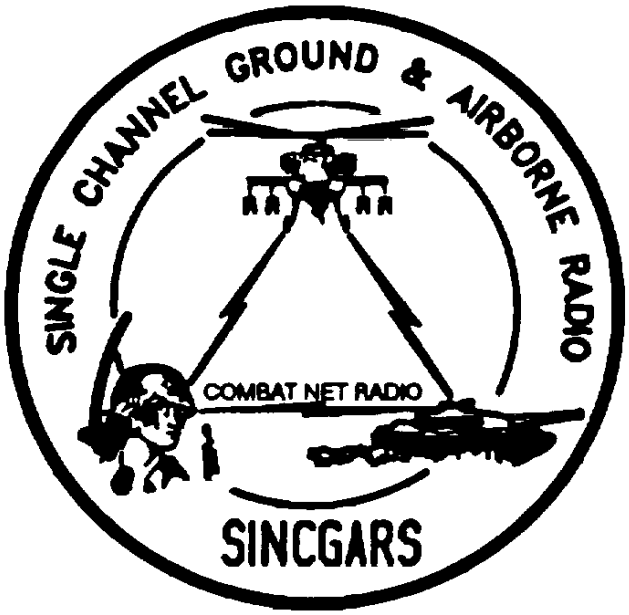
SINCGARS AIRBORNE RADIO OPERATOR'S POCKET GUIDE



RADIO SETS

AIRBORNE ICOM
(AN/ARC-201A(V))
(NSN: N/A) EIC: N/A)

AIRBORNE NON-ICOM
(AN/ARC-201(V))
(NSN: N/A) (EIC: N/A)

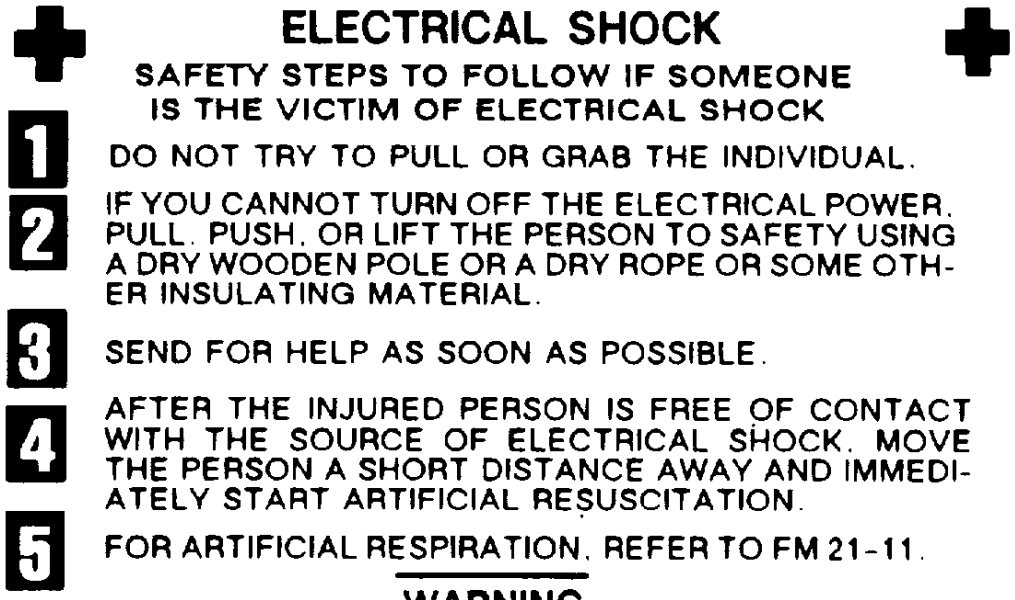
OPERATOR ROADMAP

FLOW CHARTS

Approved for public release; distribution is unlimited.

