

*Jenkins*

U.S. NAVAL AIR STATION

NEW YORK

MESSAGES :

1. A MESSAGE IS A COMMUNICATION EXPRESSED IN A VERY BRIEF FORM, TRANSMITTED BY SPECIAL MEANS TO HASTEN DELIVERY. THE PROCEDURE IS DESIGNED TO PROVIDE A CONCISE AND DEFINITE LANGUAGE WHEREBY RADIOTELEGRAPHY COMMUNICATIONS MAY BE CONDUCTED ACCURATELY, RAPIDLY, AND WITH THE SECURITY OBTAINABLE ON RADIO CIRCUITS. THE ATTAINMENT OF THIS RELIABILITY DEPENDS, TO A LARGE EXTENT, UPON THE OPERATOR.

2. TYPES OF MESSAGES:

A. PLAINDRESS - ONE IN WHICH THE ORIGINATOR AND ADRESSEE DESIGNATIONS ARE INDICATED EXTERNALLY OF THE TEXT. IT MUST ALWAYS INCLUDE THE FOLLOWING ELEMENTS;

- (1) PRECEDENCE
- (2) DATE TIME GROUP

B. ABBREVIATED PLAINDRESS - WHERE THE REQUIREMENT FOR SPEED OF HANDLING MAY REQUIRE ABBREVIATION OF PLAINDRESS MESSAGE HEADINGS. THE FOLLOWING MAY BE OMITTED FROM THE HEADING;

- (1) PRECEDENCE
- (2) DATE TIME GROUP
- (3) GROUP COUNT
- (4) FM AND TO ( WHEN CALL SERVES AS ADRESS )

C. CODRESS - CARRIES IN THE ENCRYPTED TEXT THE ENTIRE ADDRESS. ( ORIGINATOR AND ALL ADRESSEE )

3. PARTS OF THE MESSAGE :

- (A. HEADING
- (B. TEXT
- (C. ENDING

A. HEADING - MAY BE FURTHER BROKEN DOWN INTO (4) PARTS.

- (1) PROCEDURE
  - (A) CALL.....NTMY DE NSC
  - (B) TRANSMISSION IDENTIFICATION.....NR
  - (C) SPECIAL INSTRUCTIONS.....( -T-G-F)
- (2) PREAMBLE
  - (A) PRECEDENCE PROSIGN.....P
  - (B) DATE TIME GROUP.....132400Z
- (3) ADDRESS
  - (A) ORIGINATORS SIGN.....-FM 8M38
  - (B) ACTION ADRESSEE.....-TO NSC NHZ ETC.
  - (C) INFOMATION ADRESSEE.....-INFO C2XT SNUX ETC
- (4) PREFIX
  - (A) GROUP COUNT.....GR

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INFORMATION SHEET: OPEN AND CLOSING TRANSMISSIONS;

ANY PERSON USING R/T MUST MAKE THE NECESSARY "CALL" AND "CLOSE" EVERY TRANSMISSION WITH THE PROWORDS "OVER" OR "OUT" SO THAT OTHERS MAY KNOW -IF- AN ANSWER IS REQUIRED OR NONE IS EXPECTED.

COMPOSITION:

EVERY R/T MESSAGE IS COMPOSED OF THREE BASIC PARTS;

1. HEADING 2. TEXT 3. MESSAGE ENDING

1. THE HEADING WILL CONSIST OF THE FOLLOWING COMPONENTS;

- A. THE CALL
- B. THE PRECEDENCE (IF ANY)
- C. THE TRANSMISSION INSTRUCTIONS (IF ANY)
- D. THE DATE TIME GROUP (IF USED)
- E. THE ADDRESS (IF NECESSARY, THAT IS, IF THE CALL DOES NOT SERVE AS THE ADDRESS)
- F. THE GROUP COUNT (IF USED)

2. THE TEXT IS THE BODY OF THE MESSAGE AND MAY CONSIST OF PLAIN LANGUAGE, OR CIPHER GROUPS. IF THE PROWORD "ACKNOWLEDGE" IS USED, IT IS ALWAYS THE LAST WORD OF THE TEXT. THE PROWORD "BREAK" IS USED TO SEPARATE THE TEXT FROM THE HEADING AND THE MESSAGE ENDING.

