JT44: Reports and Procedures in VK-ZL

Conventions

A. Frequencies

- 144.225 is designated a Focus Frequency to focus activity – thus unlike a call frequency one does not need to QSY to make a contact.
- 144.325 tends to be used for extended tests between 2 stations, and by Dxpeditions.

B. Transmission Period

As for FSK441, Southerly and Easterly stations TX first. While there is some ambiguity at the North-East to South-West boundary this is generally overcome by the additional rules that ZL always transmits first to VK, and VK5 always transmits first to VK2/4.

Stations on DXpeditions should always transmit first, so that any station wishing to work them will know the period in which to listen.

Signal Reports

The standard terrestrial (non-EME) procedures provided in the WSJT program use the four-character grid locator as the piece of unknown information in place of a traditional report of signal strength.

In VK-ZL we have chosen instead to use the signal level in dB reported by the JT44 module, but without the minus sign. Thus a report of 19 implies a signal level of –19dB relative to the noise in the SSB reception bandwidth.

Procedures

The recommended procedure for terrestrial JT44 contacts in VK-ZL has changed with effect from July 2003. You are strongly advised to follow the procedure below, especially under weak signal conditions, as this procedure has been designed to optimize the chances of completing the QSO in the shortest possible time. It is closely based on the 144MHz EME procedure.

A. Typical Sched Contact between VK2KU and VK3XYZ

Message Sent	Station Transmitting
VK2KUVK3XYZVK2KUVK3XYZ	VK3XYZ
VK3XYZVK2KU 1919191919	VK2KU
RRRRRRRRRR 2020202020	VK3XYZ
RRRRRRRRRRRRRRRRRRRR	VK2KU
737373737373737373737	VK3XYZ

This is the way the messages would be sent if copy is perfect, and if there were time to decode the incoming message and respond to it immediately. In practice you have to start sending your reply before the incoming message is decoded, so you are always one message behind!

Thus VK2KU may decode Line 1, but is already transmitting the inverse of Line 1 (callsigns reversed) to VK3XYZ. Likewise VK3XYZ cannot decode this inverse in time to avoid sending Line 1 a second time. The details of how the QSO proceeds depend on how good the copy is at each stage.

A signal report may only be sent by either station when **both** callsigns have been copied. It is generally agreed that a callsign has been copied when it appears complete somewhere in either text box. Thus it may be copied in either half of the direct decode in the Main Text Box, or in either half of the Average Text Box, or in either Box after folding the incoming message. The two callsigns need not be copied in the same place.

Reports and RRRs may also be copied with the aid of the averaging boxes to the right of each decoded line of text.

In Line 2 VK2KU has copied both callsigns, and starts sending a report of –19dB. He continues to send both callsigns since VK3XYZ has not yet indicated (by sending a report) that he also has copied both callsigns.

In Line 3, VK3XYZ, having copied both callsigns and VK2KU's report, is sending an acknowledgement (RRRs) that he has copied VK2KU's report, plus his own report of –20dB. VK3XYZ omits the callsigns since he knows that VK2KU has already copied them (VK2KU has already sent a report). This line is the equivalent of RORO… in the EME procedure. In this case however the RRRs and the report of 20 are separated, both because they are easier to read by eye that way, and to allow the report to build up in the average box if one station transmits both Lines 2 and 3.

In Line 4 VK2KU has copied the report of –20dB and is acknowledging this report. Note that the QSO is **not** complete at this point, even though both stations have copied both callsigns and their incoming report. A QSO is only complete when each station has copied both callsigns, an incoming report, **and** acknowledgement (RRRs) of the report sent.

In Line 5 VK3XYZ indicates that he has received VK2KU's RRRs by sending 73s. The QSO is complete when VK3XYZ copies the RRRs. It occasionally happens that for one reason or another VK2KU fails to copy VK3XYZ's 73s. In this case the QSO is still complete (provided VK3XYZ copied VK2KU's RRRs), but VK2KU will not know that the QSO was completed until told so later by VK3XYZ, possibly by email. The purpose of VK3XYZ's 73s, besides the obvious courtesy, is to indicate to VK2KU that the QSO is complete. VK2KU will normally respond with his own 73s.

B. Random JT44 Contacts

Most JT44 contacts take the form of scheds because of the difficulty of picking up random CQ calls of weak or inaudible signals when tuning across the band. However Dxpeditions may call CQ using a preannounced time and frequency.

Message Sent	**Station Transmitting**
CQCQ VK3XYZQF03 VK3XYZ	VK3XYZ
VK3XYZVK2KUVK3XYZVK2KU	VK2KU
VK2KUVK3XYZ 2020202020	VK3XYZ
RRRRRRRRRR 1919191919	VK2KU
RRRRRRRRRRRRRRRRRRRR	VK3XYZ
7373737373737373737373	VK2KU

Note that unlike FSK441, the strict JT44 (and EME CW) requirement that a report may not be sent until both callsigns have been copied prevents VK2KU from sending a report in Line 2 (since VK2KU has not yet copied his own callsign). The form of CQ in Line 1 allows VK3XYZ to send his callsign twice, while also including the gridsquare as useful, but not essential, information. The callsign is placed at the end of each half-line to allow folding of the message (to improve copy of the callsign).

Home stations may prefer to replace the grid locator in Line 1 with a second CQCQ.

C. Preparation for VK-ZL JT44 Contacts

To minimize typing during a QSO it is best to set up a template of the above messages, complete with callsigns and a sample report, in the Custom Messages area. Replace VK3XYZ with your own callsign, and QF03 with your own grid locator. The WSJT program will remember this template until you change it, provided you click on the "Generate Standard Messages" button.

Message to be Sent
VK2KUVK3XYZVK2KUVK3XYZ
VK2KUVK3XYZ 2020202020
RRRRRRRRRR 2020202020
RRRRRRRRRRRRRRRRRRRR
73737373737373737373
CQCQ VK3XYZQF03 VK3XYZ

Before a sched, select Custom Messages and insert the callsign of the other station in place of VK2KU in Line 1 (twice) and Line 2.

D. Longer Callsigns

The standard callsign in VK and ZL (and many other countries) has 6 characters. If your own callsign and that of the other station add up to more than 11 characters, it is not possible to include both callsigns twice in a single line of text, nor to take advantage of the option to fold a message to improve decoding accuracy. There is at present no way round this difficulty, but only Line 1 of the Custom Messages is affected. It is still helpful to send one callsign twice (your own, on the basis that the other station already knows his own callsign, but may not know yours), and to include some spaces for clarity.

Message to be Sent
VK2ABC VK3XYZ VK3XYZ