

LEGACY
Communication and Radio Frequency Plan

D I S T R I B U T I O N

S. K. Wetzel (5)	OT & C	7010-08
J Feinberg	OT & C	TCC
R. P. Peden (3)	ET & E,	7010-08
W. R. Wilkie	Director Electrical	500-01
B. D. Cook	General Superintendent	9030-23
(3)	Operations	SHIPBOARD COMM SUP
LBTF COMM CENTER	Operations, x35	7010-05

Builder's Trial

COMMUNICATION and RADIO FREQUENCY PLAN

Prepared by:

Reviewed by:_____

Approved by:

TABLE OF CONTENTS

Title	Page
List of Appendices & Attachments.....	ii
General Information	
International Call Sign.....	1
Manning & Responsibility	1
Authorized Frequency Assignment and Usage	1
Circuit Control	1
Satellite Telephone Communication (InMarSat).....	2
Message Control	2
Communication Systems Testing	2
Radio Communication Procedures	
Navy Order Wire (NOW) Message Traffic	3
Voice Message Traffic (phone patches)	3
Distress Communications	4
Emission Control (EMCON).....	4
Secure / Classified Messages.....	4

APPENDICES & ATTACHMENTS

Appendix A	Circuit & Radio Frequency Assignments
Appendix B	RZHC Channel Assignments
Appendix C	Frequency Pool
Appendix D	SESEF HF Transmitter Testing
Attachment 1	Designation of Authority to Release Shipboard Teletype Messages

GENERAL INFORMATION

INTERNATIONAL CALL SIGN

The international call sign for the XXXX is,

MANNING & RESPONSIBILITY

During the sea trial period, the Joint Message Center (JMC) will be manned at all times, by qualified, assigned communications personnel. Ingalls' shipyard Communications Center, located in the Land Based Test Facility (LBTF) building, will also be manned continuously, around the clock while the ship is at sea.

Within the guidelines of this communications plan and under the direction of Ingalls Shipbuilding Trial Coordinator, JMC personnel are responsible for planning, coordinating, directing, and controlling all at-sea communication evolutions as well as the operation of associated communication equipments.

AUTHORIZED FREQUENCY ASSIGNMENT AND USAGE

The pool of frequencies listed in Appendix C are those authorized for use by SHIP while in the sea trial operation area. Exercise aircraft (civilian and military) should be capable of tuning their equipment to these frequencies for required communication. Therefore, frequencies NOT listed herein should NOT be used without prior clearance from the shipyard Communications Center who will verify frequency usage with the Area Frequency Manager.

CIRCUIT CONTROL

In accordance with this plan, shipboard communication equipment will be set up no less than twenty-four (24) hours prior to getting underway. Proper equipment operation will be verified and communication checks conducted utilizing another ship or the LBTF Communication Center as the reply station.

All equipment patches to remote stations should be made and verified twelve (12) hours prior to getting underway. Circuits at remote stations (eg. Pilot House) that are used for getting underway and transiting to the operating area shall be checked and verified by

communications personnel.

The Trial Coordinator shall control the activation and deactivation of all circuits after getting underway. Where possible, a minimum of one (1) hour notification should be provided to JMC for circuit activation.

SATELLITE TELEPHONE COMMUNICATION (INMARSAT)

InMarSat is a commercial satellite telephone system provided onboard by the shipbuilder for use during sea-trials. Outgoing calls made from the ship must be arranged through and approved by the trial coordinator. Incoming calls will be initiated and controlled by the Ingalls designated SatComm coordinator. Individuals ashore may have emergency or high priority information relayed to the ship by contacting the Ingalls' coordinator, who will then pass the information on to the ship via the InMarSat telephone system. This can be done by contacting **S.D. Moody at 935-5552** from 8:00 a.m. to 3:00 p.m. CST. The Trial Coordinator or designated bridge personnel will be responsible for InMarSat usage.

MESSAGE CONTROL

For processing and handling of exterior communications, the following guidelines shall apply.