3. THE MESSAGE ENDING CONSISTS OF THE FINAL INSTRUCTIONS, NORMALLY THE PROWORD "OVER" OR THE PROWORD "OUT".

PROWORDS: THE FOLLOWING PROWORDS ARE AUTHORIZED FOR GENERAL USE ON RADIOTELEPHONE CIRCUITS:

ACKNOWLEDGE.....USED BETWEEN THE ORIGINATOR AND THE ADDRESSEE MEANS "LET ME KNOW THAT YOU HAVE RECEIVED AND UNDERSTAND THIS MESSAGE".

MESSAGE FOR....."I WISH TO TRANSMIT A MESSAGE TO \_\_\_\_\_."

STANDBY TO WRITE... "A MESSAGE WILL FOLLOW WHICH WILL REQUIRE A PERMANENT RECORD."

THAT IS CORRECT.... "YOU ARE CORRECT"

WILCO....."YOUR LAST MESSAGE RECEIVED, UNDERSTOOD, AND WILL BE COMPLIED WITH."

ROGER....."I HAVE RECEIVED YOUR LAST MESSAGE."

OVER....."THIS IS THE END OF MY TRANSMISSION TO YOU AND AN ANSWER IS REQUIRED (EXPECTED)."

OUT....."THIS IS THE END OF MY TRANSMISSION TO YOU AND NO ANSWER IS REQUIRED OR EXPECTED."

FIGURES....."FIGURES OR NUMERALS FOLLOW"

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PROWORDS (CONT'D)

GROUPS....."THE NUMBER OF GROUPS IN THE TEXT OF THIS MESSAGE IS INDICATED BY THE NUMERAL(S) WHICH FOLLOW IMMEDIATELY."

SAY AGAIN....."REPEAT ALL OF YOUR LAST TRANSMISSION."

BREAK....."I HEREBY INDICATE THE SEPARATION OF THE TEXT FROM THE OTHER PORTIONS OF THE MESSAGE."

CORRECTION....."AN ERROR HAS BEEN MADE IN THIS MESSAGE. THE CORRECT VERSION IS \_\_\_\_\_."

ALL BEFORE.....USED IN CONJUNCTION WHICH IS TO IDENTIFY A PORTION OF A MESSAGE, WITH SAY AGAIN.

ALL AFTER.....USED AS INDICATED ABOVE

WORD AFTER.....USED AS INDICATED ABOVE

WORD BEFORE.....USED AS INDICATED ABOVE

READ BACK....."REPEAT THIS ENTIRE TRANSMISSION BACK TO ME EXACTLY AS RECEIVED AFTER I HAVE GIVEN OVER."

THIS IS ONLY A PORTION OF ALL THE PROWORDS, THESE ARE THE MOST OFTEN USED. THE COMPLETE LIST OF PROWORDS AND THE RULES FOR RADIOTELEPHONE MAY BE FOUND IN ....JANAP 124....

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INFORMATION SHEET; RADIO TELEPHONE PROCEDURE, AND THE INTERNATIONAL MORSE CODE PRONUNCIATION.

