

A Beginners Guide to CW Message Formats and Traffic Handling Procedures By Ken Miller, VE7CTW

The following is a step by step procedure used to call another station and then send that station a message in a CW format. The station receiving here is **VE7UBC** and the sending station is **VE7CTW**. **VE7UBC** and **VE7CTW** are the callsigns of these stations respectively. As you follow this text and the accompanying commentary, you will see that the procedure is quite straightforward, and easy to learn. This example should help to explain how a message is prepared by an originating station and then sent on a point-to-point radio link. This procedure does not include net procedures, and for the purposes of this document it is safe to assume that both stations are already on their appropriate frequency either as assigned by a net control station, or by prior arrangement (a "sked"). When the two stations are assigned another frequency by a net control station, the Receiving station begins the contact by calling the Sending station on the assigned frequency (+/- interference). This document also does not include the procedures necessary to acquire the data listed below, which will be covered in another document.

First establish the calls involved. Refer to your documents, "International Q Signals" and "Abbreviations, Prosigns, and Prowords" for a detailed description of the Q Signals and abbreviations used throughout the rest of this document. This is then followed by the **K** Prosign signifying that the receiving station is done with the call and is awaiting an answer. That call would be sent as follows:

VE7CTW DE VE7UBC K

After the hearing the call the sending operator then answers the call, indicating how many messages are involved (QTC 1 means I have one message), by sending

VE7UBC DE VE7CTW QTC 1 K

After establishing contact the receiving operator then indicates he is ready to copy by sending

VE7CTW DE VE7UBC QRV K

The **QRV** means that the receiving operator is ready to copy and that the sending station should begin the transmission..

The sending stations' operator would then begin sending the preamble of the message. Continuing with the example will result in the following block of data being sent.

NR 46 W HXG VE7CTW ARL 7 RICHMOND BC 0842 FEB 3

The first group, or block of characters, is the abbreviation signifying that the **message number** or **NR** is next. This Prosign is not copied down by the receiving operator but is used to signify the start of a message. Then the actual number of the message is sent.

The next group sent is the "Precedence" or **priority of this message**. The available levels are **R** for Routine, **P** for Priority, **W** for Welfare and **EMERGENCY**. If the message had been an emergency, then the word EMERGENCY is ALWAYS spelled out. In this case it is a welfare message originating from within the disaster area telling someone on the "outside" that all is well. If there had been a problem and some form of assistance was being requested, then the Precedence of this message would have been **P** for Priority.

The next group are the **Handling Instructions**. This is an optional entry but it is good practice to include it so that the relaying stations in the network can act appropriately for the delivery or relay of the message. The available Handling Instruction values are:

HXA- (followed by a number) Collect landline delivery authorized by addressee within (number) miles. If no number is supplied then authorization is unlimited.

HXB- (followed by a number) Cancel message if not delivered within (number) of hours of filing time and then send a service message back to the originating station noting that fact.

HXC- Report date and time of delivery back to the originating station.

HXD- Report to the originating station, the identity of the station from which this message was received along with the date and time received by return radiogram. In addition, report the identity of the station to whom this message was relayed also with the date and time. If the receiving station is also the delivering station, then report the date and time of delivery as well as the delivery method.

HXE- This is a request by the originating station that the delivering station get a reply from the addressee and originate a message back to the originating station. This is the same as including an ARL SEVEN message in the text.

HXF- (followed by a number) Hold delivery until (number) date.

HXG- This tells the delivering station that delivery by mail or landline toll call is not required, and that if this is the necessary case for delivery then cancel the message and send a radiogram back to the originating station of this.

The next group is the **callsign of the station where the message originated**, which in this example is VE7CTW.

The next group sent is the **check number**. The check is the number of words in the text portion of the message. It is interesting to note that punctuation IS considered to be a word. For the purposes of radiograms, the only punctuation that should be used is the letter X, which can be used to signify a break in thoughts, replacing a period.

The **place of origin**, which includes the city and state or province is the next group sent. Also, there is no comma between the city and state or province.

The last groups in the preamble are the **filing time values** which may include the optional local standard time in 24 hour, military time format, then the **required month and day**.

