

National Traffic System Performance Survey March 2003

A survey of conducted during the first part of 2003 to take a snapshot of the “performance” of the National Traffic System (NTS). Performance was defined as:

Travel Time: How many hours does it take the message to travel from the Originating party to the ultimate Delivered party?

Accuracy: How much of the message was Delivered without errors?

The goal of the survey was to obtain information about the present performance of the message handling process, and to present the information in a manner which could be used to improve the future performance of the message handling process. The results should be applicable for all radio amateurs processing formal written traffic.

Survey Methods

1. Invitations to participate were sent out via email to ARRL and RAC Section leadership persons. Invitations to 156 persons in 79 sections resulted in 70 persons participating from 66 sections. 83 radiograms were sent to these 70 persons.
2. One (or more) radiograms were sent to each participant, using the standard ARRL radiogram format. All were sent from station K7BFL, located in Spokane, Washington (Eastern Washington ARRL section). They were distributed uniformly between January 8, 2003 and March 4, 2003, uniformly using all days of the week. They were initially sent via voice (11), pactor (22), and cw (50). No effort was made to track the modes used to relay these 83 messages to their destination. The Text and Signature contained an average of 20 words. The voice and cw messages were started on regularly scheduled section traffic nets. The pactor messages were placed directly into the regional Digital Station’s bulletin board, using Winlink 2.9 software.
3. Each person who was sent a radiogram was asked to email back the entire contents of the radiogram, as Delivered, along with the time and date of Delivery.
4. The radiograms were then “scored” for “Travel Time” and “Accuracy”. “Travel Time” was the time between the time Filed and the time Delivered. “Accuracy” was the percent of words Delivered exactly as they were initially sent. Accuracy was calculated separately for the Preamble, Address, Text, Signature, Total Message, and [Text + Signature].

Results

1. 80 percent of the Sent messages were Delivered. “Lost” messages were sent to Alaska, California, Mississippi, Missouri, New Jersey, New York, Ontario, Wyoming (1 cw each), Massachusetts (1 pactor), Quebec (2 cw, 1 pactor), Texas (1 cw, 2 pactor), and Washington (1 pactor). A Service Message regarding the problem of delivery was received for only 1 of the 17 “Lost” messages. 59 messages were able to be “scored”.
2. The median Travel Time was 35 hours. Half of the messages traveled faster than 35 hours; half traveled slower than 35 hours. The average Travel Time was 52 hours.

3. The average Accuracy for the [Text + Signature] was 85 percent. 10 of the 59 scored messages had perfect reproduction of the [Text + Signature]; (17 percent were perfect).
4. There was no attempt to score the messages based on the mode of the first send. This is because it was not known if the message traveled the entire way via that particular mode. The NTS is a network in which messages may move from one mode to another mode, to facilitate transfer of the message.

Accuracy Discussion - Preamble

All of the messages contained "Handling Instructions" of HXC...Report date and time of delivery (TOD) to originating station. TOD information was returned for 21 of the 66 messages (32%) that were not "Lost". Twelve of the scored messages had an alphanumeric Message Number. Four (33%) of those messages were Delivered with the Message Number correct.

Accuracy Discussion – Address

The low (50% correct) score for the address could be attributed to the fact that most of the messages were being Delivered "by hams, to hams".

Accuracy Discussion – Text and Signature

Is "85% Correct" acceptable to our "customers"?

Survey Weaknesses

1. It was assumed that the accuracy of the email systems, and associated typing by a person, was perfect. This might not be true.
2. There was an unequal distribution between the number of messages originally sent via cw, voice, and pactor. The distribution may, or may not, be a good sample of the amount of traffic on the system using the different modes.
3. The flow of the messages was generally "west to east". The survey did not test the performance of traffic flowing in a "east to west" direction.
4.

Conclusion

Thank you to all of the folks who participated in the survey, directly as ultimate receiving parties, and all of the "traffic handlers" who moved the radiograms along the way. We have very useful procedures and networks in place for serving the public and "served agencies" with the radiogram service. Hopefully this survey will be used as a basis to tune those procedures and networks, and enhance the operating skills of amateurs handling radiograms, which will result in an improvement in the Performance of the service.

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National Traffic System - Performance Survey - March 2003

NTS Performance (59 Messages scored)	Average	Median*	Maximum	Minimum
Travel Time (Hours)	52	35	170	1
Percent of Words Delivered Correct				
Preamble	81	90	100	0
Address	50	42	100	7
Text	89	92	100	50
Signature	62	50	100	0
Combined [Text+Signature]	85	87	100	50
Total Radiogram	74	70	100	40
* Median: Half of the numbers are greater than this value Half of the numbers are less than this value				

Total number of messages Sent	83
Messages Delivered....email response	59
Messages Delivered...no email response	7
Number of Lost Messages	17
Percent of Messages Delivered that were Sent	80

Number of Messages Sent by Day (originally)	
Monday	12
Tuesday	12
Wednesday	12
Thursday	12
Friday	12
Saturday	11
Sunday	12
Total	83

Mode Sent (originally)	
CW	50
Voice	11
Pactor	22
Total	83

Number of ARRL or RAC Sections Invited to Participate	79
Number of Sections Participating	66
Number of Persons Invited to Participate	156
Number of Persons Participating	70
Number of emails used to administer the survey	450
Beginning Date of Survey	01/12/2003
Ending Date of Survey	03/05/2003