LETTER	PHONETIC	PRONUNCIATION	
A	ALFA	DI-DAH	—
B	BRAVO	DAH-DI-DI-DIT	— — —
C	CHARLIE	DAH-DI-DAH-DIT	— — —
D	DELTA	DAH-DI-DIT	— —
E	ECHO	DIT	·
F	FOXTROT	DI-DI-DAH-DIT	· · — ·
G	GOLF	DAH-DAH-DIT	
H	HOTEL	DI-DI-DI-DIT	
I	INDIA	DI-DIT	
J	JULIETT	DI-DAH-DAH-DAH	
K	KILO	DAH-DI-DAH	
L	LIMA	DI-DAH-DI-DIT	
M	MIKE	DAH-DAH	
N	NOVEMBER	DAH-DIT	
O	OSCAR	DAH-DAH-DAH	
P	PAPA	DI-DAH-DAH-DIT	
Q	QUEBEC	DAH-DAH-DI-DAH	
R	ROMEO	DI-DAH-DIT	
S	SIERRA	DI-DI-DIT	
T	TANGO	DAH	
U	UNIFORM	DI-DI-DAH	
V	VICTOR	DI-DI-DI-DAH	
W	WHISKEY	DI-DAH-DAH	
X	XRAY	DAH-DI-DI-DAH	
Y	YANKEE	DAH-DI-DAH-DAH	
Z	ZULU	DAH-DAH-DI-DIT	
1	WUN	DI-DAH-DAH-DAH-DAH	
2	TOO	DI-DI-DAH-DAH-DAH	
3	TREE	DI-DI-DI-DAH-DAH	
4	FOUR	DI-DI-DI-DI-DAH	
5	FIVE	DI-DI-DI-DI-DIT	
6	SIX	DAH-DI-DI-DI-DIT	
7	SEVEN	DAH-DAH-DI-DI-DIT	
8	EIGHT	DAH-DAH-DAH-DI-DIT	
9	NINER	DAH-DAH-DAH-DAH-DIT	
0	ZERO	DAH-DAH-DAH-DAH-DAH	
/	SLANT SIGN	DAH-DI-DI-DAH-DIT	

1. WHEN NECESSARY TO IDENTIFY ANY LETTER OF THE ALPHABET THE STANDARD PHONETIC ALPHABET AS GIVEN ABOVE WILL BE USED.
2. DIFFICULT WORDS WILL BE SPELLED AND THE WORD WILL BE SPOKEN BEFORE AND AFTER SPELLING. FOR EXAMPLE ;  
"CATENARY" ! SPELL CHARLIE ALPHA TANGO ECHO NOVEMBER ALPHA ROMEO YANKEE "CATENARY" .
3. TO DISTINGUISH NUMBERS FROM WORDS SIMILARLY PRONOUNCED THE PROWORD "NUMERALS" OR "FIGURES" MAY BE USED PRECEDING SUCH NUMBERS WHERE NECESSARY.
4. NUMBERS WILL BE TRANSMITTED DIGIT BY DIGIT, EXCEPT IN EXACT MULTIPLES OF HOUNDREDS OR THOUSANDS, AND WHEN THEY MAY BE TRANSMITTED AS SUCH.

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INFORMATION SHEET; PROSIGNS

1. BELOW IS A LIST OF PROSIGNS WHICH ARE AUTHORIZED FOR USE ON RADIO TELEGRAPH CIRCUITS. NO OTHERS MAY BE USED. AN OVERSCORE (A LINE OVER ONE OR MORE LETTERS) INDICATE THAT THE LETTERS OVERSCORED ARE TO BE TRANSMITTED AS A SINGLE CHARACTER, THAT IS, WITHOUT PAUSE BETWEEN THE LETTERS.

