"A Typical Meteor Scatter QSO Experience"

This text "Scenario" was written to demonstrate some of the thought processes of a Meteor Scatter QSO. Each contact is unique but there are certain procedures, which must be followed in order to be successful. The procedures have been in use since the early days of meteor scatter.

Some contacts are made in only a matter of minutes and others take 20 - 30 minutes. Even though contacts are possible anytime during the day, there are optimum times and some days are better than others are. Smart operators continue to develop a toolbox of knowledge and skills that increases their completion rate and enjoyment. If you're interested in meteor scatter, computers, new / exciting new modes then this could be you.

Scenario...

The Radio is turned on and the receiver comes to life with the sounds of static. Tip carefully tunes from 50.090 to 50.145 MHz. but nothing is heard. The band is dead again. Tip, W5TIP, decides to work some meteor scatter.

W5TIP tunes his receive frequency to the call frequency of 50.270 MHz. Six meters is his best meteor scatter band, but he also has two meters.

He turns on his computer and loads the WSJT application. The program loads without a flaw as he verifies that the WWV clock program has updated his clock.

Tip places the WSJT application, using FSK441 mode, into monitor by clicking on the monitor button. After several minutes nothing is heard and the green line looks good, 0db receive noise is indicated on the status bar. His AGC setting is "fast". The noise blanker is on.

Still hearing nothing, then Tip logs onto the Internet Ping Jockey site.

Tip types in a request for a QSO attempt, "QRV 6 meters . . ." and clicks the GO button. The message is displayed, Tip wonders who will respond?

Tip continues to listen for pings and observes the WSJT application working in the background displaying each consecutive 30 second period . Still nothing has been heard and the green line looks void of pings.

On the Ping Jockey a response, " Tip hw abt 50.273 you first ST's de W5RUN". Yes, W5RUN wants to run on 50.273 and will use single tones messages where they apply.

Quickly Tip types in the Ping Jockey message window, "W5RUN see u there, gl" and enters it into the Ping Jockey before tuning to 50.273 on his radio dial.

Hurriedly Tip types in the call W5RUN into the WSJT "To: Radio" window and clicks on <look-up> to show the other stations grid. Remembering he was in the monitor mode, Tip clicks on the Stop button.

Now the "Enter Standard Text" is clicked and presto W5RUN is entered in the message panes. This set-up that was once confusing is easily performed now.

Now Tip clicks on "Tx First" while verifying that the ST box is selected. Finally now he clicks on the "Auto Start" as he sips on his hot coffee ready now to run.

As he waits for the first TX sequence he remembers to turn his antenna toward W5RUN. He quickly looks

at the distance and makes a determination that the distance of 1050 miles is a workable distance for meteors and decides to point the antenna directly at W5RUN.He ignores the Hot directions because of the distance. The AZ is given in degrees. With confidence the operator uses all this data provided by the WSJT application pointing the antenna now at W5RUN.

The radio now switches to transmit and Tip is verifying that message one is being sent and that the other station's call is displayed in the message windows. Everything looks good. In the background he listens to the multi-tones being sent.

Out of the corner of his eye he verifies the ALC reading and the watt meters operation. Yes, no ALC and 100 watts output. The rig transmits the first period for 30 seconds and then switches to receive.

Now the static is heard, did I do everything right? Ping! Wow he received a short ping, quickly Tip glances down and then the radio switches to transmit again. Was it for real? Will it decode? Is the DF ok? These are the questions going through his mind.

As the transmitter now keys again WSJT now decodes, first seen is the green line, then the waterfall display appears. There it is a nice spike on the green line, below in the receive-text window is seen "W5TIP W5RUN", this is great! Both calls!

Realizing he just got both calls, quickly Tip types in the report "27", clicks on the Generate Standard Text button before selecting message number two. Quickly he reviews the flow chart to verify his response. Yes, he has both calls and is now going to be sending Both Calls and Report. The message looks good, W5RUN 27 W5TIP 27 27.

Quickly he turns again to the receive window and reads the DF which is -90. He turns on the RIT and adjusts it to about -90 Hz. That should be good but he also quickly adjusts the Tot DF to -150. That will help, print was good but Tip now has W5RUN in a narrowed down search and WSJT will be even better able to copy W5RUN as he thinks about what is next.