1. With the exception of InMarSat, all messages will be transmitted from JMC, **only** after being authorized for release by the Trial Coordinator or the Senior Ingalls Company Official present.
2. The Trial Coordinator may designate, in writing, certain individuals to release routine messages such as the trial progress report. This written designated authority will be kept on file in JMC and will be valid only for the applicable sea trial period. (*See Attachment 1*)
3. E-Mail messages sent or received via InMarSat will be controlled by the Trial Coordinator or his designated representative.
4. Under the direction of the Trial Coordinator, personnel assigned in the Trial Coordination Center (TCC) will be responsible for processing all unclassified in-coming and out-going messages aboard the ship.
5. **EMERGENCY MESSAGE COMMUNICATIONS** - In-coming **emergency messages** regarding a member of a trial rider's family will be delivered **directly and immediately** to the Trial Coordinator. Such messages are deemed highly sensitive. For concern of the effected individual, details of such a message are considered strictly confidential and communications personnel should safeguard that information accordingly.
6. Out-going messages which request spare/repair parts will be routed through the Ingalls Material Representative for validation prior to obtaining release authorization from the Trial Coordinator. When preparing an out-going message for JMC to transmit, prescribed guidelines, as described in the Radio Communication Procedures section herein, shall be followed.

COMMUNICATION SYSTEMS TESTING

Formal testing of shipboard communication systems will take priority over routine message traffic such as trial progress information or equipment status reports. The JMC shall notify the Trial Coordinator prior to testing the shipboard communication systems. Additionally, the Trial Coordinator shall be notified of communication changes, such as frequency or channel changes, EMCON requirements, or loss of essential communication capabilities, that might impact trial evolutions. If in doubt, notify the Trial Coordinator.

RADIO COMMUNICATION PROCEDURES

NAVY ORDER WIRE (NOW) MESSAGE TRAFFIC

NOW/teletype is typically used as the primary means of message traffic send/receive while at sea. NOW/teletype hard copy provides clarity and a record of information sent or received.

When preparing an out-going NOW/teletype message, the following procedure will apply.

- a. Specify, in writing, the addressee, activity, and applicable phone number(s) (autovon if a government activity).
- b. Prepare precise and concise message text, neatly typed or legibly printed.
- c. When sending a request for parts, the cognizant material representative aboard ship must disposition and sign the request prior to it being submitted to the Trial Coordinator for approval and release.
- d. Request permission from the Trial Coordinator for circuit usage. Upon approval of the request, the Trial Coordinator will notify the Joint Message Center (JMC).
- e. After messages are transmitted, the originator can obtain a copy in the Trial Coordination Center (TCC). The originator should review the

accuracy of the message, as transmitted. If corrections are necessary, the originator will contact the Trial Coordinator.

In-coming message traffic will be forwarded to the Trial Coordinator for review and a copy of the message sent to the Trial Coordination Center (TCC). Upon approval by the Trial Coordinator, TCC shall release the message to the addressee.

VOICE MESSAGE TRAFFIC (phone patches)

Atmospheric conditions can often cause unfavorable propagation characteristics which cause misunderstandings and misinformation during voice transmissions. Therefore, voice traffic with shore activities will be limited to testing and use of InMarSat unless otherwise directed by the Trial Coordinator.

When voice circuits are used, the following procedural guidelines will apply.

- a. Request permission from the Trial Coordinator for circuit usage. Upon approval of the request, the Trial Coordinator will notify the Joint Message Center (JMC), Combat Information Center (CIC), and/or the Bridge as appropriate.
- b. Provide the Name, Activity and Phone Number (commercial or autovon for government calls) of the party to be called.
- c. Review proper radio-telephone procedures with the radio operator in JMC.
- d. Circuit transmit time should be kept to a minimum. To ensure that conversation is kept brief and to the point, be prepared with an outline or notes about the subject of your conversation and the information to be passed.
- e. ***Voice circuits are not "covered" or "secured" circuits. DO NOT pass any classified or sensitive information over voice circuits.***

When voice circuits are used to pass lengthy information such as a list of parts or voluminous data, a hard copy message should be transmitted as a follow-up for administrative and accounting purposes. Additionally, for record purposes, the shipyard Communications Center in the LBTF will record all voice circuit conversations. All incoming voice traffic from shore is subject to approval by the Trial Coordinator prior to notifying the person intended to receive the voice traffic.

DISTRESS COMMUNICATIONS

USCG Emergency (2182 KHz) will be monitored on the Bridge while underway with any received transmission reported to the Trial Coordinator. USCG Emergency is the primary

circuit to report all emergency situations and is guarded by all Coast Guard stations in the Gulf of Mexico.

Military Air Distress (243.0 MHz) will be patched to a speaker in CIC during the entire sea trial. The CIC Test Coordinator shall ensure this circuit is monitored during aircraft operations and that any received transmission is reported to the Trial Coordinator.