2. LIST OF PROSIGNS :

<u>AAA</u> .....	.PERIOD
<u>AA</u> .....	UNKOWN STATION
AA .....	ALL AFTER
<u>AB</u> .....	ALL BEFORE
<u>AR</u> .....	END OF TRANSMISSION
<u>AS</u> .....	WAIT
B .....	MORE TO FOLLOW
<u>BT</u> .....	LONG BREAK
C .....	CORRECT
<u>DE</u> .....	FROM
EEEEEE .....	ERROR
F .....	DO NOT ANSWER
FM .....	ORIGINATORS SIGN
G .....	REPEAT BACK
GR(NUMERAL) ..	GROUP COUNT
GRNC .....	GROUPS NOT COUNTED
<u>EM EM EM</u> .....	EMERGENCY SILENCE SIGN
<u>II</u> .....	SEPERATIVE SIGN
<u>TMT</u> .....	REPEAT BACK
<u>INFO</u> .....	INFORMATION ADRESSEE SIGN
<u>TNT</u> .....	INTERROGATORY SIGN
J .....	VERIFY WITH ORIGINATOR AND REPEAT
K .....	INVITATION TO TRANSMITT
<u>KK</u> .....	PARENTHESIS
M .....	DEFERRED
<u>MTM</u> .....	COMMA
NR .....	NUMBER(MESSAGE NUMBER)
O .....	OPERATIONAL IMMEDIATE
P .....	PRIORITY
R .....	RECEIVED (ALSO ROUTINE)
T .....	TRANSMIT TO
<u>TO</u> .....	ACTION ADRESSEE SIGN
WA .....	WORD AFTER
WB .....	WORD BEFORE
<u>XE</u> .....	SLANT SIGN/
<u>XMT</u> .....	EXEMPTED ADRESSEE SIGN
Y .....	EMERGENCY
Z .....	FLASH

3. THE FOLLOWING IS THE PRIORITY SEQUENCE:

Z .....	FLASH
Y .....	EMERGENCY
O .....	OPERATIONAL IMMEDIATE
P .....	PRIORITY
R .....	ROUTINE
M .....	DEFERRED

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"Q" AND "Z" SIGNALS-

- FOR A COMPLETE LIST OF SIGNALS REFER TO THE ACP-131A.
- INT BEFORE THE SIGNAL, ASKS THE QUESTION.(?)
- THE SIGNAL ALONE IS THE REPLY, ORDER, OR ADVISE.

QAR - MAY I STOP LISTENING ON THE WATCH FREQUENCY FOR ... MINUTES?

QCX - WHAT IS YOUR FULL CALL SIGN?

QRB - HOW FAR ARE YOU APPROXIMATELY FROM MY STATION?

QRE - WHAT IS YOUR ESTIMATED TIME OF ARRIVAL AT.....?

QRK - WHAT IS THE READABILITY OF MY SIGNALS? ( FROM 1 TO 5)

QRM - ARE YOU BEING INTERFERED WITH?

QRN - ARE YOU TROUBLED BY STATIC?

QRS - SHALL I SEND MORE SLOWLY? (.....WPM)

QRT - SHALL I STOP SENDING?

QRU - HAVE YOU ANYTHING FOR ME?

QRX - WHEN WILL YOU CALL ME AGAIN? (HOURS)

QRZ - WHO IS CALLING ME?

QSA - WHAT IS THE STRENGTH OF MY SIGNALS? ( FROM 1 TO 5 )

QSB - ARE MY SIGNALS FADING?

QSL - CAN YOU ACKNOWLEDGE RECEIPT OF MESSAGE?

QSV - SHALL I SEND A SERIES OF V'S?

QSY - SHALL I TRANSMIT ON ANOTHER FREQUENCY? (WHAT FREQUENCY)

QSZ - SHALL I SEND EACH WORD MORE THAN ONCE?

QTH - WHAT IS YOUR POSITION IN LATITUDE AND LONGITUDE OR BY ANY OTHER INDICATION?

QSO - CAN YOU COMMUNICATE WITH.....DIRECT OR BY RELAY?

QSP - WILL YOU RELAY TO.....FREE OF CHARGE?

QTC - HOW MANY TELEGRAMS HAVE YOU TO SEND?

QTR - WHAT IS THE CORRECT TIME? ( HOURS)

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"Q" AND "Z" SIGNALS (CONT.)

ZUE - YES

ZUG - NO

ZUJ - STANDBY

ZUH - UNABLE TO COMPLY

ZBM2 PLACE ON WATCH A COMPETENT OPERATOR.

ZAA - YOU ARE NOT OBSERVING PROPER CIRCUIT DISCIPLINE.