Preamble	116 R HXC K7BFL 16 Spokane WA 0230Z JAN 11	122A R HXC K7BFL 18 Spokane WA 0245Z JAN 27	156C R HXC K7BFL 18 Spokane WA 1815Z FEB 21
Delivered	116 R HXC K7BFL 16 Spokane WA 0230Z JAN 11	122 R HXC K7BFL 18 Spokane WA 02435Z JAN 27	156C R HXC K7BFL 18 Spokane WA 1815z FEB 21
Name			
Delivered			
Street			
Delivered			
City, State, Zip			
Delivered			
Phone			
Delivered			
Text	Many a man in love with a dimple makes the mistake of marrying the whole girl	My mothers telephone number is 591 897 4326 x She would love to hear from you and Marleen	GERI REIN SENDS YOU GREETINGS FROM THE NORTH PARK SAMARITAN CARE HOME X PHONE IS 213 445 6891
Delivered	<i>Many a man in love with a dimple makes the mistake of marrying the whole girl</i>	<i>My mothers telephone number is 591 897 4326 x She would love to hear from you and Marleen</i>	<i>GERI REIN SENDS YOU GREETINGS FROM THE NORTH PARK SAMARITAN CARE HOME X PHONE IS 213 445 6891</i>
Signature	Stephen Leacock	Demetri Naccarrato	KONRAD AND BETTIE SMITT
Delivered	<i>Stephen Leacock</i>	<i>Demetri Naccarrato</i>	<i>KONRAD AND BETTIE SMITT</i>
Travel Time (Hours)	1	2	5
[Text+Sig.] Words % Correct	100	100	100
Day Sent	Friday PM	Sunday PM	FRIDAY AM
Starting Mode	voice	cw	PACTOR
Notes			

Preamble	138 R HXC K7BFL 18 Spokane WA 1750Z JAN 19	142 R HXC K7BFL 25 Spokane WA 0330Z JAN 21	152 R HXC K7BFL 19 Spokane WA 1835Z FEB 25
Delivered	138 R HXC K7BFL 18 Spokane WA 1750Z JAN 19	142 R HXC K7BFL 25 Spokane WA 0330Z JAN 20	152 R HXC K7BFL 19 Spokane WA 1835Z FEB 25
Name			
Delivered			
Street			
Delivered			
City, State, Zip			
Delivered			
Phone			
Delivered			
Text	LLOYD AND BONNIE WOLENSKY HAD A BABY GIRL LAST SATURDAY X MYRNA AMANDA X 8 LBS 15 OZ	The reunion for the Colville class of 1939 is looking for Garth Simpson x Leo Smoothwater x Edna Duensing x Lettie Yount x Help query	WE WILL BE MOVING SHEGEO NISHIKAWA INTO THE PARK MANOR CARE CENTER NEXT SATURDAY X CARI WILL HELP ME
Delivered	LLOYD AND BONNIE WOLENSKY HAD A BABY GIRL LAST SATURDAY X MYRNA AMANDA X 8 LBS 15 OZ	The reunion for the Colville class of 1939 is looking for Garth Simpson x Leo Smoothwater x Edna Duensing x Lettie Yount x Help query	WE WILL BE MOVING SHEGEO NISHIKAWA INTO THE PARK MANOR CARE CENTER NEXT SATURDAY X CARI WILL HELP ME
Signature	Richard Wrenn	Jon Kacalek	KRIS CEJKA
Delivered	Richard Wrenn	Jon Kacalek	KRIS CEJKA
Travel Time (Hours)	5	15	18
[Text+Sig.] Words % Correct	100	100	100
Day Sent	Sunday AM	Monday PM	TUESDAY AM
Starting Mode	voice	cw	PACTOR
Notes			Delivered via email

Preamble	105 R HXC K7BFL 14 Spokane WA 0252z JAN 13	103 R HXC K7BFL 21 Spokane WA 1900Z FEB 21	114 R HXC K7BFL 15 Spokane WA 0245Z JAN 31
Delivered	105 R HXC K7BFL 14 Spokane WA 90507 JAN 13	103 R HXC K7BFL 21 Spokane WA 1900Z FEB 21	114 R HXC K7BFL 15 Spokane WA 0246Z JAN 31
Name			
Delivered			
Street			
Delivered			
City, State, Zip			
Delivered			
Phone			
Delivered			
Text	Best regards from the Leitz family of Latah x Say hi to Aunt Lillian	ELVERA AND I WERE LOOKING INTO A TRIP TO COMODORO RIVADAVIA IN NOVEMBER X WOULD YOU LIKE TO GO ALSO QUERY	The persons we love the most are sometimes those who we communicate with the least
Delivered	<i>Best regards from the Leitz family of Latah x Say hi to Aunt Lillian</i>	<i>ELVERA AND I WERE LOOKING INTO A TRIP TO COMODORO RIVADAVIA IN NOVEMBER X WOULD YOU LIKE TO GO ALSO QUERY</i>	<i>The persons we love the most are sometimes those who we communicate with the least</i>
Signature	Rheinhold and Ena Leitz	CASS LEKTORICH	Thomas Ezra Stockinger
Delivered	<i>Rheinhold and Ena Leitz</i>	<i>CASS LEKTORICH</i>	<i>Thomas Ezra Stockinger</i>
Travel Time (Hours)	24	34	91
[Text+Sig.] Words % Correct	100	100	100
Day Sent	Sunday PM	FRIDAY AM	Thursday PM
Starting Mode	cw	PACTOR	cw
Notes			Delivered via radiogram

Preamble	129A R HXC K7BFL 15 Spokane WA 2320Z JAN 31	101C R HXC K7BFL 20 Spokane WA 0220Z FEB 24	113A R HXC K7BFL 20 Spokane WA 0300Z JAN 30
Delivered	<i>129 R HXC K7BFL 15 Spokane WA 2320Z JAN 31</i>	<i>101 R miss K7BFL 20 Spokane WA 0220Z FEB 24</i>	<i>113 R HXC K7BFL 20 Spokane WA 0300Z JAN 30</i>
Name			
Delivered			
Street			
Delivered			
City, State, Zip			
Delivered			
Phone			
Delivered			
Text	Brenda Bernstein and Bobbi Zohlwolski will be coming home with me for Easter x Love	JEREMIAH AND SARA ARE LOOKING FORWARD TO THEIR TRIP TO KOYUKUK ISLAND NEXT AUGUST X HOPE THE FISHING IS GOOD	THE SIMILKAMEEN RIVER AT NIGHTHAWK HAS GONE UP SEVEN INCHES IN THE LAST DAY X FLOW IS NOW 632 CFS
Delivered	<i>Brenda Bernstein and Bobbi Zohlwolski will be coming home with me for Easter x Love</i>	<i>JEREMIAH AND SARAH ARE LOOKING FORWARD TO THEIR TRIP TO KOYUKUK ISLAND NEXT AUGUST X HOPE THE FISHING IS GOOD</i>	<i>THE SIMILKAMEEN RIVER AT NIGHTHAWK HAS GONE UP SEVEN INCHES IN THE LAST DAY X FLOW IS NOW 632 CFS</i>
Signature	Malcom Petersen	GANAPATHL AND AJETE RAHMAAN	CYNTHIA BROWMAN
Delivered	<i>Malcom Petersen</i>	<i>GANAPATHL AND AJETE RAHMAAN</i>	<i>CYNTHIA BROWN</i>
Travel Time (Hours)	116	170	3
[Text+Sig.] Words % Correct	100	96	95
Day Sent	Friday PM	SUNDAY PM	Wednesday PM
Starting Mode	voice	FACTOR	cw
Notes		Delivery delayed at least 24 hours due to propagation/QRM	

