

# TRAFFIC OPERATIONS AID

1.	<b>MESSAGE EXAMPLE</b>									
2.	1	R	HXG	W1NJM	8	NEWINGTON CT	1830	JUL	1	
	a	b	c	d	e	f	g	h		
3.	<b>DONALD SMITH</b> <b>164 EAST SIXTH AVE</b> <b>NORTH RIVER CITY MD 21201</b> <b>410 555 1234</b> <b>OP NOTE DELIVER WEEKDAY</b> BT									
4.	<b>HAPPY BIRTHDAY X SEE YOU</b> <b>SOON X LOVE</b> BT									
5.	<b>DIANA</b> <b>OP NOTE SERVICE TO STATION OF ORIGIN</b>									

1. CHARACTERS: Use **only** capital letters, figures, slant bars (/).
2. PREAMBLE: (Tracking information stays with message to delivery)
  - a. Number (begin with 1 each month or year - no leading zeros) SVC may be entered ahead of the number for Service messages.
  - b. Precedence (R, W, P, EMERGENCY). TEST + space may be used before Prec. in exercise traffic, as in: TEST P.
  - c. Handling Instructions (optional - see table for formatting)
  - d. Station of Origin (first amateur handler's call sign)
  - e. Check (number of words/groups in text only. ARL + space precede figures if ARRL Numbered Radiograms in the text, as in: "ARL 8". Corrections are appended with "/").
  - f. Place of Origin (signer's location, not necessarily location of station of origin)
  - g. Time Filed (optional with originating station - if not UTC, add time zone letters and adjust Date as necessary.)
  - h. Date (MON, 3 letters, DT, no leading zeros - must agree with Time Filed) Time Filed, Date and Time are assumed UTC by default.
3. ADDRESS: (complete with zip code, telephone #, email address, etc., may include an OP NOTE).
4. TEXT (typical limit, 25 groups, but may be expanded for emergencies) X as punctuation counts as a word - <BT> does not. A group is a series of characters with no spaces between them. (Text may be in email format\*, as in ICS form content, in the Hybrid Radiogram.)
5. SIGNATURE (person for whom message originated - may include a full address and OP NOTE).

**RADIOGRAM HANDLING INSTRUCTIONS ("HX-CODES")**

**HXA\_\_** (Followed by number.) Collect landline delivery authorized by addressee within \_\_\_\_ miles, (if no number in blank, authorization is unlimited). This means that the originating station has obtained authorization from the addressee, through the party originating the message, to call collect when delivering the message.

**HXB\_\_** (Followed by number.) Cancel message if not delivered within \_\_\_\_ hours of filing time; service message back to originating station. NOTE: filing time must be included in preamble.

**HXC** Report date and time of delivery of the message back to the originating station by service message.

**HXD** Report to originating station the identity of station from which received, plus date and time. Report identity of station to which relayed, plus date and time, or if delivered, report date and time and method of delivery (this information is sent by service message to the originating station).

**HXE** Delivering station get reply from addressee, originate message back. This reply is sent to the person from whom the original message was received, at the "place of origin", using a full address obtained from the addressee. If an address is not available, a reply can often be successfully routed back to the station of origin since a record is kept of originator's info.

**HXF\_\_** (Followed by a number.) Hold delivery until \_\_\_\_ (date). This blank contains the number of the day on which the message should be delivered (even if it is in the following month).

**HXG** Delivery by mail or landline toll call not required. If toll call or other expense involved, cancel message and send service message back to originating station.

Compliance with these instructions is mandatory. **MORE THAN ONE HX\_\_ CODE MAY BE USED.** If more than one code is used, they may be combined provided no numbers are to be inserted; otherwise the HX should be repeated, thus: **HXCE, HXAC, or HXA50 HXC**

Ed. note: The numbers following eligible HX\_\_ codes are expected. In this example the HXA in the first case has the range number intentionally omitted, thus the "C" may be appended. In the second case, where the optional 50 mile range is included, the figures force the separation of the full "HXC."