International Distress / Civilian Air Distress (121.5 MHz) will be patched into CIC during the entire sea trial. The CIC Test Coordinator shall ensure that, whenever CIC is manned, this circuit is monitored and all emergency transmissions are reported to the Trial Coordinator.

EMISSION CONTROL (EMCON)

Under certain conditions, EMCON must be placed in effect and all or part of radio frequency (RF) transmissions must cease. The shipyard Communication Center will be notified by the Trial Coordinator prior to setting EMCON. The Trial Coordinator will pass the word to "set" or "stand down from" EMCON.

SECURE / CLASSIFIED MESSAGES

Typically, no classified messages are transmitted during sea-trial periods. If, however, there is a need to transmit messages that are classified or of a sensitive nature, approval and authorization must be obtained from the Trial Coordinator. Circuits appropriate for the particular classification of the message will be used for the transmission of such messages.

APPENDIX A

LEGACY BUILDER'S TRIAL CIRCUIT & RADIO FREQUENCY ASSIGNMENTS

CKT No.	CIRCUIT TITLE	Tag Chn	FREQUENCY (MHz)	Reply Station	CKT TYPE	EMISSION	Remarks / Notes
1	Shipyards Voice Coord. (UHF)	1	263.4	LBTF	VOW		Leaving / Entering Port as required
2	Shipyards Voice Coord (USB)	2	2.550	LBTF	Y	2.8K00J3E	HF (USB Voice)
3	USCG Emergency (USB)	3	2.182	USCG	Y	3K00J3E	HF (USB Voice), Bridge Monitor
4	Military Air Distress (AM)	4	243.0		U	6K00A3E	CIC
5	Internat'l Air Distress (AM)	5	121.5		U	6K00A3E	CIC
6	Civilian Air Control (AM)	6	124.95	A/C	U	6K00A3E	As required
7	Military Air Control Check-In	7	275.6 (Pri)	A/C	U	6K00A3E	PRIMARY
8	Military Air Control Check-In	8	306.8 (Sec)	A/C	U	6K00A3E	SECONDARY
9	A/C Op. Area Check-In (Pri)	9	313.2 UHF	SeaBreeze	U		PRIMARY - Exercise A/C SeaBreeze
9	Aircraft Op. Area Check-In	9	118.95 VHF				<i>VHF available only for emergency needs</i>
10	A/C Coord/Control (HF USB)	10	3.109 (pri)	SeaBreeze	Y	3K00J3E	PRIMARY - Call Sign SeaBreeze
11	A/C Coord/Control (HF USB)	11	6.835 (sec)	SeaBreeze	Y	3K00J3E	SECONDARY - Call Sign SeaBreeze
12	LK 11 Voice Coord (HF) PRI	12	7.385	PU's	Y	2.8K00J3E	PRIMARY / Available for LK-16 coord.
13	LK 11 Voice Coord (HF) SEC	13	10.255	PU's	Y	2.8K00J3E	SECONDARY / Avail. for LK-16 coord.
14	LK 11 Voice Coord (UHF) Pri	14	382.1	PU's	U	6K00A3E	PRIMARY / Available for LK-16 coord.
15	LK 11 Voice Coord (UHF) Sec	15	390.6	PU's	U	6K00A3E	SECONDARY / Avail for LK-16 coord.
16	Link 4A Voice Coord (UHF)	16	263.4 (P) 283.3 (S)	LK-4A A/C	U	6K00A3E	Change from PRIMARY to SECONDARY as necessary
17	TACAN Beacon Certification (UHF-AM) (BT only)	17	380.1 (P) 380.0 (S)	FAA A/C	U	6K00A3E	135.85 MHZ VHF, FAA Civilian Freq Change frequency as required.