Then the **addressee information** is the next block transmitted. At the completion of each line of address information, the Prosign **AA** (that's two a's sent together) is sent signifying that that is the end of that line in that address field and to continue on the next line. At the end of the entire address, the Prosign **BT** (the characters B and T sent together) is sent signifying that that is the end of the address and that immediately following will be the text of the message. For more explanation of CW Prosigns, please refer to the document "Abbreviations, Prosigns, and Prowords".

JOHN DOE AA

105 ANYOLD ROAD AA

FAIRBANKS AK 99999 AA

TEL 907 555 1234 BT

With all the address and record keeping now sent, it is finally time to send the **text of the message**. Our message here is only seven words, but it does provide an adequate example. In this example, the majority of the message is made up of ARRL Numbered Radiograms. This is a very efficient way to transmit "canned" message texts, and they do cover a wide variety of needs. For a detailed description of the texts associated with these messages, please refer to the "ARRL NUMBERED RADIOGRAMS" document. To send this message properly, the operator would then transmit

ARL ONE ARL FOUR ARL SEVEN LOVE BT

Here, as in the previous sections the Prosign **BT** is once again used to identify the end of a section of the message. In this case it is the text block.

The final section of the message is the **signature** block. It would be sent as follows:

BOB SMITH AR QRU K

The Prosign **AR** is used to identify the end of the signature block and the end of the message.

In our example, there was only the one message to send and thus the sending operator needs to tell that to the receiving operator. The Q Signal to use for that is **QRU**. If there had been more messages to send, then the sending operator would send the number of messages remaining instead of **QRU** followed by the Prosign **K** signifying that the sending station is done. Continuing this example, the sending operator now sends

VE7CTW DE VE7UBC QSL 46 K

If the receiving operator had copied all of it perfectly, then he would send back confirmation of that fact through a call like the one above. Also note here that the receiving operator, prior to confirming receipt for the message, should count the number of words received, and verify that it is the same as the number of words called out in the "check" of the message. If there are any discrepancies, they should be cleared up before the message is acknowledged. To send a confirmation report the receiving station would send the call of the station which sent the message, followed by the Prosign **DE** (signifying this is) and the call of the receiving station. This is then followed by the Q Signal **QSL** meaning "I acknowledge receipt for" followed by the number of the message that is being acknowledged. This is then followed by the Prosign **K** which returns control of the frequency to either the sending station or any other station wishing to send traffic.

When the sending operator receives this, he can then mark on his message blank, the one that contained the original message, that the message was received by VE7UBC and the current standard time and date. This is referred to as servicing the message. Now that the message has been sent and serviced the procedure is complete and the sending station has completed the transfer.

If however, the operator at VE7UBC had missed the last word of the message due to static, fading, etc. instead of sending the above he could send the following to request the last word of the text as follows:

VE7CTW DE VE7UBC WA SEVEN BK

This tells the sending station to send the "Word After" the word SEVEN again. The sending station should then respond with the following:

WA SEVEN LOVE ? LOVE BK

The **BK** prosign signifies that the other station can begin to transmit immediately and not to resend the called and calling station callsigns. The reply to the request is a repetition of the request followed by the word in question. Then the sending station sends a question mark. This tells the receiving station that they are sending the same word again, followed by the Prosign **BK** which turns control back to the receiving station. If the receiving station now has the message correct, then they would send the **QSL** block above to the sending station and the transfer would now be complete and the sending station should then "service" the message at that end.

Now here is a copy of the message as it would appear on the typewriter at station **VE7UBC**

46 W HXG VE7CTW ARL 7 RICHMOND BC 0842 FEB 3

**JOHN DOE
105 ANYOLD ROAD
FAIRBANKS AK 99999
907 555 1234**

**ARL ONE ARL FOUR ARL SEVEN LOVE
BOB SMITH**

When this message is delivered to the addressee, the ARL message numbers would be converted back into their respective text and would be read as follows:

"... Everyone safe here. Please don't worry. Only slight property damage here. Do not be concerned about disaster reports. Please reply by Amateur Radio through the amateur delivering this message. This is a free public service. Love Signed Bob Smith."

**by Ken Miller VE7CTW
revised 11/27/97 by K7BFL**