**MESSAGE SENT ON VOICE**

"NUMBER ONE ROUTINE HOTEL X-RAY GOLF WHISKEY ONE NOVEMBER JULIETT MIKE EIGHT NEWINGTON CONNECTICUT ONE EIGHT TREE ZERO JULY ONE DONALD SMITH I spell SIERRA MIKE INDIA TANGO HOTEL figures ONE SIX FOUR EAST SIXTH I spell S I X T H initials ALFA VICTOR ECHO NORTH RIVER CITY MARYLAND figures TWO ONE TWO ZERO ONE figures FOUR ONE ZERO FIFE FIFE FIFE ONE TWO TREE FOUR OP NOTE DELIVER WEEKDAY  
 BREAK // (mandatory listening pause)  
 "HAPPY BIRTHDAY initial X-RAY SEE YOU SOON initial X-RAY LOVE  
 BREAK  
 DIANA I spell DELTA INDIA ALFA NOVEMBER ALFA  
 OP NOTE SERVICE TO STATION OF ORIGIN  
**END NO MORE"**

(NOTE: It is critically important to voice the message at a speed suitable for the receiving operator to copy accurately. Use no extraneous words. Do not voice the names of message parts.)

**SENDING MESSAGES BOOKED**

Unique text groups are each marked by "BLANK" to affirm Check, and the actual groups are sent later with the unique parts after a "BREAK" or <BT> on CW. Copy begins with "BOOK OF [quantity] and ends with "END BOOK", or <AR> END BOOK <AR> on CW. Common parts are sent first. Book parts are separated by "BREAK" or <BT> on CW, each unique message part beginning with "NUMBER" or NR on CW. Booked messages may be sent to multiple stations, polled ready to copy, and checking with each for copy when their unique parts are finished; or bulletins sent to multiple stations, polled ready to copy and then polled for acknowledgment at the end.

ITU PHONETIC ALPHABET		
A	ALFA	S SIERRA
B	BRAVO	T TANGO
C	CHARLIE	U UNIFORM
D	DELTA	V VICTOR
E	ECHO	W WHISKEY
F	FOXTROT	X X-RAY
G	GOLF	Y YANKEE
H	HOTEL	Z ZULU
I	INDIA	1 ONE
J	JULIETT	2 TWO
K	KILO	3 THREE (TREE)
L	LIMA	4 FOUR
M	MIKE	5 FIVE (FIFE)
N	NOVEMBER	6 SIX
O	OSCAR	7 SEVEN
P	PAPA (PA-'PA)	8 EIGHT
Q	QUEBEC (KAY-'BEK)	9 NINE (NINER)
R	ROMEO	0 ZERO

**RADIOGRAM PRECEDENCES**

These precedences are not meant to prohibit handling lower level traffic until all higher levels are passed. Handle higher precedence traffic before lower as outlets are available.

**EMERGENCY** (Spelled out on form.)\*: Any message having life and death urgency to any person or group of persons, which is transmitted by Amateur Radio in the absence of regular commercial facilities. This includes official messages of welfare agencies during emergencies requesting supplies, materials or instructions vital to relief of stricken populace in emergency areas. During normal times, it will be very rare. On CW/RTTY, this designation will always be spelled out. If in doubt, do not use it.

**PRIORITY (P):** Use abbreviation P on CW/RTTY. This classification is for a) important messages having a specific time limit, b) official messages not covered in the emergency category, c) press dispatches and emergency related traffic not of the utmost urgency, d) notice of death or injury in a disaster area, personal or official.

**WELFARE (W):** This classification, abbreviated as W on CW/RTTY, refers to either an inquiry as to the health and welfare of an individual in the disaster area or an advisory from the disaster area that indicates all is well. Welfare traffic is handled only after all emergency and priority traffic is cleared. The Red Cross equivalent to an incoming Welfare message is DWI (Disaster Welfare Inquiry).

**ROUTINE (R):** Most traffic in normal times will bear this designation. In disaster situations, traffic labeled Routine (R on CW/RTTY) should be handled last, or not at all when circuits are busy with higher precedence traffic.

\* **EMERGENCY:** Emergency is always spelled out in the preamble. Means other than Amateur Radio should be included in the delivery options. EMERGENCY messages have immediate urgency. They should take priority over any other activity and should be passed by the best means available with the cooperation of all stations.

**FORMATTING**

DASH	substitute for hyphen in text and zip codes
DOT	substitute for period in email addresses and URLs
R	substitute for decimal point in figure groups
X	substitute for period in text - except after last group

All other punctuation is entered as a spelled-out word.