ZDG - ACCURACY OF THE FOLLOWING MESSAGE(S) IS/ARE DOUBTFUL.

ZDJ - HOW MANY GROUPS DOES YOUR MESSAGE CONTAIN?(.....GROUPS)

ZKJ2 I AM CLOSING DOWN.

ZEV - MESSAGE IS ACKNOWLEDGED.

ZFI - THERE IS NO REPLY TO MESSAGE.

ZGF - MAKE CALL SIGNS MORE DISTINCTLY.

ZOE - GIVE ME YOUR MESSAGE. I WILL DISPOSE OF IT.

INT ZOE - CAN YOU ACCEPT MESSAGE FOR.....?

ZZF - INCORRECT.

ZZG - YOU ARE CORRECT.

ZZH - TRY AGAIN.

ZZI - ANSWER LAST QUESTION.

ZRE - I HEAR YOU BEST ON.....KCS(OR MCS)

ZDN - REPORT DISPOSAL OF MESSAGE.

ZUB - AT.....

ZXO - REQUEST YOU OBTAIN RETRANSMISSION OF MESSAGE....FROM.....

ZDO - I COULD NOT SEND MESSAGE..... TO.....

ZEK - NO ANSWER IS REQUIRED.

ZZK - FOLLOWING IS ANSWER TO THE LAST QUESTION(OR QUESTION).

ZZO3 - A JUNIOR OPERATOR IS TO CARRY OUT A STANDARD RADIO-  
TELEGRAPHY TRANSMITTING EXERCISE.

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EMERGENCY CALLS

1. THE FOLLOWING IS A LIST OF THE VOICE AND CW DISTRESS, URGENCY AND SAFETY SIGNALS :

	CALL	VOICE	CW
A.	DISTRESS	MAYDAY MAYDAY MAYDAY	SOS SOS SOS
B.	URGENCY	PAN PAN PAN	XXX XXX XXX
C.	SAFETY	SECURITY SECURITY SECURITY	TTT TTT TTT

2. MEANING :

- A. **DISTRESS** - INDICATES THAT THE STATION SENDING IS THREATENED BY A GRAVE AND IMMINENT DANGER AND REQUESTS IMMEDIATE ASSISTANCE.
- B. **URGENCY** - INDICATES THAT THE CALLING STATION HAS A VERY URGENT MESSAGE CONCERNING THE SAFETY OF THE AIRCRAFT OR PERSONS ABOARD.
- C. **SAFETY** - SAFETY SIGNAL PRECEDES TRANSMISSION OF A MESSAGE CONCERNING SAFETY OF NAVIGATION OR IMPORTANT METEOROLOGICAL WARNINGS.

3. DISTRESS MESSAGE:

AFTER YOUR INITIAL CALL -

TYPE OF AIRCRAFT - POSITION AND TIME - HEADING ( TRUE OR MAGNETIC ) - ALTITUDE - NATURE OF EMERGENCY - PILOTS INTENTION ( BAIL OUT DITCHING OR CRASH LANDING ETC) OR ASSISTANCE DESIRED ( BEARING OR FIX RADAR STEER INTERCEPTION OR ESCORT)

EXAMPLE OF CW DISTRESS MESSAGE :

- A. SOS SOS SOS DE ABCD ABCD ABCD P2V QTH 55 MILES SE NEW YORK 1235Z  
QT1 090 QTJ 140 QAH 6000 FEET ENGINE FAILURE DITCHING  
( TWO TEN SECOND DASHES ) ABCD K
- B. XXX XXX XXX H8Y DE ABCD INT QTF QBD 30 MIN ( TWO TEN SECOND DASH )  
ABCD K
- C. TTT TTT TTT H8Y DE ABCD CFT 8000-9000 FT QTH 3415N 7220W K

\*\*\* NOTE----- WHEN COMMUNICATING BY VOICE OR CW

CW-THE LAST FIVE NUMBERS OF THE BUONO SHOULD BE USED TO ALL STATIONS EXCEPT NAVY.

