

## JT65 QSO PROCEDURE AND TIPS FOR EME DXPEDITIONS

Please add my call and grid to your call3.txt file and set your computer to decode in the "Include average in deep search" mode so you will be able to copy me quickly when I reply to you. If you are new to 6m EME and you have never worked W7GJ before, but you want to try to contact me when I am operating from a rare DXCC, please provide me with your callsign and grid locator before I leave, so I can quickly decode you if I receive your call. Otherwise, it may take many sequences before your your callsign builds up enough repetitions to decode in the lower AVERAGE window. It is doubtful that we will have enough time to permit this to happen - especially if you are a horizon-only station with sharp and limited ground gain lobes.

If you are new to JT65A, please setup your system according to the step-by-step checklist on my website:

<http://www.bigskyspaces.com/w7gj/JT65.pdf>

JT65A mode will be used for all 6m EME operation, and the DXpedition will always transmit in the FIRST SEQUENCE. My plan is to use 50.190 unless there is a problem with that frequency, in which case another frequency such as 50.200 will be announced. Please see the ON4KST EME chat page and the MMM on VHF internet pages for last minute status updates.

Typically, on ionospheric propagation, the rule is that stations not call unless they hear the DX station. However, on 6m EME, propagation between linearly polarized stations is often non-reciprocal, so I may copy you even though you are not copying me. Besides, after hours and hours of not hearing any callers, I may decide to shut down and get some sleep! It is always valuable to know that there are still stations out there trying to make a contact. So I always invite people who are QRV to call even if they are not copying me at that particular time. Often, I will stay operating longer than originally planned if I see stations still calling me.

Much valuable moon time can be lost during EME DXpeditions by trying to answer stations who are not copying. If they are not copying me, of course they will only send calls (JT65 standard message #1). I always use the standard JT65 EME QSO procedure (press F5 when on the JT65 screen for an explanation of that) *EXCEPT* that I ask people who are seeing something from me at that particular time to call me with calls and OOO reports rather than just callsigns, as explained below.

If you *ARE* seeing a signal from me **IN THE IMMEDIATELY PRECEDING SEQUENCE** (even if it is only a trace from me on the SpecJT waterfall, without any decode), I ask that you call me with calls and OOO reports (JT65 standard message #2). When I answer you, you should be able to decode me if you saw my signal trace on SpecJT before. If I can tell which station(s) are copying me at that moment, I should be able to complete the contact with them very quickly and move on to the next station. If you are no longer copying me at that time, it is **ESSENTIAL TO REMEMBER TO CHANGE THE MESSAGE BACK TO CALLS ONLY** (JT65 standard message #1)!

Of course this is not standard EME protocol, since a station cannot send reports before they have copied complete calls from someone. However, in this case, it simply tells me a station is receiving something from me. I will still always reply with calls and OOO to such a caller, indicating which station is being called, and that complete calls have been copied (per the standard EME QSO procedure). The advantage is that a station will be chosen who can be worked quickly.

Remember that the polarity will probably not be correct for both stations at the same time, so we very well may not be copying each other at the same time. Therefore, I will keep trying to answer you even if you do not seem to be copying me, at least until I see someone calling who IS COPYING me right at that time (someone who is calling me with OOO).

As usual, the contact is complete when one station receives final RRR. I urge home stations to send me 73 when they receive final RRR from me, so I will know I am free to move on to the next station. I will probably never send 73 (or only send it for 15 or 20 seconds), but will go back to CQ if I am not seeing any callers, or QRZ if I see a trace but have not yet identified the next caller. I will only call CQ when I am not decoding anybody.

I used this method very successfully on my previous 6m EME DXpeditions. I also have outlined this procedure on my web page discussing tips for successful 6m EME DXpeditions:

<http://www.bigskyspaces.com/w7gj/DXPEDITIONS.htm>

Please do NOT stop calling me when I am in QSO with someone else! That allows me to decode all the callers and select the next station to work while I am transmitting to the first station. And please, PLEASE DO NOT CHANGE your frequency after you have started to call me - I make a list of the DF frequencies of the various callers and use that to "hone in" on them with a narrow FREEZE filter! If you move you will disappear for me! Again, please do NOT move around in frequency! Choose a clear frequency to call on and stay there! I will be using the DF of your signal to identify you. After a QSO is complete, I will call the next station but only if he was transmitting the period before.