Preamble	109 R HXC K7BFL 19 Spokane WA 0225Z FEB 18	135 R HXC K7BFL 20 Spokane WA 0245Z JAN 16	177 R HXC K7BFL 18 Spokane WA 0311Z JAN 17
Delivered	<i>miss miss miss K7BFL miss</i> Spokane WA 0225Z FEB 18	125 R HXC K7BFL 20 Spokane WA <i>miss</i> JAN 16	177 R HXC K7BFL 18 Spokane WA 0311Z JAN 17
Name			
Delivered			
Street			
Delivered			
City, State, Zip			
Delivered			
Phone			
Delivered			
Text	The phone number of the school is 488 263 2284 x Maybe they can help you with enrolling Mason	It looks like there will be six of us visiting next week x Brandon Josh Aileen Lea Gerry and myself	Geri Frankovich and Denese Malstroome will be anxious to see you when you visit here on February 19
Delivered	<i>The phone number of the school is 488</i> 263 2284 x <i>Maybe they can help you</i> with enrollment Mason	IT LOOKS LIKE THERE WILL BE SIX OF US VISITING NEXT WEEK X BRANDON JOSH AILEEN LEA GERRY AND MYSELF	<i>Geri Frankovich and Denise</i> <i>Malstroome will be anxious to see</i> <i>you when you visit here on</i> <i>February 19</i>
Signature	Johnnie Lee Prudenn	Harold Fieldsteine	Georgia Mae Williamsen
Delivered	<i>Johnnie Lee Prudenn</i>	<i>Harold Fieldstein</i>	<i>Georgia Mae Williamsen</i>
Travel Time (Hours)	26	48	72
[Text+Sig.] Words % Correct	95	95	95
Day Sent	Monday PM	Wednesday PM	Thursday PM
Starting Mode	Pactor	cw	cw
Notes	Delivered by telephone		

Preamble	111 R HXC K7BFL 17 Spokane WA 0247Z JAN 12	122 R HXC K7BFL 18 Spokane WA 1745Z JAN 26	121 R HXC K7BFL 15 Spokane WA 0245Z JAN 28
Delivered	111 R HXC K7BFL 17 Spokan WA 0247Z JAN 12	122 R HXC K7BFL 18 Spokane WA miss JAN 26	123 R miss K7BFL 15 Spokane WA 0245Z JAN 28
Name			
Delivered			
Street			
Delivered			
City, State, Zip			
Delivered			
Phone			
Delivered			
Text	Many ideas grow better when transplanted into another mind than in the one where they sprang up	My mothers telephone number is 591 897 4326 x She would love to hear from you and Marleen	Happy birthday x Delbert and Marleen would like to be with you at the party
Delivered	<i>Many ideas grow better when transplanted into another mind than in the one where they sprung up</i>	<i>My mothers telephone number is 591 897 4326 miss She would love to hear from you and Marleen</i>	<i>Happy birthday x Delbert and Marleen would like to be with you at the party</i>
Signature	Oliver Wendell Holmes	DEMETRI NACCARRATO	Renee McCleaver
Delivered	<i>Oliver Wendell Holmes</i>	<i>DEMETRI NACCARRATO</i>	RENEE CLEAVEN
Travel Time (Hours)	19	87	46
[Text+Sig.] Words % Correct	95	95	94
Day Sent	Saturday PM	Sunday AM	Monday PM
Starting Mode	cw	voice	cw
Notes			

Preamble	172 R HXC K7BFL 20 Spokane WA 1505Z FEB 27	106 R HXC K7BFL 19 Spokane WA 0245Z FEB 6	167 R HXC K7BFL 18 Spokane WA 1745Z JAN 19
Delivered	172 R HXC K7BFL 20 Spokane WA <i>miss</i> Feb 25	106 R HXC K7BFL 19 Spokane WA 0245Z FEB 6	167 R HXC K7BFL 18 Spokan WA 1745Z JAN 19
Name			
Delivered			
Street			
Delivered			
City, State, Zip			
Delivered			
Phone			
Delivered			
Text	SKIING HAS BEEN GREAT THIS WINTER AT SCHWEITZER AND MISSION RIDGE X LOOKING FORWARD TO SEEING YOU IN ST THOMAS	We have invited Louise Marie Rob Gwen and Rylee to the party x Hope that is ok with you	It was great being with you at Christmas x Amy Denise and Rylee enjoyed their grandparents x love
Delivered	<i>SKIING HAS BEEN GREAT THIS WINTER AT SCHWEITZER AND MISSION RIDGE X LOOKING FORWARD TO SEEING YOU IN SAINT THOMAS</i>	<i>We have invited Louise Marie Rob GIVIN and KYLEE to the party x Hope that is ok with you</i>	<i>It was great to be with you at Christmas x Amy Denise and Rylee enjoyed their grandparents x love</i>
Signature	BRENDA AND TONI ROTCHILDE	Jere Gene Wilson	Joey and Kristine
Delivered	BRENDA AND TOMMY ROTCHILDE	<i>Jere Gene Wilson</i>	Joy and Kristine
Travel Time (Hours)	13	26	29
[Text+Sig.] Words % Correct	92	91	90
Day Sent	FRIDAY AM	Wednesday PM	Sunday AM
Starting Mode	PACTOR	CW	voice
Notes		Delivered by telephone	