VOICE-WITH MILITARY STATIONS THE AIRCRAFTS NORMAL MILITARY VOICE CALL SIGN SHOULD BE USED.

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DISTRESS PROCEDURES :

AN AIRCRAFT THREATENED BY GRAVE AND IMMINENT DANGER AND DESIRING IMMEDIATE ASSISTANCE WILL :

1. TURN ON IFF EMERGENCY EQUIPMENT.
2. TRANSMIT ON RADIO TELEGRAPH OR RADIO TELEPHONE AS FOLLOWS ON AIR/GROUND FREQUENCY IN USE AT THAT TIME, OR ONE OF THE FOLLOWING EMERGENCY FREQUENCIES:

500 KC	CW	MF	(ART-13 ARC-5)
8364 KC	CW	HF	(ART-13 ARR-15)
2182 KC	VOICE	MF	(ART-13 ARR-15)
121.5 MC	VOICE	VHF	(ARC-1)
243.0 MC	VOICE	UHF	(ARC-27)

CW REPORT

SOS SOS SOS  
DE (FOLLOWED BY CALL SIGN OF AIRCRAFT 3 TIMES)  
DISTRESS MESSAGE

-OR-

TWO 10-SECOND DASHES - IF TIME DOES NOT PERMIT DISTRESS MESSAGE  
CALL SIGN OF AIRCRAFT(ONCE)  
K

VOICE REPORT

MAYDAY MAYDAY MAYDAY  
THIS IS (FOLLOWED BY CALL SIGN OF AIRCRAFT 3 TIMES)  
DISTRESS MESSAGE

-OR-

TWO 10-SECOND PERIODS WITH MIKE BUTTON DEPRESSED, SAYING AH  
- IF TIME DOES NOT PERMIT DISTRESS MESSAGE.  
THIS IS (FOLLOWED BY CALL SIGN OF AIRCRAFT ONCE)

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RADIO LOGS :

1. RADIO LOGS SHALL BE KEPT BY THE OPERATOR OF EVERY CIRCUIT, SHIP, PLANE OR SHORE RADIO STATION. THE OPERATOR SHALL MAKE ENTRY OF EACH AND EVERY TRANSMISSION HE MAKES AND EVERY TRANSMISSION HEARD OVER THE CIRCUIT HE IS GUARDING.
2. ALL RADIO TRAFFIC RECEIVED SHALL BE LOGGED EVEN THOUGH NOT DIRECTLY CONCERNED ( THIS IS FOR REFERENCE ). LOG IN ITS ENTIRETY, ANY MESSAGE SENT OR RECEIVED, CONCERNING ANY STATION WITHIN THE CIRCUIT. ALL MESSAGES RECEIVED WHICH DO NOT CONCERN STATIONS WITHIN THE CIRCUIT WILL USUALLY BE LOGGED BY HEADING ONLY.
3. RADIO LOGS ENTRIES SHALL BE MADE NOT MORE THAN (5) FIVE MINUTES APART. IF NO SIGNALS ARE RECEIVED, ENTER A NO SIGNALS IN THE LOG.
  - A. IN THE AIRCRAFT, THE RADIO OPERATOR CAN KEEP A MODIFIED RADIO LOG. WHICH IS, HE WILL LOG ALL INCOMMING AND ALL OUTGOING MESSAGES. HE WILL ALSO LOG ALL MESSAGE HEADINGS HE HEARS BUT HE DOES NOT HAVE TO LOG A ENTRY EVBRY (5) MINUTES. THERE ARE TIMES WHEN HE WILL HAVE TO BE OFF THE CIRCUIT, ON THE ICS, OR ON UHF-VHF ETC. .
4. UPON ASSUMING, OR RELIEVING A RADIO CIRCUIT WATCH, THE FIRST SUBSEQUENT LOG ENTRY SHALL BE A REPORT SIGNED BY THE NEW OPERATOR AS TO THE OPERATIONAL STATUS OF THE EQUIPMENT TO INCLUDE FREQUENCY, POWER OUTPUT, ETC. .
5. ALL CONTACT LOSSES OR FAILURES SHALL BE LOGGED. ALL MALFUNCTIONS OF THE EQUIPMENT SHALL ALSO BE LOGGED.
6. UPON SECUREING THE CIRCUIT THE RADIO OPERATOR ON WATCH WILL LOG THAT INTO THE LOG AND SIGN IT.