Headquarters, Department of the Army

1 SEPTEMBER 1992



WARNING

RF energy is present near antenna during transmission. DO NOT touch or within 30 Inches of antenna when RT Is keyed HIGH VOLTAGE Is used in the radio. DEATH ON CONTACT can result. SO observe the following safety precautions

- If at all possible work on equipment only when another person Is nearby That person should be competent In CARDIOPULMONARY RESUSCITATION (CPR) Both of you need to know the 5 safety steps above
- DO NOT BE MISLED by the terms 'low voltage and low potential Voltages and potentials as low as 50 volts can cause death.
- Remove or tape al your exposed persona metal objects when working on C-E equipment. DEATH OR SERIOUS INJURY can result from Improper use of solvent TRCHLOROTRIFLOUROETHANE Fumes from this solvent are toxic (poisonous). Prolonged breathing of vapors must be avoided. This solvent dissolves natural skin oils. Prolonged contact with skin must be avoided Use TRICHLOROTRIFLOUAOETHANE only when:
- Adequate ventilation Is provided.
- Protective goggles. gloves. sleeves. and an apron are worn.

DO NOT use compressed air to dry pans.
If solvent is taken Internally. CONSULT A DOCTOR IMMEDIATELY

TABLE OF CONTENTS

SCOPE

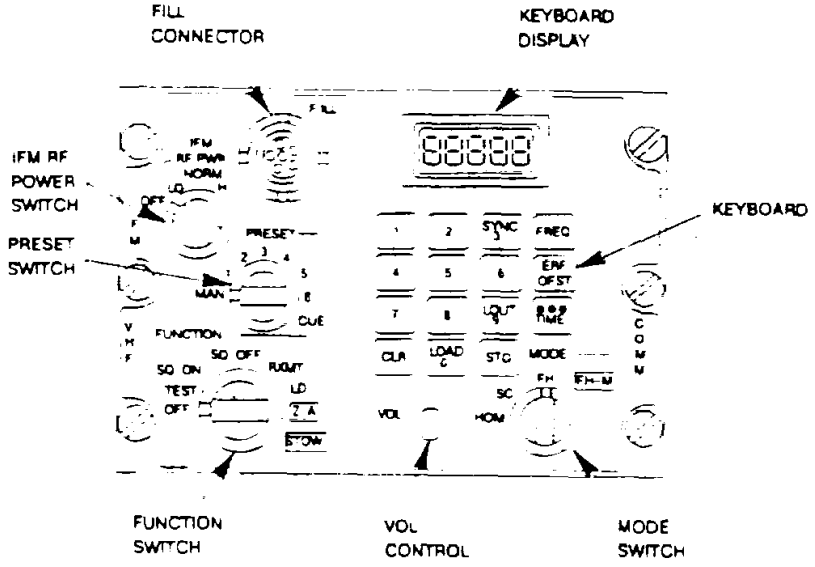
(Note: This pocket guide applies to radios using RT-1476, RT-1476A, RT-1477, and RT-1477A only.)

This pocket guide Is Intended for use by trained SINCGARS Airborne radio Operators. Both ICOM and NON-ICOM radios are addressed. Where radio controls differ, COM will be shown first with NON-ICOM n parenthesis, i.e.. SYNC (L.E.).

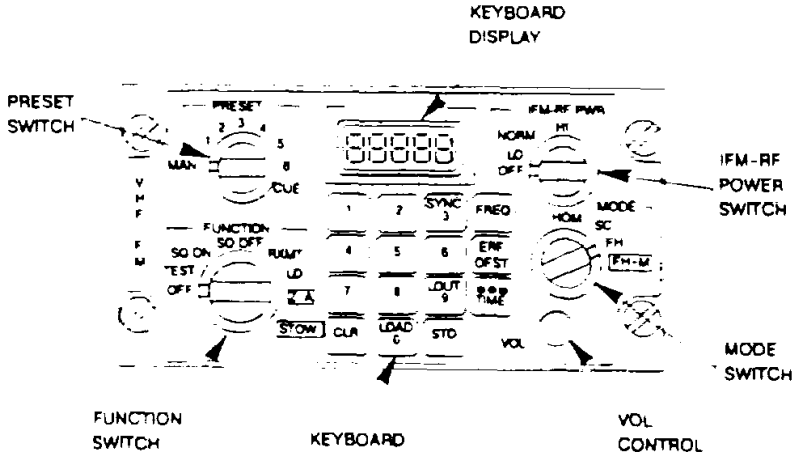
This guide covers Operator tasks and provides flow charts showing steps required to perform Operator functions. It serves as a handy memory jogger to help trained Operators follow required procedures.