Preamble	171 R HXC K7BFL 19 Spokane WA 0245Z JAN 19	173 R HXC K7BFL 17 SPOKANE WA 0245Z FEB 5	134 R HXC K7BFL 16 Spokane WA 0245Z JAN 14
Delivered	171 R HXC K7BFL 19 Spokane WA 0245Z JAN 19	173 R HXC K7BFL 17 SPOKANE WA 0245Z FEB 6	134 R HXC K7BUL 16 Spokane WA miss JAN 14
Name			
Delivered			
Street			
Delivered			
City, State, Zip			
Delivered			
Phone			
Delivered			
Text	Mary Lou and Irma will be looking forward to your visit on March 23 x Best wishes to Corliss	GINNY CAME HOME FROM THE HOSPITAL JANUARY 28 X HER GALL BLADDER IS NOW NOT A PROBLEM	My gall bladder operation was a success x Thanks for the card x Hello to Eileen
Delivered	MARY LOU AND IRMA WILL BE LOOKING FORWARD TO YOUR VISIT ON MARCH 22 X BEST WISHES TO CORLISS	GINNY CAME HOME FROM THE HOSPITAL JANUARY 28 X HER GALL BLADDER IS NOW NOT A PROBLEM	My gall bladder operation was a success x thanks for the card x hello to eileen
Signature	Ferdie Klessig	ANTONINA AND SANDI VERDEL	Merry Kaye Browne
Delivered	Ferdie Klessing	ANTONIA AND SAMI VERDEL	Mary K Browne
Travel Time (Hours)	46	69	18
[Text+Sig.] Words % Correct	90	90	89
Day Sent	Saturday PM	Tuesday PM	Monday PM
Starting Mode	cw	cw	cw
Notes	Telephone number should have been (920) 563-1421		

Preamble	100 R HXC K7BFL 17 Spokane WA 0319Z JAN 8	176 R HXC K7BFL 17 Spokane WA 2105Z JAN 21	154 R HXC K7BFL 14 Spokane WA 1900Z FEB 21
Delivered	100 R HXC K7BFL 17 Spokane miss miss miss miss	176 R HXC K7BFL 17 Spokane WA 2105Z JAN 21	154 R HXC K7BFL 14 pokane WA 1900z FEB 21
Name			
Delivered			
Street			
Delivered			
City, State, Zip			
Delivered			
Phone			
Delivered			
Text	Carolyn Zeminski sends greetings for the New Year x She will be 98 years old January 23	Steelhead fishing has been great on the Snake River near Almota x eight wild x sixteen hatchery	WE JUST GOT BACK FROM VISITING DARCI AND TIMM X THEY ARE BOTH FINE
Delivered	Carolyn Zeminski sends greetings for the new year x-ray She will be 98 years old jan 23	Steelhead fishing has been great on the Snake River near Almota x eight wild miss sixteen hatchery	WE JUST GOT BACK FROM VISITING DARCI AND TIMM X THEY ARE miss FINE
Signature	Donovan Hostettler	Sven Hedegaard	EDWARD AND RYLEE VANDORNE
Delivered	<i>Donovan Hostetter</i>	<i>Sven Wedegarrd ARFS</i>	<i>EDWARD AND RYLEE VANDORN</i>
Travel Time (Hours)	24	26	70
[Text+Sig.] Words % Correct	89	89	89
Day Sent	Tuesday PM	Tuesday Noon	FRIDAY AM
Starting Mode	cw	voice	FACTOR
Notes	It was passed via a CW net then relayed on 2 meters FM.		

Preamble	118 R HXC K7BFL 20 Spokane WA 0245Z JAN 30	166 R HXC K7BFL 21 Spokane WA 0305Z JAN 26	131 R HXC K7BFL 13 Spokane WA 0245z FEB 4
Delivered	<i>miss miss miss K7BFL miss</i> Spokane WA <i>miss</i> JAN 30	166 R HXG K7BFL 21 Spokane WA 0305Z JAN 26	131 R HXC K7BFL 13 Spokane WA <i>miss</i> FEB 4
Name			
Delivered			
Street			
Delivered			
City, State, Zip			
Delivered			
Phone			
Delivered			
Text	We will be leaving for Arizona February 12 x We will be back April 29 x Our best to Franceen	WE ARE LEAVING MAY NINETEEN ON A CRUISE TO GUADELOUPE AND GRENADA X WILL YOU BE ABLE TO GO ALSO QUERY	JAMEL KRESENKO APPRECIATES THE HELP YOU HAVE GIVEN HIM SETTING UP WINDOWS XT
Delivered	<i>We will be leaving for Arizona February 12 x We will be back April 29 x Our best to Francine</i>	<i>WE ARE LEAVING MAY NINETEEN ON A CRUISE TO QUADELOUPE AND GRANADA X WILL YOU BE ABLE TO GO ALSO QUERY</i>	<i>JAMEL KRESENKO APPRECIATES THE HELP YOU HAVE GIVEN HIM SETTING UP WINDOWS X</i>
Signature	Jackie and Merrie Lu	HELENE YAMAMOTO	Valentina Kovalenko
Delivered	<i>Jackie and Mary Lou</i>	<i>HELEN YAMAMOTO</i>	<i>VALENTIAN KOVALENKO</i>
Travel Time (Hours)	68	48	45
[Text+Sig.] Words % Correct	88	87	87
Day Sent	Wednesday PM	Saturday PM	Monday PM
Starting Mode	cw	cw	cw
Notes	Delivered by Telephone Answering Machine		