I will be moving the antenna by hand to track the moon, so I will have to leave the ham shack from time to time, and may have to stop transmitting during these periods (especially when the moon is very high on my end). Please, do NOT stop calling if you see my signal stop! I can still see what was received when I get back to the operating position.

As the DX station, I expect only to be doing one of the following:

1. Calling CQ with my callsign and grid (JT65 standard message #6). This will be sent only if I have not identified a caller. Sometimes, if I see a trace but have not decoded it yet, I will send QRZ instead of CQ. Either CQ or QRZ are easily decoded by anyone, with equal sensitivity.
2. Replying to someone by sending calls and OOO reports (JT65 standard message #2). This is very easily copied by the person involved in the contact, although other listeners may not decode the transmission unless signals are stronger than -24 or -25 dB. If my signal is weaker than that, other listeners will only see the trace on SpecJT, without any decode.
3. Sending final RRR (JT65 standard message #4) to the person with whom I am completing a contact. Please send 73 (JT65 standard message #5) after you receive my RRR so I know the contact is complete. As soon as I receive 73, I will either call the next station on the list or go back to CQ (or QRZ if I see a trace).

Below is an example of how this works in an EME pileup, using E51SIX as the DXpedition station:

DX STATION (FIRST SEQUENCE - EVEN MINUTES)	HOME STATION(S) (SECOND SEQUENCE - ODD MINUTES)
CQ E51SIX BG08	E51SIX W1JJ FN41 E51SIX OH2BC KP20 OOO E51SIX K2ZD FN21 OOO E51SIX ON4GG JO20
OH2BC E51SIX BG08 OOO	RO (sent by OH2BC, as indicated by DF) E51SIX W1JJ FN41 E51SIX K2ZD FN21 OOO E51SIX ON4GG JO20
RRR	73 (sent by OH2BC, as indicated by DF) E51SIX W1JJ FN41 OOO E51SIX K2ZD FN21 E51SIX ON4GG JO20
W1JJ E51SIX BG08 OOO	RO (sent by W1JJ, as indicated by DF) E51SIX K2ZD FN21 E51SIX ON4GG JO20
RRR	73 (sent by W1JJ, as indicated by DF) E51SIX K2ZD FN21 E51SIX ON4GG JO20
ON4GG E51SIX BG08 OOO	...

In the above examples shown, notice that I always start out answering people who are seeing me. Valuable moon window time is not wasted replying to people who cannot copy me. REMEMBER- Callers may not actually be DECODING ME at that moment, but if they are SEEING my trace on the SpecJT waterfall screen, they probably will copy me OK as soon as I reply to them. This is a business requiring careful attention to what you see on the waterfall, as well as deciphering the information shown in the decodes.

If I have to choose between two stations who apparently are currently copying me, I try to choose the one who has the least amount of moon time left or will try to give priority to callers who have a record of 6m EME DXpeditions or have made a contribution to this DXpedition. Obviously, during European moonset, I will give priority to stations in Europe. When I am finished working all the stations who have indicated they are seeing me, I will start replying to the other stations, until I find one who also is copying me. Even if there is no station clearly copying me, I will continue to reply to different callers until I get RO in reply. Only if I cannot see any caller, will I call CQ.

If a station calls me with OOO reports to indicate he is copying me, he better be telling the truth! If I reply with calls and OOO reports to him, and he does not reply with RO, he goes to the bottom of my list. I will try to work all other callers and will only reply to him if there are no other callers seen.

Of course, for this to work best, all the callers need to SPREAD OUT so they don't QRM each other. With the K3, I have a very nice flat bandpass, and can copy callers from -800 to +800 Hz. Please spread out and leave 200 Hz between you and other callers. I probably will never have internet, so I cannot ask you to move - please coordinate this among yourselves. Fortunately, most modern home stations have the luxury of an internet connection so they can use the ON4KST EME CHAT page to coordinate among themselves to spread out:

<http://www.on4kst.org/chat/login.php?band=5>.

If you have questions about the procedure or what frequency to call on, please feel free to ask other people on the above chat page. EME operators are a very helpful and friendly group! Please do not try to contact me multiple times. The windows will be very short - especially with EU - and I want to be able to concentrate as much as possible on completing with new stations.

I hope to be able to provide a list of contacts from time to time, as I can find access to the internet. For updates, watch my web page as well as the news section of the Make More Miles on VHF pages:

<http://www.mmmmonvhf.de/latest.php>

Good luck and I hope to be able to put you in the log! Thanks for your support and your effort to get on and watch for me. VY 73, Lance W7GJ