APPENDIX A

LEGACY

BUILDER'S TRIAL

CIRCUIT & RADIO FREQUENCY ASSIGNMENTS

CKT No.	CIRCUIT TITLE	Tag Chn	FREQUENCY (MHz)	Reply Station	CKT TYPE	EMISSION	Remarks / Notes
18	HF XMTR Test (MAYPORT) (PRIMARY)	18	5.745 (P) 10.711 (S1) 12.315 (S2)	SESEF Mayport	Y		Schedule: <u>0700</u> CST December 05, 2000 See Appendix E for procedures
19	HF XMTR Test (NORFOLK) (BACKUP)	19	4.040 (P) 7.535 (S1) 12.315 (S2)	SESEF Norfolk	Y	Various	Schedule: _____ CST December 05, 2000 See Appendix E for procedures
20	Shipyards Teletype	N/A	2.030 (xmt) 5.355 (rcv)	LBTF	V V	1K24F1B	Transmit/Receive Message Traffic; FSK
21	Link 11 Data (HF)	N/A	7.690	LK-11 PU	LK 11	6K00B7D	Link 11 Testing
22	Link 11 Data (UHF)	N/A	347.8 (P) 375.0 (S)	LK-11 PU	LK 11	40K00F9D	Link 11 Testing
23	Link 4A Data (UHF)	N/A	323.3 (P) 302.0 (S)	LK-4A A/C	LK4A	40K00F9D	Link 4A Testing with A/C
N/A	Bridge to Bridge - VHF (FM)	N/A	156.95		U	16K0F3E	Bridge control. Use as required.
N/A	InMarSat Comm System	N/A					Bridge control. Use as authorized.

APPENDIX B

BUILDER'S TRIAL

RZHC CHANNEL ASSIGNMENTS

Ckt No.	Tag or Chnl	Switchboard		Circuit Usage	Location - RZHC No.
		HDC	CIC 1&2		
1	1	--	1	Shipyards Voice Coordination (UHF)	CIC/C.O. #001 CIC/TAO #002 Pilot House #125, #127 #128, #131 Comm TC #074 - 076
2	2	--	2	Shipyards Voice Coordination, HF, USB	Same as Ckt No. 1
3	3	--	3	U.S.C.G. Emergency Gulf Region	CIC/C.O. #001 CIC/TAO #002 CIC/DRT #015 Pilot House #127, 128 Comm TC #074 - 076
4	4	--	4	Military Air Distress	CIC/C.O. #001 CIC/TAO #002 CIC/SWC #003 CIC/AIC #004 CIC/EW #007/008 CIC/ATM #015 CIC/TK SUP #010 CIC/ID OP #014 CIC/DTM #017 HDC (all) #022-030 Comm TC #074 - 076
5	5	--	5	International Air Distress	Same as Ckt No. 4
6	6	6	6	Civilian Aircraft Control	Same as Ckt No. 4
A-1					
7	7	7	7	Military Air Control Check-In (Pri)	Same as Ckt No. 4
8	8	8	8	Military Air Control Check-In (Sec)	Same as Ckt No. 4

Ckt No.	Tag or Chnl	Switchboard		Circuit Usage	Location - RZHC No.
		HDC	CIC 1&2		
9	9	--	9	A/C Operation Area Check-In	CIC/C.O. #001 CIC/TAO #002 CIC/SWC #003 CIC/AIC #004 CIC/TK SUP #010 CIC/ID OP #017 CIC #019-021 Comm TC #074-076
10	10	10	10	A/C Coord/Control (HF, USB) SeaBreeze Primary	Same as Ckt No. 9
11	11	11	11	A/C Coord/Control (HF, USB) SeaBreeze Secondary	Same as Ckt No. 9
12	12	--	12	Link 11 Voice Coord (HF) - Primary	Same as Ckt No. 4
13	13	--	13	Link 11 Voice Coord (HF) - Secondary	Same as Ckt No. 4
14	14	--	14	Link 11 Voice Coord (UHF) - Primary	Same as Ckt No. 4
15	15	--	15	Link 11 Voice Coord (UHF) - Secondary	Same as Ckt No. 4
16	16	--	16	Link 4 Voice Coord (UHF)	Same as Ckt No. 4
17	17	17	17	TACAN Beacon Cert (UHF-AM)	Same as Ckt No. 4
18	18	--	--	HF Transmitter Test (Mayport)	CTC only - as required
19	19	--	--	HF Transmitter Test (Norfolk)	CTC only - as required

APPENDIX C

BUILDER'S TRIAL FREQUENCY POOL HF

	GROUP	Frequency								
	A-1	2030	X	X	X	X	X	X	X	
	A-2	2074.5	X	X	X	X	X	X	X	
	A-3	2280	X	X	X	X	X	X	X	
	A-4	2550	X	X	X	X	X	X	X	
	A-5	3205	X	X	X	X	X	X	X	
	A-6	3245	X	X	X	X	X	X	X	
	A-7	3277	X	X	X	X	X	X	X	
	A-8	4020	X	X	X	X	X	X	X	
*	A-9	4835				X				X
	A-10	5355	X	X	X	X	X	X	X	
*	A-11	6780				X				X
	A-12	7385	X	X	X	X	X	X	X	
	A-13	7490	X	X	X	X	X	X	X	
	A-14	7508	X	X	X	X	X	X	X	
	A-15	7690	X	X	X	X	X	X	X	
*	A-16	7895				X				X
*	A-17	8095				X				
	A-18	9267.5	X	X	X	X	X	X	X	
	A-19	9970	X	X	X	X	X	X	X	
	A-20	10225	X	X	X	X	X	X	X	