Preamble	155C R HXC K7BFL 18 Spokane WA 0245Z FEB 18	110 R HXC K7BFL 12 Spokane WA 0252Z JAN 12	137 R HXC K7BFL 16 Spokane WA 1830Z FEB 25
Delivered	155 R HXC K7BFL 18/16 Spokane WA miss FEB 18	110 R HXC K7BFL 12 Spokane WA 0252z JAN 12	1 R HXG K7BFL 16 Spokane WA miss FEB 25
Name			
Delivered			
Street			
Delivered			
City, State, Zip			
Delivered			
Phone			
Delivered			
Text	GLENN WEGNER JUST RECEIVED HIS DOCTOR OF DIVINITY DEGREE FROM PRINCETON X WEATHER IS WARM HERE X LOVE	Sandee Zellmer and Jo Sandifer would like you to call them asap	DARLENE AND JON CHOELHO HAD A BOY LAST TUESDAY X ZACHARY XIAO SIX POUNDS NINE OUNCES
Delivered	GLENN WEGNER JUST RECEIVED HIS DOCTOR OF DIVINITY DEGREE FROM PRESTON X WEATHER miss WARM HERE miss LOVE	Sandee Zellmer and Jo Sandifer would like you to call the asap	DARLINE AND JON CHOELHO HAD A BOY LAST TUESDAY X ZACHARY X SIX POUNDS NINE OUNCES
Signature	MING AND KEN XIONG	Roland Bruntoon	GERRY AND MARILYN GREENE
Delivered	MING AND KEN XIONG	Roland Brunsoon	JERRY AND MARILYN GREENE
Travel Time (Hours)	166	17	106
[Text+Sig.] Words % Correct	86	86	85
Day Sent	Monday PM	Saturday PM	TUESDAY AM
Starting Mode	cw	cw	PACTOR
Notes			

Preamble	115 R HXC K7BFL 16 Spokane WA 0312z JAN 14	112 R HXC K7BFL 19 Spokane WA 1832Z FEB 25	165 R HXC K7BFL 20 Spokane WA 0245z FEB 3
Delivered	115 R HXC K7BFL 16 Spokane WA 0312z JAN 14	112 R HXC K7BFL 19 Spokane WA 18320 FEB 25	165 R HXC K7BFL 20 Spokane WA 0245z FEB 3
Name			
Delivered			
Street			
Delivered			
City, State, Zip			
Delivered			
Phone			
Delivered			
Text	I will be leaving for Peking and Hsian next Thursday x See you in four weeks	GARRETT SAMANTHA MEYGAN AND TONI WILL BE LOOKING FORWARD TO YOUR VISIT APRIL TWENTY TWO X SEE YOU THEN	DAVID AND I ARE GETTING MARRIED JUNE TWENTY TWO IN ST PASCALS CHURCH X HOPE YOU CAN COME X LOVE
Delivered	<i>Hi Will be leaving for Peking and Hsing next Thursday x See in four weeks</i>	GARNETT SAMANTHA MOYGAN AND TONI WILL BE LOOKING FORWARD TO YOUR VISIT APRIL TWENTY TWO X SEE miss THEN	DAVID AND I ARE GETTING MARRIED JUNE 22 miss IN ST PASCALS CHURCH X HOPE YOU CAN COME miss LOVE
Signature	Maoling Liu	ESSE AND BELVA VANDERGAAG	JUDI ANN LEVENSEN
Delivered	<i>Maoling Lew</i>	<i>ESSE AND BELVA VANDERGUAG</i>	<i>JUDI miss LEVINSON</i>
Travel Time (Hours)	20	18	22
[Text+Sig.] Words % Correct	83	83	83
Day Sent	Monday PM	TUESDAY AM	SUNDAY PM
Starting Mode	cw	PACTOR	CW
Notes			

Preamble	143 R HXC K7BFL 19 Spokane WA 0310Z FEB 1	159 R HXC K7BFL 19 Spokane WA 0245Z FEB 18	120 R HXC K7BFL 18 Spokane WA 0250z JAN 13
Delivered	143 R HXC K7BFL 19 Spokane WA 0310Z FEB 1	159 R <i>miss</i> K7BFL 19 Spokane WA <i>miss</i> Feb 20	120 R HXC K7BFL 18 Spokan WA <i>miss</i> JAN 13
Name			
Delivered			
Street			
Delivered			
City, State, Zip			
Delivered			
Phone			
Delivered			
Text	I have graduated from EWU x I will be talking to Micropooling about a job next week x Love	ROBERTA WILL BE MOVING TO THE VALLEY CREST CARE CENTER NEXT WEEK X ERIC AND JERALD WILL HELP ME	We won our last soccer match by a score of eight to two x I got three goals
Delivered	<i>I HAVE GRADUATED FROM EWU X I WILL BE TALKING TO MICROW POOLING ABOUT A JOB miss miss X LOVE</i>	ROBERTO WILL BE MOVINING T THE VALLEY CREST CARE CENTER NEXT WEEK X ERIC AND GERALD WILL HELP ME	<i>We won our last soccer match by a score of 8 to 2 x I got three goals</i>
Signature	Suzanne Wilcox	BUFORD WINBERG	Brandon Zephrees
Delivered	SUZANNE WILCOX	BUFORD WINBERG	Brenda Zedhrees
Travel Time (Hours)	18	80	20
[Text+Sig.] Words % Correct	81	81	80
Day Sent	Friday PM	Monday PM	Sunday PM
Starting Mode	cw	cw	cw
Notes	18 Delivered words; Check =19		

Preamble	17H3 R HXC K7BFL 11 Spokane WA 1920Z FEB 21	124 R HXC K7BFL 13 Spokane WA 0300Z JAN 12	164 R HXC K7BFL 16 Spokane WA 1750Z JAN 25
Delivered	1753 R HXC K6BFIL miss SPOTANE miss miss FEB 21	124 R HXC K7BFL 13 Spokane WA 0120Z JAN 12	miss miss miss miss miss miss miss miss miss miss
Name			
Delivered			
Street			
Delivered			
City, State, Zip			
Delivered			
Phone			
Delivered			
Text	SARA LEA HAS BEEN SELECTED AS AN EXCHANGE STUDENT IN BRONDERSLEV	Snow surveys indicate the North Idaho snowpack is about 76 percent of normal	THE OPERATION ON GRANDMA SJOSTROM WAS A SUCCESS X ABOUT THIRTEEN INCHES OF INTESTINE WERE REMOVED
Delivered	SARA LEE HAS BEEN SELECTED AS AN EXCHANGE STUDENT IN BRONDERSLEV	SNOW SURVEYS INDICATE THE NORTH IDAHO SNOW PACK IS ABOUT 76 PER CENT OF NORMAL	THE OPERATION ON GRANDMA SJOSTROM WAS A SUCCESS X ABOUT THIRTEEN INCHES OF INTESTINE WERE REMOVED
Signature	JON AND MARI GOETZ	Charley Smyth	Bev and Denis Olsen
Delivered	JOHN AND MARI miss	Charles Smythe	miss miss miss miss
Travel Time (Hours)	31	136	144
[Text+Sig.] Words % Correct	80	80	80
Day Sent	FRIDAY AM	Saturday PM	Saturday AM
Starting Mode	PACTOR	cw	voice
Notes	Delivered by telephone	Delivered via USPS	Delivered via email