**EMAIL ADDRESS, URL**

JOHN DOT SMITH ATSIGN DOMAIN DOT NET  
 HTTP COLON SLASH SLASH WWW DOT WORK DOT COM

**INTRODUCERS - VOICING, USE ONLY ONE PER GROUP**

**Initial(s):** "initial BRAVO", "initials JULIETT ROMEO"  
**Figure(s):** "figure FOUR", "figures ONE NINER"  
**Mixed Group:** "mixed group BRAVO SLASH SIX"  
**Mixed Group Figure(s):** "mixed group figures TWO TWO ZULU"  
**Amateur Call:** "amateur call WHISKEY ONE NOVEMBER JULIETT MIKE"  
**Telephone Figures:** to introduce telephone figures if no zip code  
 NOTE: Introduced groups are voiced one character at a time, letters phonetically. Introducers are not voiced for Preamble groups.

**MESSAGE SENT ON CW**

NR 1 R HXG W1NJM 8 NEWINGTON CT 1830 JUL 1  
 DONALD SMITH <AA>  
 164 EAST SIXTH AVE <AA>  
 NORTH RIVER CITY MD 21201 <AA>  
 410 555 1234 <AA>  
 OP NOTE DELIVER WEEKDAY  
 BT // (mandatory listening pause)  
 HAPPY BIRTHDAY X SEE YOU  
 SOON X LOVE  
 BT  
 DIANA <AA>  
 OP NOTE SERVICE TO STATION OF ORIGIN  
 <AR> N

\* See the ICS Guidance Document for methods used for voicing and sending email formatted text.

# TRAFFIC OPERATIONS AID

## QN SIGNALS FOR CW NET USE

<b>QNA*</b>	Answer in prearranged order.
<b>QNB*</b>	Act as a relay Between ____ and ____.
<b>QNC</b>	All net stations Copy. I have a message to all net stations.
<b>QND*</b>	Net is Directed (controlled by a net control station).
<b>QNE*</b>	Entire net stand by.
<b>QNF</b>	Net is Free (not controlled).
<b>QNG</b>	Take over as net control station.
<b>QNH</b>	Your net frequency is High.
<b>QNI</b>	Net stations report In.* I am reporting into the net. (Follow with a list of traffic or QRU.)
<b>QNJ</b>	Can you copy me? Can you copy ____?
<b>QNK*</b>	Transmit messages for ____ to ____.
<b>QNL</b>	Your net frequency is Low.
<b>QNM*</b>	You are QRMing the net. Stand by.
<b>QNN</b>	Net control station is ____. What station has net control?
<b>QNO</b>	Station is leaving the net.
<b>QNP</b>	Unable to copy you. Unable to copy ____.
<b>QNQ*</b>	Move frequency to ____ and wait for ____ to finish handling traffic. Then send him traffic for ____.
<b>QNR*</b>	Answer ____ and Receive traffic.
<b>QNS</b>	Following stations are in the net.* (Follow with list.) Request list of stations in the net.
<b>QNT</b>	I request permission to leave the net for ____ minutes.
<b>QNU*</b>	The net has traffic for you. Stand by.
<b>QNV*</b>	Establish contact with ____ on this frequency. If successful, move to ____ and send him traffic for ____.
<b>QNW</b>	How do I route messages for ____?
<b>QNX</b>	You are excused from the net.* Request to be excused from the net.
<b>QNY*</b>	Shift to another frequency (or to ____ kHz) to clear traffic with ____.
<b>QNZ</b>	Zero beat your signal with mine.

\* For use only by the Net Control Station.

### Notes on the Use of QN Signals

The QN signals listed above are special Q signals for use in amateur CW nets only. They are not for use in casual amateur conversation. Other meanings that may be used in other services do not apply. Do not use QN signals on phone nets. Say it with words. QN signals need not be followed by a question mark, even though the meaning may be interrogatory.