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INFORMATION SHEET: TIME ZONES:

THERE ARE (24) TWENTY-FOUR TIME ZONES IN THE WORLD. EACH ZONE IS A BELT, (15) FIFTEEN DEGREES WIDE, EXTENDING FROM THE NORTH POLE TO THE SOUTH POLE. AS YOU TRAVEL AROUND THE WORLD, IN A EASTERLY OR A WESTERLY DIRECTION, YOU TRAVEL ACROSS (24) TWENTY-FOUR TIME ZONES.

GREENWICH, ENGLAND - IS THE REFERENCE POINT WHERE THE TIME ZONES BEGIN. IT IS THE CENTER OF THE TIME ZONE "ZERO". THE ZONE ITSELF EXTENDS (7&1/2) SEVEN AND ONE HALF DEGREES EAST AND WEST OF THIS CITY. THROUGHOUT THE WORLD, "GREENWICH MEAN TIME" IS USED AS A BASIC REFERENCE.

TO DETERMINE THE TIME IN GREENWICH, ADD THE NUMBER OF THE ZONE YOU ARE IN TO THE LOCAL TIME, AND YOU WILL HAVE "GMT". IN NEW YORK WE ARE IN ZONE (5) FIVE PLUS.

ZONES WESTWARD FROM GREENWICH ARE PLUS ZONES.

ZONES EASTWARD FROM GREENWICH ARE MINUS ZONES.

IF YOU COUNT THE ZONES EAST OR WEST YOU WILL FIND THAT THEY MEET AT THE (180) ONE HUNDRED AND EIGHTY TH MERIDIAN, IN THE PACIFIC. THE MEETING IS AT THE (12) TWELVE TH ZONE, WHICH IS DIVIDED INTO A PLUS AND A MINUS. THIS LINE IS THE INTERNATIONAL DATE LINE. FOR HERE IT IS THAT THE WORLD-WIDE DAY ENDS OR BEGINS, CAUSING YOU TO EITHER LOSE A DAY OR TO GAIN A DAY, DEPENDING ON THE DIRECTION YOU ARE TRAVELING.

SOME OF THE UNITED STATES TIME ZONES ARE;

67&1/2 W	TO	82&1/2 W	PLUS 5	"R" EASTERN STANDARD TIME
82&1/2 W	TO	97&1/2 W	PLUS 6	"S" CENTRAL STANDARD TIME
97&1/2 W	TO	112&1/2 W	PLUS 7	"T" MOUNTAIN STANDARD TIME
112&1/2 W	TO	127&1/2 W	PLUS 8	"U" PACIFIC STANDARD TIME

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NATIONAL BUREAU OF STANDARDS TIME CHECK:

TO RECEIVE THE CORRECT TIME, AND PROPAGATION FORCAST.