The radio now switches to Receive again. He listens intently. He thinks to himself, boy these 30-second periods sure pass by quickly. He continues to listen intently. Rats, the coffee is cold. Will there be another ping?

The rig switches to transmit again. He observes the green line. He didn't hear anything but a small spike is seen at T = 25.5 seconds. After clicking on the spike with the mouse it decodes again 5TIP WGRUHH. (Only a partial call) This is not uncommon, he patiently waits.

Now the rig switches to receive again and after about 4 seconds a tone is heard on a strong ping. Yep, that's it. His ears tell me that was 882 Hz or the R26 single tone message. Hearing is believing! He must have gotten my calls and be sending my report. Again a few seconds latter he hears it again, ever so short but so positively identified. No doubt in his mind, but he still waits for the display to verify what was heard.

The anticipation is soon to be over. Finally the rig starts to transmit again and now the WSJT display after the decoding process shows a bright Definite Yellow Mark around the T = 3.4 seconds. Looking at the receive-text window, there it is! In the ST Decoded Message column a R26 is displayed. Wow! Glancing at the passband widow there is a spike under the Tic for 882 Hz. The DF shows 5. This is great!

Now quickly Tip knows he needs to change messages. Tip thinks, I have his calls and reports, I will send his report R27 until I receive his "RRR" or "73". Wasting no time Tip clicks on <Stop Tx> before selecting and clicking on Message 3. He clicks on the Send 3 button and the rig is now transmitting the

second tone. It is as music to his ears.

Now he looks for that second ping, nothing seen. I know I heard a second ping. Oh, in the waterfall window I now see another Yellow Mark at about 14 seconds as verified by the pointer. I click on the green line below the mark and now I see it Decoded below the other R26 Decoded Single Tone message. Amazing, the dB was 5. An again, another nice spike under the 882 Hz Tic in the passband window which verifies this to be the correct tone. Tip knows he was right to adjust the RIT to -90Hz, the spike is directly under the 882 Hz Tic.

That is amazing as he remembered that Single Tone messages have about a 7 dB advantage over multi-tone messages.

Back to receive again. This is really fast paced, yep good rocks tonight. His confidence is high now. We are going to complete. I love this mode!

As the radio switches back to transmit again he waits for the WSJT application to display, but there is nothing seen. Wait, in the receive-text window he sees a Single Tone Message 73. Quickly he notices the DF, it is -231 which occurred at 16.4 seconds and now he has to make a decision. This tone he didn't hear?

Quickly he looks at the display at T = 16.4 second and there is nothing. No spike on the green line and no Yellow pixel mark in the waterfall. The passband shows no indication of a single tone. He clicks on the 16.4-second frame and observes no indication in the passband window of a spike under the 2205 Hz Tic. Too many things tell him this was not W5RUN. The passband window shows no peak under the 73 Tone Tic. & The DF is not as expected. There are no positive indications in the waterfall or passband display. He will disregard and continue on. He knows accuracy is important. He must know for sure.

Tip smiles, this is the reason some don't use the single tone messages but he knows if used properly between two stations who agree to use them they have a definite advantage over the multi-tones. The rig now switches to receive.

He is patient, nothing heard halfway through the rx cycle, then out of no where the blue whistler. He knows that tone anywhere but he waits for the decoding and then yes, the WSJT displays a 880 msec 2205 Hz tone with a dB of 5. Looking at the decoded text he can see under the Single Tone Decoded Text column 73. A quick glance at the Average Passband Window shows a huge spike under the 2205 Hz Tic mark!

Realizing now this QSO is completed, except for sending his 73, he goes to the Ping Jockey and sends W5RUN a message. "W5RUN got ur 73 at 0355, many thanks for the new contact". Tip is careful not to disqualify a contact by giving out what is heard before receiving either the standard "RRR" or "73".

After entering the Message 4, he now lets WSJT cycle through three more periods of sending his 73's before clicking on the Auto Period Off, which stops the automatic keying process.

He wonders who else he can work tonight while looking at the message thanking him for the contact from W5RUN on the Ping Jockey page.

The above QSO description is fictitious and many more variables / obstacles could have been included. This very interesting mode is both exciting and rewarding however, if one jumps into the mode not understanding the procedures he will become frustrated until compliance with the standards is achieved.

We hope to see you on the rocks.