**DTN BATCH FILE FORMAT** - text files for importing Radiograms into a DTN Hub via Radio-email or direct.

ST 21201@NTSMD < WA1QAA  
P BALTIMORE 410 555

78 P WA1QAA 15 ELLICOTT CITY MD 1800 SEP 20  
BACI EOC  
BALTIMORE MD 21201  
410 555 1212  
BT  
TWELVE SUPPORT TEAMS IN ROUTE  
TO YOUR EOC X DO  
YOU HAVE EMERGENCY POWER QUERY  
BT  
MIKE WA1QAA MDC SEC

/EX  
(blank line if last message, or ST line of next message - no blank line allowed)

## RADIO-EMAIL TYPES

<b>TYPE 1:</b>	Radio-email carrying active Radiograms. Subject line begun RRI for plain text, DTN for Batch Files + service class, [destination], quantity and the request for confirmation of receipt: "pse QSL this email".
<b>TYPE 2:</b>	Regular Radio-email with multiple network and/or internet addressees, binary attachments, email body text.
<b>TYPE 3:</b>	Radio-email sent to a single network client for delivery to a Radiogram type address entered with a PBL as the first lines of the body text, with an email-formatted body text message (a modern form of Radiogram).
<b>TYPE 4:</b>	Radio-email sent to a single client directly, peer-to-peer, for refiling (or forwarding) onto the network or internet by a station with access.

## INTERNATIONAL Q SIGNALS

A "Q" signal followed by a ? asks a question. A "Q" signal without the ? answers the question in the affirmative unless otherwise indicated.

<b>QRA</b>	What is the name of your station?
<b>QRG</b>	What is my exact frequency?
<b>QRH</b>	Does my frequency vary?
<b>QRI</b>	How is my tone? (1-3)
<b>QRK</b>	What is my signal intelligibility? (1-5)
<b>QRL</b>	Are you busy?
<b>QRM</b>	Is my transmission being interfered with?
<b>QRN</b>	Are you troubled by static?
<b>QRO</b>	Shall I increase transmitter power?
<b>QRP</b>	Shall I decrease transmitter power?
<b>QRQ</b>	Shall I send faster?
<b>QRS</b>	Shall I send slower?
<b>QRT</b>	Shall I stop sending?
<b>QRU</b>	Have you anything for me? (Answer in negative.)
<b>QRV</b>	Are you ready?
<b>QRW</b>	Shall I tell ____ you're calling him?
<b>QRX</b>	When will you call again?
<b>QRZ</b>	Who is calling me?
<b>QSA</b>	What is my signal strength? (1-5)
<b>QSB</b>	Are my signals fading?
<b>QSD</b>	Is my keying defective?
<b>QSG</b>	Shall I send ____ messages at a time?
<b>QSK</b>	Can you work break-in?
<b>QSL</b>	Can you acknowledge receipt?
<b>QSM</b>	Shall I repeat the last message sent?
<b>QSO</b>	Can you communicate with ____ direct? Will you relay to ____?
<b>QSP</b>	Will you relay to ____?
<b>QSV</b>	Shall I send a series of V's?
<b>QSW</b>	Will you transmit on ____?
<b>QSX</b>	Will you listen for ____ on ____?
<b>QSY</b>	Shall I change frequency?
<b>QSZ</b>	Shall I send each word/group more than once? (Answer, send twice or ____.)
<b>QTA</b>	Shall I cancel number ____?
<b>QTB</b>	Do you agree with my word count? (Answer negative.)
<b>QTC</b>	How many messages have you to send?
<b>QTH</b>	What is your location?
<b>QTR</b>	What is your time?
<b>QTV</b>	Shall I stand guard for you?
<b>QTX</b>	Will you keep your station open for further communication with me?
<b>QUA</b>	Have you news of ____?

ST + space + [zip]@NTS[2 letter state] is key to routing. Use some kind of zip code even if a generic one close to the delivery point - Canadian zips must entered as 6 characters with no middle space. The call after "<" is the station of origin. The next line is the TOWN line showing the Precedence Flag, town, area code and exchange of the message's phone number. Batch Files must contain only messages of the same precedence status, a combination of the Precedence itself plus the presence or absence of the HXD handling instruction and Service status (SVC messages). Thus the possible flags are **S, D, SD, W, SW, WD, SWD, P, SP, PD, SPD**. No flag R is used for Routine messages. Thus the P flag matches the Radiogram Precedence here. The blank line before the PBL and after the signature is for readability. The Radiogram is entered as shown, framing the text with BTs on lines of their own. The /EX ends the message and must be followed by one more blank line if the last message, or immediately by the ST of an additional message, if any. Many Radiograms may be packed into one Batch File. Booking is not permitted. Filenames must be 8 x 3 (FAT) plain text files.