Preamble	178D R HXC K7BFL 15 Spokane WA 1506Z FEB 27	127A R HXC K7BFL 21 Spokane WA 0310Z FEB 1	163G R HXC K7BFL 14 Spokane WA 1700Z FEB 22
Delivered	178D R HXC W7EFL 15 Spokane WA miss FEB 27	127 R HXC K7BFL 21 Spokane WA 1805 FEB 1	163G R HXC K7BFL 14 Spokane WA 1007Z Feb 23
Name			
Delivered			
Street			
Delivered			
City, State, Zip			
Delivered			
Phone			
Delivered			
Text	BEST WISHES ON YOUR BIRTHDAY MARCH SEVEN X GARRETT SAMANTHA AND SARAH SEND THEIR LOVE	We need your help finding these from the GFHS class of 1941 x Bryan Fogel x Esther Yuill x Yvonne Tok	We are looking forward to seeing you at the mission in Tulancingo April fourteen
Delivered	<i>BEST WISHES ON YOUR BIRTHDAY MARCH 7 X GARREC SAMANTHA AND SARAH SENT THEIR LOVE</i>	<i>WE NEED YOUR HELP FINDING THESE FROM THE MIXED GFHS CLASS OF 1941 X BRYAN FOSLE ESHTER YOLL YVONNE TOK 73</i>	<i>We are looking forward to see you at miss mission in Tulaninco April 14</i>
Signature	MERI AND WING LIU	Bobbi Lea Richards	JOSE AND JUANITA HERNANDEZ
Delivered	<i>MERIA AND WING LIU</i>	<i>Bobbi Lea Richards</i>	<i>JOSE AND JUANITA HERNANDEZ</i>
Travel Time (Hours)	35	43	35
[Text+Sig.] Words % Correct	79	78	78
Day Sent	FRIDAY AM	Friday PM	SATURDAY AM
Starting Mode	FACTOR	cw	FACTOR
Notes			

Preamble	123 R HXC K7BFL 24 Spokane WA 0302Z JAN 12	125 R HXC K7BFL 10 Spokane WA 0255Z JAN 18	119 R HXC K7BFL 18 Spokane WA 0245Z JAN 15
Delivered	123 R HXC K7BFL 24 Spokane miss miss miss miss	125 R HXC KB7BFL 10/9 Spokane WA miss JAN 18	10 R HXC K7BFL 8 Spokane WA missing JAN 15
Name			
Delivered			
Street			
Delivered			
City, State, Zip			
Delivered			
Phone			
Delivered			
Text	In the last CQWW I was able to work stations in PY0 VP8 TR1 and ST4 x Hope you did as well x 73	Louis Brandstein passed away January 9 x Services next Friday	I am pleased to hear that you have learned to play the piccolo x I enjoy it also
Delivered	<i>In (miss) last CQ World Wide I was able to work stations in PYG VPOL TR1 and ST4 x hope you did as well 73</i>	<i>LEWIS Brandstein passed away January 9 x Services next Friday</i>	<i>I AM SURPRISED TO LEARN THAT YOU HAVE LEARNED TO PLAY THE PICOLO X I PLAY IT ALSO</i>
Signature	Mari Beth Bothmann	Jo Henrie	Gene Marstoneer
Delivered	<i>Mari Betts (missing)</i>	<i>JOE HENRY</i>	<i>GENE MARSTONER</i>
Travel Time (Hours)	67	20	25
[Text+Sig.] Words % Correct	78	75	75
Day Sent	Saturday PM	Friday PM	Tuesday PM
Starting Mode	cw	cw	cw
Notes		Correction of Check from 10 to 9 was apparently incorrect	

Preamble	117 R HXC K7BFL 14 Spokane WA 1745Z JAN 29	158 R HXC K7BFL 21 Spokane WA 0245Z FEB 6	174 R HXC K7BFL 13 Spokane WA 0224Z FEB 24
Delivered	117 R HXC K7BFL 13 Spokane WA miss JAN 30	miss miss miss K7BFL miss Spokane WA miss miss miss	miss miss miss miss miss Spokane WA miss miss miss
Name			
Delivered			
Street			
Delivered			
City, State, Zip			
Delivered			
Phone			
Delivered			
Text	JOSH MERMEISTER is having a hard time breathing with the tube in his stomach	YOU ARE INVITED TO THE 25TH REUNION OF CVHS AUGUST TWENTY FIVE X BRENT AND SJONA WOULD LIKE TO SEE YOU	KAREEN LOWRANCE WILL BE HAVING BYPASS SURGERY NEXT WEDNESDAY AT SACRED HEART HOSPITAL
Delivered	JOSH MERMEISTER IS HAVING A HARD TIME BREATHING WITH miss TUBES IN HIS STOMACH	YOU ARE INVITED TO THE 25TH REUNION OF CVHS AUG 25 X BRET AND SONYA WOULD LIKE TO SEE YOU	Coreen Lawrence will be having bypass surgery next Wednesday at Sacred Heart Hospital
Signature	JOANN KABERRO	JUNE ALLISON BJORKSTROM	JENNEANE VIGESAA
Delivered	JOAN KABEIRO	JUNE ALLISON BJORKSTRONK	JAN VAGESSA
Travel Time (Hours)	98	138	116
[Text+Sig.] Words % Correct	75	75	73
Day Sent	Wednesday AM	Wednesday PM	SUNDAY PM
Starting Mode	voice	CW	FACTOR
Notes			Delivered on Telephone Answering Machine