WWV	WWVH	CHU (CANADA)
2.5 MC	5 MC	3330 KC
5 MC	10 MC	7335 KC
10 MC	15 MC	14670 KC
15 MC		
20 MC		
25 MC		

A VOICE ANNOUNCEMENT OF AMERICAN EASTERN STANDARD TIME IS GIVEN EACH (5) FIVE MINUTES FROM STATION WWV. SECONDS PULSE (NO PULSE IS TRANSMITTED AT THE BEGINING OF THE LAST SECONDS OF EACH MINUTE)

TWO STANDARD AUDIO FREQUENCIES, 440 AND 600 CYCLES PER SECOND, ARE BROADCAST ON ALL RADIO CARRIER FREQUENCIES. THE AUDIO FREQUENCIES ARE GIVEN ALTERNATELY, STARTING WITH 600 CYCLES ON THE HOUR FOR (3) THREE MINUTES, INTERRUPTED (2) TWO MINUTES, FOLLOWED BY 440 CYCLES FOR (3) THREE MINUTES, AND INTERRUPTED (2) TWO MINUTES. EACH (10) TEN MINUTE PERIOD IS THE SAME.

GREENWICH MEAN TIME IS ANNOUNCED IN CODE EACH (5) FIVE MINUTES STARTING AT 0000 AT MIDNIGHT.

THE ENTIRE BROADCAST OF WWV IS INTERRUPTED FOR (4) FOUR MINUTES AT (45) FORTY-FIVE MINUTES, PLUS (0 TO 15) THE FIRST FIFTHTEEN SECONDS AFTER EACH HOUR.

NORTH ATLANTIC RADIO WARNING SERVICE FORECASTS ARE BROADCAST ON WWV AT 19.5 AND 49.5 MINUTES PAST EACH HOUR AND REPEATED (6) SIX OR (8) EIGHT TIMES. THE FORECAST IS BROADCASTED AS A LETTER AND A DIGIT. THE LETTER IDENTIFIES CONDITIONS AT THE TIME OF USSUE, THE NUMBER IS THE FORECAST FOR THE FOLLOWING (6) SIX HOUR PERIOD IN THE NORTH ATLANTIC.

LETTER	DIGIT	PROPAGATION CONDITION
W	1	USLESS
W	2	VERY POOR
W	3	POOR
W	4	POOR TO FAIR
U	5	FAIR
N	6	FAIR TO GOOD
N	7	GOOD
N	8	VERY GOOD
N	9	EXCELLENT

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NATIONAL BUREAU OF STANDARDS (CONT):

THE ANNOUNCEMENTS IDENTIFIED BY " AG1 " ON WWV AT (4) FOUR AND (34) THIRTY-FOUR MINUTES PAST THE HOUR ARE FOR THE STATIONS THROUGHOUT THE WORLD COOPERATING IN THE INTERNATIONAL GEOPHYSICAL YEAR. THEY INCLUDE/INDICATE A STATE OF ALERT OR EXISTANCE OF A SPECIAL WORLD INTERVAL DURING WHICH OBSERVATIONAL PROGRAMS WILL BE SPEEDED UP.

OTHER ATLANTIC STATIONS BROADCASTING TIME SIGNALS ( NAVY )

TIME	LOCATED	CALL FREQUENCIES
0155 TO 0200Z	WASHINGTON, D.C.	NSS 121.95 5870 9425 13575
0455 TO 0500Z	BALBOA, C.Z.	NBA 147.85 5448.5 11080
0555 TO 0600Z	WASHINGTON, D.C.	NSS SAME AS ABOVE (NSS FREQ.)
1155 TO 1200Z	WASHINGTON, D.C.	NSS SAME AS ABOVE
1355 TO 1400Z	WASHINGTON, D.C.	NSS SAME AS ABOVE
1755 TO 1800Z	WASHINGTON, D.C.	NSS SAME AS ABOVE
1955 TO 2000Z	WASHINGTON, D.C.	NSS SAME AS ABOVE
2355 TO 2400	WASHINGTON, D.C.	NSS SAME AS ABOVE

THE MAJORITY OF RADIO TIME SIGNALS ARE TRANSMITTED AUTOMATICALLY, BEING CONTROLLED BY THE STANDARD CLOCK OF AN ASTRONOMICAL OBSERVATORY. ABSOLUTE RELIANCE MAY BE HAD IN THESE SIGNALS, AND THEY SHOULD BE CORRECT TO 0.05 OF A SECOND.