## OPERATIONAL, PROWORDS, PROSIGNS

VOICE	CW
<b>YES, AFFIRMATIVE</b>	<b>C</b>
<b>NO, NEGATIVE</b>	<b>N</b>
<b>ROGER</b>	<b>R</b>
(ROGER/R means all received and understood. It does not mean yes/affirmative.)	
<b>OVER</b>	<b>K</b>
<b>CLEAR</b>	<b>CL</b>
<b>CLEAR</b>	<b>&lt;SK&gt;</b>
<b>SEVENTY THREE</b>	<b>73</b>
(Best regards - note meaning is plural.)	
<b>ARL</b> (in Check)	<b>ARL</b> (in CK)
<b>ARL</b> (in Text)	<b>ARL</b> (in TXT)
(ARL + space precede Check figures if ARRL Numbered Radiograms in text - voiced as letters "A R L", ARL on CW. ARL + space precede the Numbered Radiograms in the text as 1 group.)	
<b>NUMBER</b>	<b>NR</b>
(begins message record copy until END)	
<b>BOOK OF [#]</b>	<b>BOOK OF [#]</b>
(begins record copy of [# as spelled word] booked messages until END BOOK)	
( use a slight pause)	<b>&lt;AA&gt;</b>
(<AA> marks end of address lines like a CR/LF)	
<b>OP NOTE</b>	<b>OP NOTE</b>
(Introduces operator delivery or service note - generally not delivered to addressee.)	
<b>BREAK</b>	<b>&lt;BT&gt;</b> or <b>=</b>
(Marks start and end of text and separates parts of booked messages. A listening pause follows a break at the start of the text and before NR when sending books. No listening pause before SIG.)	
<b>END +</b>	<b>&lt;AR&gt; +</b>
<b>[MORE, ONE MORE,</b>	<b>[B, B1 (or 1), N]</b>
<b>NO MORE]</b>	
(ends record copy of single messages + number of messages to follow)	
<b>END BOOK</b>	<b>&lt;AR&gt; END BOOK &lt;AR&gt;</b>
+ <b>[MORE, ONE MORE,</b> + <b>[B, B1 (or 1), N]</b>	
<b>NO MORE]</b>	
(ends record copy of messages sent booked + number of messages to follow)	
<b>I SAY AGAIN</b>	<b>?</b>
(FOR CLARITY) (FOR CLARITY)	
(Send "I SAY AGAIN, or "?" on CW, repeat previous group(s) for emphasis/clarity.)	
<b>I SAY AGAIN</b>	<b>?</b>
(FOR ERROR) (FOR ERROR)	
(Send "I SAY AGAIN, or "?" on CW, repeat last group sent correctly, and then continue.)	
<b>I SPELL</b>	(none)
(Voice only ONE group then "I spell", and then spell the group with phonetics or letter spelling, then continue. Last and other proper names should be spelled phonetically.)	

## FILL REQUESTS - VOICE

"[IN (part)] **WORD AFTER** (group(s))"  
 "[IN (part)] **WORD BEFORE** (group(s))"  
 "[IN (part)] **ALL AFTER** (group(s))"  
 "[IN (part)] **ALL BEFORE** (group(s))"  
 "[IN (part)] **BETWEEN** (group) **AND** (group)"  
 "part name"  
 "confirm (group(s))"

## FILL REQUESTS - CW

"[IN (part)] **WA** (group(s))"  
 "[IN (part)] **WB** (group(s))"  
 "[IN (part)] **AA** (group(s))"  
 "[IN (part)] **AB** (group(s))"  
 "[IN (part)] **BN** (group) **ES** (group)"  
 "part name"  
 "CFM (group(s))"  
 (Respond only with group(s) requested or CONFIRM on voice, CFM on CW, as warranted. The "[IN (part)]" is used optionally to avoid ambiguity in defining the fill location.)

**GENERAL NOTES:** The objective in handling formal written Radiogram traffic is to pass an exact copy of the original message to the addressee in an efficient and timely fashion. Radio-email, added to the tool-kit, allows real-time messaging everywhere, error corrected, with no intermediate relaying manpower needed.