Whenever more information is needed or when performing Pre-Mission Checks, refer to the Operator's Manual (TM 11-5821-333-12).

ICOM FRONT PANELS

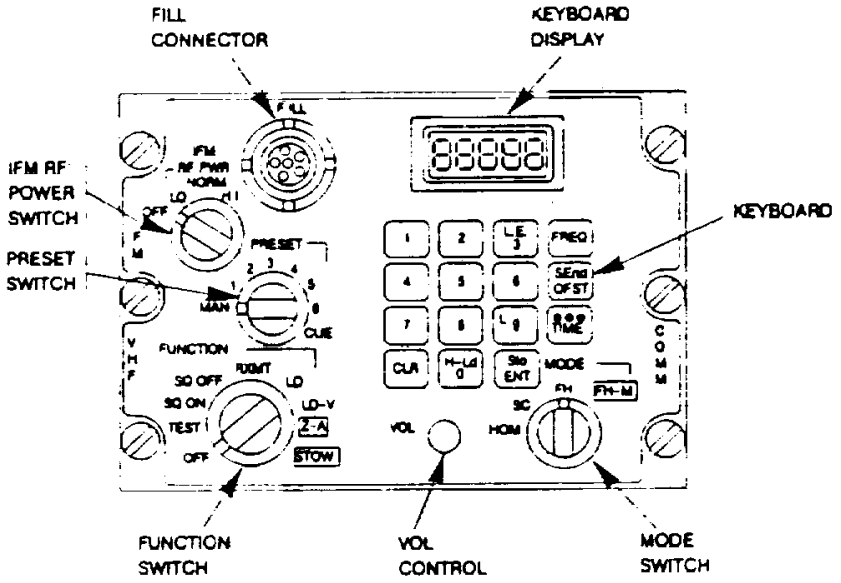


ICOM RADIO RECEIVER-TRANSMITTER (PANEL)

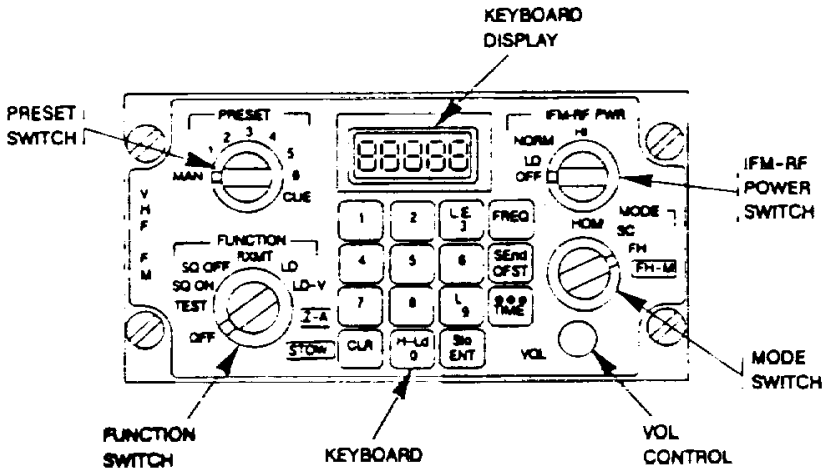


ICOM RADIO SET CONTROL (REMOTE)

