

JS8Call Messaging

JS8Call Provides Several Types of Messaging

The first two types of JS8Call messages, many operators are already familiar with;

Standard Messages

Standard messages are free-text messages that do not start with a callsign or a directed command. These messages will only print at other station locations if they align their receive offset within 10Hz of your transmit offset. This operation is similar to other keyboard-to-keyboard digital modes, like Olivia, RTTY, and PSK.

Directed Messages

Directed messages are special JS8Call transmissions that automatically prefix your message with your callsign, similar to how FSQCall operates. Directed messages are useful for communicating in that you do not have to include your callsign in your message, allowing you to use more of the transmission frame(s) for actual message text, as well as alerting the recipient that a message was sent to them. As long as you are in the same passband, you do not have to be on the same frequency offset to receive a directed message.

In addition to the above, JS8Call provides several advanced types of messaging. For the following explanations let's assume the following;

Operator A, using callsign CALL-A, wants to send a message to Operator C.
Operator B, using callsign CALL-B, is the station in the middle.
Operator C, using callsign CALL-C, is the final recipient of the message.

Relay Messaging

Relayed messages are used when A can not communicate with C directly, however A can communicate with B, who is in contact with C.

After identifying B can relay traffic (more on this below) A does the following;

A selects CALL-B from the Call Activity (right) pane.
A clicks on the "Directed to CALL-B" button and selects from the menu,
">[MESSAGE] - Please relay this message to it's destination"
A edits the message in the outgoing pane to look like the following, and sends it.

CALL-B > CALL-C > This is the message text.

Station B gets the message and attempts to relay it to C. C will see a dialog box on their screen that they received a relayed message, and they have the opportunity to reply. If they reply it will also go through the relay.

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Remote Message Storage and Retrieval

This type of messaging has a couple of variants.

The first is where A sends a message to C that is stored on Station C. When C returns to their station, they retrieve the stored message. (**A > C**)

A selects CALL-C from the Call Activity (right) pane.

A clicks on the "Directed to CALL-C" button and selects from the menu,

"MSG[MESSAGE] - Please store this message in your inbox"

A edits the message in the outgoing pane to look like the following, and sends it.

CALL-C MSG This is the message text.

When C returns to their station they will see a black flag next to CALL-A in the Call Activity (right) pane. C would then right click on CALL-A, and select Show message Inbox from the menu, to view the message.

The second variant involves A storing a message on station B, then C retrieves the message from Station B. (**A > B <> C**)

A selects CALL-B from the Call Activity (right) pane.

A clicks on the "Directed to CALL-B" button and selects from the menu,

"MSG TO:[CALLSIGN][MESSAGE] - Please store this message at your station for later retrieval by [CALLSIGN]"

A edits the message in the outgoing pane to look like the following, and sends it.

CALL-B MSG TO:CALL-C This is the message text.

When C returns to their station, they do a query for messages (more below), see they have a message, and retrieve it.

Local Message Storage and Retrieval

A wants to store a message for C on their station, that C will retrieve later.

A selects CALL-C from the Call Activity (right) pane and right clicks.

A selects Store message from the menu.

A dialog box pops up. A types their message, and clicks OK.

When C returns to their station, they do a query for messages (more below), sees they have a message, and retrieves it.

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Query Stations for Messages

In our example, if C wanted to check if another station had a message for C, they could send out a QUERY MSGS request. There are several forms this might take;

@ALLCALL QUERY MSGS - Queries everyone for messages

@FO QUERY MSGS - Queries only members of the FO group for messages.

CALL-B QUERY MSGS - Queries only a specific station for messages

C selects a GROUP or STATION from the Call Activity (right) pane.

C clicks on the "Directed to <selection>" button and selects from the menu,

"QUERY MSGS - Do you have any messages for me?"

C sends the message.

If there are any stored messages for C, they get a response that contains a message number. The message exchange might look something like this;

CALL-C: CALL-B QUERY MSGS

CALL-B: CALL-C YES MSG ID 123

Retrieving a Stored Message

Once C identifies a station with a message for them, they can retrieve the message using the message ID. Let's say C identifies B has a message for them with the message ID of 123.

C selects CALL-B from the Call Activity (right) pane.

C clicks on the "Directed to <selection>" button and selects from the menu,

"QUERY MSG [ID] - Please deliver the complete message identified by ID"

C edits the message in the outgoing pane to look like the following, and sends it.

CALL-B QUERY MSG 123

Station B verifies the message identification number C sent and, if valid, will transmit the message along with an appended checksum.

Station C JS8Call will verify the checksum and if it is good an automatic ACK is sent back, a copy of the message is saved in C's Message Inbox, and a popup message alert box is displayed. If the checksum test failed, no ACK would be sent.

