” sent in morse. The repeater has a timeout period of 5 minutes. The periodic ident' is sent in morse every 12 minutes as GB3NK.

GB3CK located near Charing, Kent
TX frequency: 433.000 – RX frequency: 434.600

CTCSS: 103.5 Hz

Manager: John Wellard M0ZAA QTHR or

john@wellardj.fsnet.co.uk

The Central Kent repeater is located near Charing on a site 192 metres asl and covers many parts of Kent. Parts of East Sussex and Southern Essex are covered as well.

The repeater was first commissioned in 1978 A Pye 460 went into service in 1983.

It was replaced with a Motorola Micro in September 1990. This was replaced with the current repeater which consists of a Icom 4520 on the 30 December 2001.

The repeater consists of a Icom 4520 UHF repeater (kindly donated by Icom UK) with a logic system designed by Colin G6OEY & Don G4TKR to take care of the callsign generation and access tone decoding. The aerial system is a Diamond X50 at 10 metres agl, fed by LDF 450 heliax. Single aerial working is achieved by a commercial narrow shift diplexer made by Procomm of Denmark specially for GB3CK, also two other cavities and pre amp are used giving 75dB isolation.

A callsign is transmitted every 8 minutes whether the repeater is in use or not. Timeout is set for 8 minutes. CTCSS tone is 103.5.

GB3EK located at Margate, Kent

TX frequency: 430.8875 MHz - RX Frequency: 438.4875 MHz

CTCSS: 103.5 Hz

Manager: Don Turner G4TKR

GB3EK was first licensed in the 7th of April 1976 and continues to operate from the same site to this day.

Over the years the repeater equipment has been continually updated to take account of the changes in technology and the increased presence of strong RF signals on site.

The original input frequency for GB3EK was 434.650 MHz, this frequency has also been allocated internationally as a Low Power Devices frequency and since 2005 the increase of Low Power Devices such as wireless burglar alarms and door bells has increased dramatically. The interference reached such a level (especially in lift conditions) that the repeater was continually being opened by the LPD signals.

First we tried to retain the frequency by making the repeater CTCSS access only, although CTCSS access prevented the opening of the repeater by the LPD devices the mixing with the wanted signals was such that it became impossible for weaker signals and mobiles to use the repeater successfully. So on the 1st of January 2008 with great reluctance the frequency was changed to a wide split.

The repeater (Mk6) currently consists of a Icom IC-UR8050 transceiver with a custom logic unit designed and programmed by G4TKR. To access the repeater CTCSS tone is required with speech for 2 seconds. The repeater will send a single over beep each time the received carrier ends while in "Standard Mode". When in "Link Mode" the repeater will send 2 beeps one directly after the received carrier drops and the other to indicate the repeater is ready for the next over, this mode is used for Echolink operation. A time will occur should an over exceed 10 minutes and this is indicated by a series of cascading tones. The repeater will reset once the input frequency is clear for 10 seconds.

The repeater duplexer provided isolation between the transmitter and receiver and band pass filters are installed in both the TX and RX paths. The antenna is a 3 element beam pointing in the direction of Canterbury and gives a good coverage over the local area.

Additional information can be found at www.gb3ek.co.uk

GB3KN located near Detling, Kent
TX frequency: 145.700 – RX frequency: 145.100
CTCSS: 103.5 Hz or by Tone Burst: 1750 Hz
Manager: Terry Chipperfield G3VFC QTHR

'KN commenced operation in April 1981 from the North Downs 5km. NE of Maidstone. It has moved site 3 times over the years but by no more than 1.5 km. Coverage of North Kent, West Kent, Maidstone, the Medway towns &

parts of Essex & East Sussex is achieved using a colinear aerial at 17metres agl, the site being at 175 metres asl. The ERP is approximately 12dBw. The hardware is based on a much modified Pye R18 receiver and T30 transmitter. Single aerial working is achieved using a Wacom duplexer imported from the USA. This provides 90dB isolation between the Tx. & Rx.

The repeater is set to transmit & receive at a deviation of 2.5 kHz. Transmitted CTCSS deviation is 350 Hz.

The control logic is based on the GB3US system. Initial access requires a 1750 Hz. toneburst of 500 milliseconds duration, or a CTCSS tone of 103.5 Hz.. At the end of each "over" the repeater sends a "KN" or a "G" if CTCSS was used. Users should wait for the "KN" or "G" as this resets the timer.

If users do not wait for the "over" signal the repeater will time out 4 minutes after the last "over" signal. Timeout is indicated by a "beeping" tone. Should an unwanted carrier on the input cause the repeater to time out 3 times in succession, it will change to "Mode 2". This is signified by the reversal of tone frequencies i.e. those normally sent at 1750 Hz. will be sent at 875Hz. and vice-versa. In this case, do not attempt to get a "KN" or "G" but carry on using the repeater. Providing your signal is strong enough to override the unwanted one "timeout" will not trouble you. When the input clears the repeater will revert to normal operation, indicated by sending a "C".

GB3KS located near Dover, Kent
TX frequency: 145.625 MHz, RX Frequency: 145.025 MHz
CTCSS: 103.5 Hz or by Tone Burst: 1750 Hz
Manager: Jim Cairns M1BKI QTHR

One of the UK's earliest 2 metre repeaters, GB3KS was first licensed in mid 1976 as GB3KR, operating on R4. Its callsign and frequency were changed in 1980 to allow GB3KN to use its old frequency.

Currently the repeater consists of a Simoco PRF1050 with a transmit power of 25 watts.

The Wacom duplexer allows single aerial working by providing 90 dB of