Preamble	2Y4 R HXC K7BFL 23 Spokane WA 1500Z FEB 27	133 R HXC K7BFL 17 Spokane WA 0300Z FEB 2	128 R HXC K7BFL 18 Spokane WA 0245Z JAN 28
Delivered	2Y4 R HXC K7BFL 23/22 Spokane WA 1500Z Feb 26	133 R HXC K7BFL 16 Spokane WA 0300Z FEB 2	128 miss miss K7BFL miss Spokane WA 0245Z JAN 28
Name			
Delivered			
Street			
Delivered			
City, State, Zip			
Delivered			
Phone			
Delivered			
Text	THE OTHELLO CLASS OF 1963 IS LOOKING FOR BARRY THOMPSEN JOSE FERREROS ANNE BARTELLS AND GERI ADAMSSON X CAN YOU HELP X QUERY	WE PLAN ON LEAVING FOR LUANDA FEBRUARY FIVE X SEE YOU WHEN WE GET BACK MARCH TEN	Thai Tran was visiting with me last week x I had not seen her since I left Vietnam
Delivered	THE OTHELLO CLASS OF 1963 IS LOOKING FOR BARRY THOMPSON JOE FERRERUS ANNE BARTLEES AND GERI ADAMSON miss CAN YOU HELP X QUERY	WE PLAN ON LEAVING FOR LUNDA FEBRUARY 5 X SEE YOU WHEN WE GET BACK MARCH 10	FAN TRAN WAS VISITING miss miss LAST WEEK AND I HAD NOT SEEN HIM SINCE I LEFT VIETNAM
Signature	MERI BROWNE SCHOFIELD	BONNIE AND HENRI THIELE	Sven Bjork
Delivered	MERI BROWNE SCOFIELD	BONNIE miss miss GHIELE	SVEN DJOORK
Travel Time (Hours)	96	22	47
[Text+Sig.] Words % Correct	73	71	70
Day Sent	FRIDAY AM	Saturday PM	Monday PM
Starting Mode	PACTOR	cw	cw
Notes	Last Receive was on a weekend; Delivered by telephone on Monday morning	Check (as Delivered) is 16; Delivered words=17	The only word spelled out phonetically to me over the phone was the last name of the signature.

Preamble	104 R HXC K7BFL 15 Spokane WA 0255Z JAN 31	144 R HXC K7BFL 16 Spokane WA 0300z JAN 26	156A R HXC K7BFL 16 Spokane WA 1745Z JAN 29
Delivered	104 R HXC K7BFL 15 Spokane WA 0255Z JAN 31	144 miss KXC K7BFL 16 Spokane WA 0300Z JAN 26	156 R HXC K7BFL 16/14 Spokane WA 1745Z JAN 29
Name			
Delivered			
Street			
Delivered			
City, State, Zip			
Delivered			
Phone			
Delivered			
Text	The skiing was great last week at Schweitzer Basin x Tomorrow we will try Silverhorn	EDNA EDDIE FRANCENE ELISABETH RUTHANNE AND SVEN WILL BE COMING WITH ME TO THE STETTNISCH REUNION	Veneta Browning sends greetings from the Valley View Care Center x Her arthritis is much better
Delivered	miss SKIING WAS GREAT LAST WEEK AT SCHWITZER BASIN x TOMORROW WE WILL TRY SILVER HORN	EDNA EDDIE FRANCY ELICABETH RUTH AND HELLEN WILL BE GOING WITH ME TO THE STETTAIS REUNION	VENITA BROWNING miss miss FROM miss VALLEY VEW CARE HOME X HER ARTRITUS IS MUCH BETTER NOW
Signature	Cathy and Jon Frankovich	August Breckibach	Josh and Annalee Brinkley
Delivered	Kathy & John Frankovich	AUGUST BEACKINBACASBCH	JOSH miss ENNALEE miss
Travel Time (Hours)	88	29	33
[Text+Sig.] Words % Correct	68	61	55
Day Sent	Thursday PM	Saturday PM	Wednesday AM
Starting Mode	cw	cw	voice
Notes			RECEIVED THE TEST MSG VIA CW FROM KANSAS

Preamble	126 R HXC K7BFL 16 Spokane WA 0245Z JAN 17	132 R HXC K7BFL 14 Spokane WA 0245z FEB 3
Delivered	126 R HTC K7BFL 16 Spokane WA miss JAN 17	132 R miss K7BLE miss Spokane WA miss FEB 3
Name		
Delivered		
Street		
Delivered		
City, State, Zip		
Delivered		
Phone		
Delivered		
Text	CARRIE LEA BRANDSKOM was born January 12 x 6 lbs 4 oz x all doing well	MOM HAS CHANGED FROM ULTRASET TO TRANODOL X MEDICINE SEEMS TO BE WORKING BETTER
Delivered	CARNE LEA BRANASORN WAS BORN JANUARY 12TH X SIX POUNDS FOUR OUNCES (missing) ALL DOING WELL	MEDICINE HAS BEEN CHANGED FROM ULTRAST TO TRAMODOL X MEDICINE SEEMS TO BE MAKING IT BETTER
Signature	Kim Jue	KARL AND ELOLISE KIM
Delivered	<i>Kim missing</i>	<i>miss miss miss miss</i>
Travel Time (Hours)	48	57
[Text+Sig.] Words % Correct	50	50
Day Sent	Thursday PM	SUNDAY PM
Starting Mode	cw	CW
Notes	Delivered via telephone answering machine	