Finding Stations

To find potential stations for relaying or message forwarding, you can mouse over the stations in the Call Activity (right) pane. As you mouse over each CALL, in the tool tip you will see a list of the stations that call is HEARING, and the stations that are hearing them (HEARD BY).

Alternatively you can send out a HEARING? request. There are several forms this might take;

@ALLCALL HEARING? - Queries everyone.

@FO HEARING? - Queries only members of the FO group.

CALL-B HEARING? - Queries only a specific station.

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Power User Tips

Include the DTG in the message so the receiving station can tell if the message is current.

When using remote message storage and retrieval: The message can be left using one band, then later if the stations change bands the retrieval can be done on the new band.

How It Works

In a word, HEARTBEATS. While heartbeats in JS8Call can be used to report on propagation, their primary purpose is to help populate your Call Activity (right) pane so you know who's likely to be reachable, so you can try to make contact. Heartbeats accomplish this a couple of ways.

First heartbeats are used to map the network. When you mouse over each callsign in the Call Activity (right) pane, in the tool tip you will see a list of the stations that callsign is HEARING, and the stations that are hearing them (HEARD BY). This information is derived from the heartbeats that JS8Call is receiving.

Secondly heartbeats are used to provide message notifications. If Station B receives a heartbeat from Station C, and sees it has a message for C, it will reply to C and append the message ID to the end. For example:

Station C sends: CALL-C: @HB HEARTBEAT

Station B responds: CALL-B: CALL-C HEARTBEAT SNR +2 MSG ID 123

Heartbeat Do's and Don'ts

DO

Be sure to turn HB+ACK and AUTO features OFF prior to scheduled nets or exchanging traffic with other stations using modes other than JS8Call.

Consider turning off the AUTO and ACK heartbeat features.

Consider listening always, but sending heartbeats only occasionally. If your station is stationary, an occasional heartbeat a few times a day is sufficient to announce your stations presence to the network.

Consider using HEARING? requests when needed instead of just relying on heartbeats.

Experiment with heartbeating on the public JS8Call frequencies.

Avoid stepping on the daily CW net. It is on 40 meters, at 7112 Mhz and operates from 12:30z to 14:00z daily. (<http://hitandbounce.net>)

DON'T

Transmit heartbeats constantly - While heartbeats are used to map out the network, it is not necessary for your station to constantly transmit a heartbeat. In this case less is more.

Transmit heartbeats during scheduled nets.

Transmit heartbeats during emergency nets or while there is emergency traffic being passed.

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Expect heartbeats to provide an instant on map of the network. Heartbeats work best over time, to collect data from other operators your station can hear. If during an emergency you pull your rig out of your go box and turn it on, it will take some time to build a map of the network.

Don't get wrapped around the axel on heartbeats. Many of the messaging features in JS8Call operate without any heartbeat info at all. Heartbeats are one way to map out the network, but are not the only way.

Configuration

[Settings > General > Station]

My Callsign - Put in your FCC callsign.

My Maidenhead Grid Locator - Put in your 4 or 6 digit Grid locator.

Callsign Groups - add @FO

Do not participate in the @ALLCALL group checkbox - optional

[Settings > General > Behavior]

Allow sending standard messages without callsign checkbox - optional

Reset the Band Activity, Call Activity, and RX history at startup checkbox - disabled

- If you have to restart you won't lose the collected heartbeat data.

Remove callsigns from call activity after: - disabled

- For heartbeat data retention.

[Settings > General > Networking & Autoreply]

Heartbeat Network:

Pause heartbeat transmissions while in a QSO (i.e., callsign is selected) - optional

Never acknowledge heartbeats from these callsigns (comma separated) - optional

Autoreply:

Turn autoreply on at startup - optional

Ask for confirmation before sending autoreply transmissions - unchecked

Disable message relay (>) when autoreply is enabled - optional

Only autoreply to these callsigns (commas separated) - optional

Never autoreply to these callsigns (commas separated) - optional

Idle Timeout - disable autoreply after - optional

[Settings > Reporting]

Logging:

Operator Callsign - optional

Network Services:

Enable spotting to reporting networks (JS8NET, PKReporter, etc) checkbox - **unchecked**

Enable spotting @APRSIS messages to the APRS-IS network checkbox - **unchecked**

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Menu Selections

Mode > Enable Autoreply (Auto) - optional

Mode > Enable Heartbeat Networking (HB) - optional

Mode > Enable Heartbeat Acknowledgements (ACK) - optional

View > Show Message Inbox....

Control > Enable Receiver (RX) - checked

Control > Enable Transmitter (TX) - checked

Control > Enable Reporting (SPOT) - unchecked

Control > Send Heartbeat - On demand / do not repeat

Control > Send CQ Message - On demand / do not repeat

Control > Clear Activity sub-menu

Buttons

HB - Heartbeat