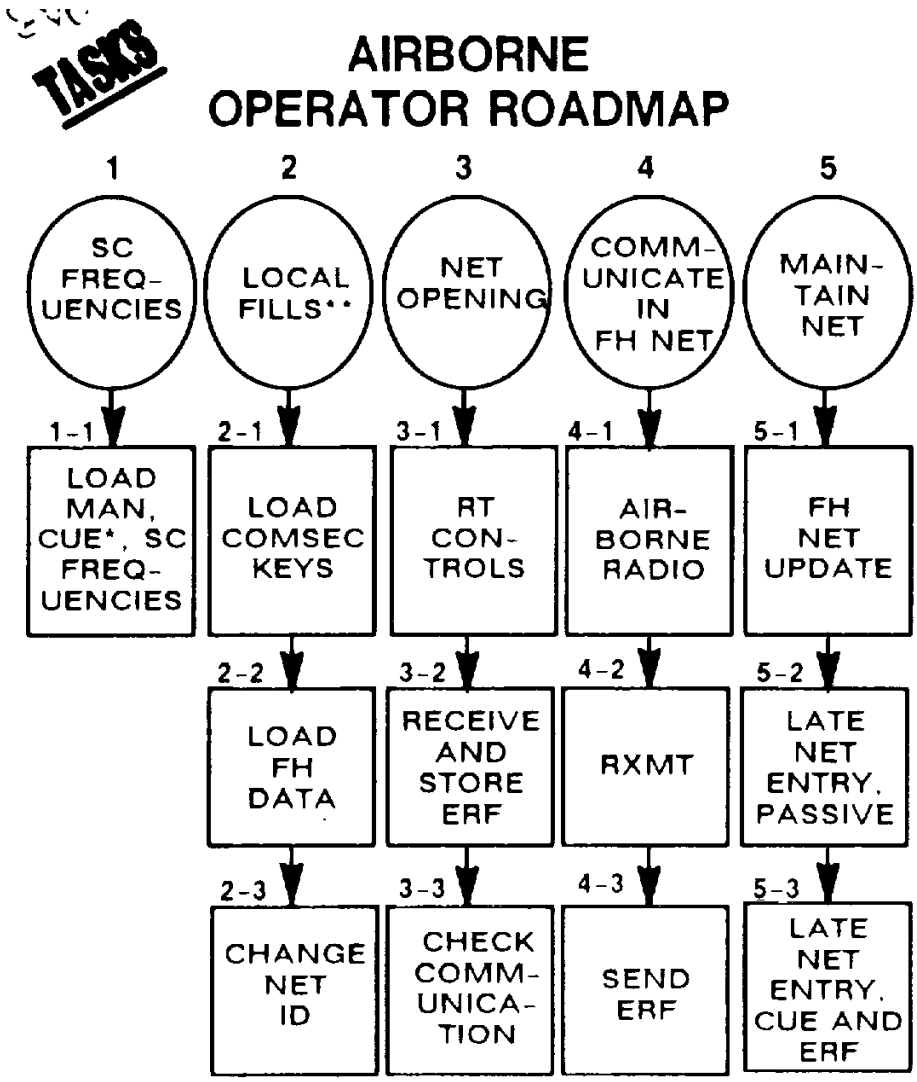
NON-ICOM FRONT PANELS



NON-ICOM RADIO RECEIVER-TRANSMITTER (PANEL)



NON-ICOM RADIO SET CONTROL (REMOTE)

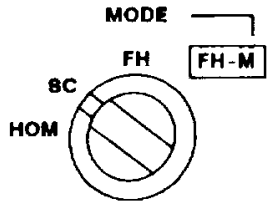
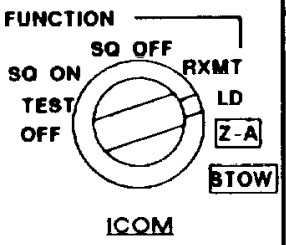
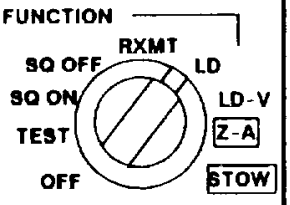


* (WHEN DESIGNATED BY COMMANDER)