	GROUP	Frequency								
*	A-21	10262				X				X
	A-22	12120	X	X	X	X	X	X	X	
*	A-23	12354.4				X				
	A-24	13530	X	X	X	X	X	X	X	
	A-25	13545	X	X	X	X	X	X	X	
*	A-26	13966				X				X
	A-27	13985.5	X	X	X	X	X	X	X	
	A-28	14395	X	X	X	X	X	X	X	
*	A-29	14620				X				X
*	A-30	14630				X			X	X
	A-31	16070	X	X	X	X	X	X	X	
*	A-32	18630				X			X	X
	A-33	18995	X	X	X	X	X	X	X	
	A-34	19280	X	X	X	X	X	X	X	
	A-35	23150	X	X	X	X	X	X	X	
	A-36	24183	X	X	X	X	X	X	X	
*	A-37	24450				X				X
*	A-38	26930				X				X
	A-40	27990	X	X	X	X	X	X	X	
*	A-41	29900	X	X	X	X	X	X	X	

- u Frequencies so indicated are for Link 11 testing with DSEDS, BATH, WALLOPS ISLAND and LANTFLT SHIPS. All frequencies are authorized at 1000 watts PEP in all modes indicated.

C-3

LEGACY BUILDER'S TRIAL

FREQUENCY POOL

VHF

Group Number	Frequency	Emission	Maximum Power
B-1	36.55	25K00F2D	35 watts
B-2	40.90	25K00F2D	35 watts
B-3	46.90	25K00F2D	35 watts
B-4	124.95	6A3	25 watts
B-5	138.525	6A3	25 watts
B-6	138.975	6A3	25 watts

C-4

B-7	140.850	6A3	25 watts
B-8	142.075	16F3	60 watts
B-9	156.950	20F3	20 watts

FREQUENCY POOL**UHF**

Number	Frequency	Emission	Maximum Power
C-1	251.5	6A3, 2.04A2, 1.6A7	100 watts
C-2	263.4	6A3, 2.04A2, 1.6A7, 40A3	100 watts
C-3	383.3	6A3, 2.04A2, 1.6A7	100 watts
C-4	302.0	6A3, 2.04A2, 1.6A7	100 watts
C-5	340.3	6A3, 2.04A2, 1.6A7	100 watts
C-6	346.6	6A3, 2.04A2, 1.6A7, 40A3	100 watts
C-7	347.8	6A3, 2.04A2, 1.6A7, 40A3	100 watts
C-8	323.35	40A3, 80F9	1000 watts
C-9	375.0	40A3, 80F9	1000 watts
C-10	382.1	6A3, 2.04A2, 1.6A7	100 watts
C-11	390.6	40A3, 80F9	1000 watts

APPENDIX D

HF TRANSMITTERS TESTING PROCEDURES

1. Call sign for SESEF - MAYPORT CONTROL or NORFOLK CONTROL.
Mayport Telephone: 1-904-270-5752 / 5753 **Fax:** 1-904-270-5754 **DSN:** 960
2. Using the primary frequency and local time (CST), check in with SESEF at the scheduled time for the event (**see Appendix A for scheduled date and time**). If communications is not established with SESEF in fifteen (15) minutes, shift to the secondary frequency and again, attempt to establish communications.
3. When communications is established, inform SESEF of the following test sequence.
 - a. USB - Count 1, 2, 3. with a one (1) second pause between each count.
 - b. LSB - Count 1, 2, 3. with a one (1) second pause between each count.
 - c. ISB - SIMULTANEOUSLY... Count 1, 2, 3, 4, 5 in USB
and... Count 5, 4, 3, 2, 1 in LSB
Give a one (1) second pause between each count.
 - d. AME - Count 1, 2, 3. with a one (1) second pause between each count.
 - e. CW - Send **V V V V V V V V V DE NXXG AR**
(is the international call sign for)
 - f. FSK - Send a ten (10) second mark, a ten (10) second space, and thirty (30) seconds of message from the TS-8002 generator.

C-1

4. Frequencies (all window settings)

SESEF Mayport, FL	8150 (P)	10711 (S1)	12315 (S2)
SESEF Norfolk, VA	4040 (P)	7535 (S1)	12315 (S2)