Lost Messages

Preamble	101B R HXC K7BFL 20 Spokane WA 0245Z FEB 8	157 R HXC K7BFL 16 Spokane WA 0245Z FEB 7	172K R HXC K7BFL 18 Spokane WA 1705Z MAR 4	127 R HXC K7BFL 21 Spokane WA 0253Z JAN 15
<i>Delivered</i>				
Name				
<i>Delivered</i>				
Street				
<i>Delivered</i>				
City, State, Zip	Alaska	California	Massachusetts	Mississippi
<i>Delivered</i>				
Phone				
<i>Delivered</i>				
Text	THELMA AND IRENE ARE LOOKING FORWARD TO SEEING YOU NEXT SUMMER X HOPE THE FISHING WILL BE GOOD AT ANIAK	HOPING TO SEE YOU THE WEEK OF MARCH SEVENTEEN X WILL SEE ESEE AND HAROLD FIRST	KARI AND JO ARE LOOKING FORWARD TO YOUR VISIT APRIL TWENTY ONE X AUNT BREANNE IS GETTING BETTER	We need your help finding these from the GFHS class of 1941 x Bryan Fogel x Esther Yuill x Yvonne Tok
<i>Delivered</i>				
Signature	JOE AND MABLE FEW	JEAN AND FRANCIS WOHRLE	GALLEN LYNSKEY	Bobbi Lea Richards
<i>Delivered</i>				
Day Sent	Friday PM	Thursday PM	Tuesday AM	Tuesday PM
Starting Mode	cw	cw	FACTOR	cw
Notes				

Lost Messages

Preamble	129 R HXC K7BFL 15 Spokane WA 0245Z JAN 16	162 R HXC K7BFL 13 Spokane WA 2045Z JAN 31	136 R HXC K7BFL 16 Spokane WA 0245Z FEB 4	145 R HXC K7BFL 12 Spokane WA 0300Z FEB 6
<i>Delivered</i>				
Name				
<i>Delivered</i>				
Street				
<i>Delivered</i>				
City, State, Zip	Missouri	New Jersey	New York	Ontario
<i>Delivered</i>				
Phone				
<i>Delivered</i>				
Text	Brenda Bernstein and Bobbi Zohlwolski will be coming home with me for Easter x Love	TOM GOODWIN AND ERNIE SLAISOTN ARE LOOKING FORWARD TO SEEING YOU AT DAYTON	MICHAEL AND BRUSANNE APPRECIATED YOUR HOSPITALITY IN NOVEMBER X SEE YOU MARCH 13 X BEST REGARDS	GERRY KAUTZMANN HAD TRIPLE BYPASS SURGERY AT DEACONESS YESTERDAY X DOING FAIR
<i>Delivered</i>				
Signature	Malcom Petersen	Jacob Abitz	Huong Tran	JUAN AND HEATHER HERRERA
<i>Delivered</i>				
Day Sent	Wednesday PM	Thursday PM	Monday PM	Wednesday PM
Starting Mode	cw	cw	cw	CW
Notes				

Lost Messages

Preamble	151D R HXC K7BFL 17 Spokane WA 2120Z FEB 24	151B R HXC K7BFL 14 Spokane WA 0300Z FEB 8	151 R HXC K7BFL 14 Spokane WA 0250Z JAN 22	156 R HXC K7BFL 16 Spokane WA 0245Z JAN 30
Delivered				
Name				
Delivered				
Street				
Delivered				
City, State, Zip	Quebec	Quebec	Quebec	South Dakota
Delivered				
Phone				
Delivered				
Text	JON AND MARIE ARE LOOKING FORWARD TO YOUR VISIT ON MAY 23 X AILEEN ALSO SENDS GREETINGS	LOUISE and ARIEL FAUQUIER ask about you often x How is your health query	LOUISE and ARIEL FAUQUIER ask about you often x How is your health query	Veneta Browning sends greetings from the Valley View Care Center x Her arthritis is much better
Delivered				
Signature	VIOLETA AND GEORGE MATRI	RENEE and FRANCIS BOUTWELL	RENEE and FRANCIS BOUTWELL	Josh and Annalee Brinkley
Delivered				
Day Sent	MONDAY PM	Friday PM	Tuesday PM	Wednesday PM
Starting Mode	PACTOR	CW	cw	cw
Notes				

Lost Messages

Preamble	141 R HXC K7BFL 18 Spokane WA 1700Z FEB 22	163 R HXC K7BFL 14 Spokane WA 0245Z JAN 23	175 R HXC K7BFL 17 Spokane WA 1505Z FEB 27	113 R HXC K7BFL 16 Spokane WA 1501Z FEB 27
<i>Delivered</i>				
Name				
<i>Delivered</i>				
Street				
<i>Delivered</i>				
City, State, Zip	Texas	Texas	Texas	Washington
<i>Delivered</i>				
Phone				
<i>Delivered</i>				
Text	BART KOHLWOWSKI AND I ARE LOOKING FORWARD TO SEEING YOU AT THE 43RD BATTALION REUNION JUNE TWENTY ONE	We are looking forward to seeing you at the mission in Tulancingo April fourteen	JENNIE JUST GRADUATED FROM EWU X SHE WILL ENROLL AT WHITMAN IN JULY X HI FROM AILEEN	HEARD YOU HAD A GOOD TRIP X WERE YOU ABLE TO SEE THE FOVEAUX STRAIT QUERY
<i>Delivered</i>				
Signature	EWALT ALDECOA	JOSE AND JUANITA HERNANDEZ	JIM AND SUELLEN WOLKOTT	EILEEN AND WENDEL THORNE
<i>Delivered</i>				
Day Sent	SATURDAY AM	Wednesday PM	FRIDAY AM	FRIDAY AM
Starting Mode	PACTOR	cw	PACTOR	PACTOR
Notes				

Lost Messages

Preamble	178 R HXC K7BFL 15 Spokane WA 0245Z FEB 5
<i>Delivered</i>	
Name	
<i>Delivered</i>	
Street	
<i>Delivered</i>	
City, State, Zip	Wyoming
<i>Delivered</i>	
Phone	
<i>Delivered</i>	
Text	BEST WISHES ON YOUR BIRTHDAY FEBRUARY ELEVEN X GARRETT SAMANTHA AND MEYGAN SEND THEIR LOVE
<i>Delivered</i>	
Signature	MERI AND WING LIU
<i>Delivered</i>	
Day Sent	Tuesday PM
Starting Mode	cw
Notes	