** (UNIT SOP MAY CALL FOR LOCAL FILL TASKS TO BE PERFORMED BY COMMUNICATIONS SPECIALISTS OR KEY NCO'S)

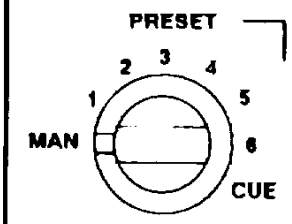
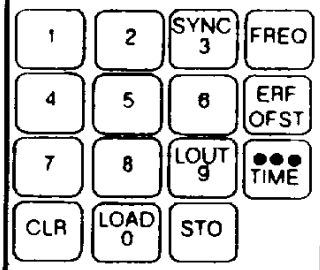
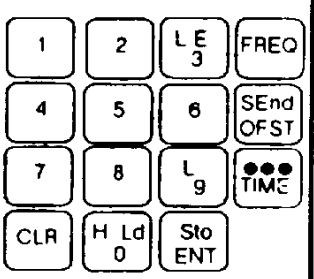
FLOW CHART

TASK 1: SC FREQUENCIES

TASK 1-1	ACTIONS	RESULTS
LOAD: MAN. CUE*. or SC frequencies   ICOM  NON-ICOM	(1) Get: Frequencies from SOI or NCS	* (When designated by commander) Note: ("STO X" and "XXXXX" indicate numbers obtained from NCS or SOI.
	(2) Set: MODE to SC	
	(3) Set: FCTN to LD	

FLOW CHART

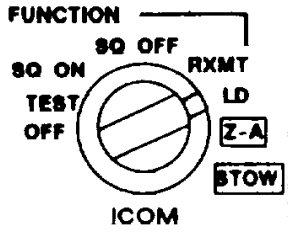
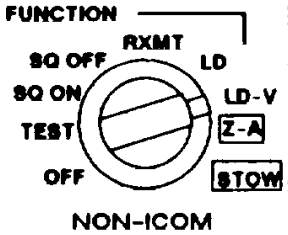
TASK 1: SC FREQUENCIES

TASK 1-1	ACTIONS	RESULTS
	(4) Set: PRESET to MAN. CUE. or 1 -6	
ICOM KEYBOARD 	(5) Press: FREQ CLR XXXXX (Enter frequency) STO (Sto/ENT)	"00000" "_ _ _ _ _" "XXXXX" "XXXXX" (Blinks)
NON-ICOM KEYBOARD 	(6) Set: FCTN to SQ ON	SC frequency loading is complete.

FLOW CHART

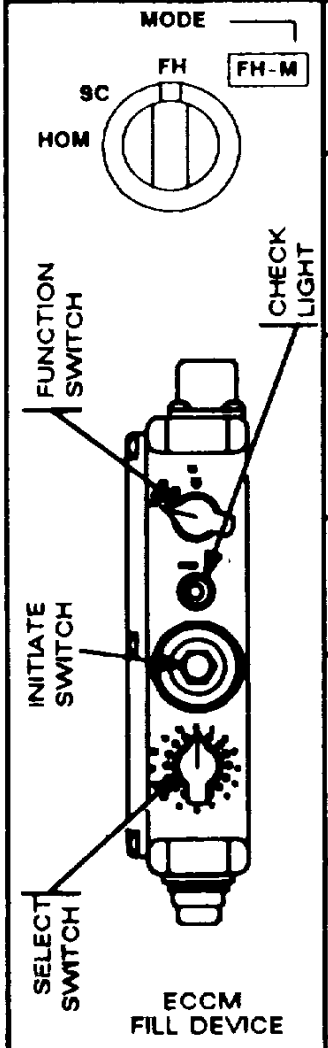
TASK 2: LOCAL FILLS

TASK 2-1	ACTIONS	RESULTS
LOAD: COMSEC keys	(See KY-58 operator's manual for procedures to use).	COMSEC key loaded into KY-58 from KYK-13

TASK 2-2	ACTIONS	RESULTS
LOAD: FH Data*	(1) Set: (ICOM) FCTN to LD	
 ICOM	Set: (NON-ICOM) FCTN to LD-V PRESET to MAN	
 NON-ICOM	* MX-18290 for ICOM and Non-ICOM: MX-10579 for Non-ICOM only.	
	* For ICOM, FH Data is hopset; for NON-ICOM, FH Data is TRANSEC Key.	

FLOW CHART

TASK 2: LOCAL FILLS

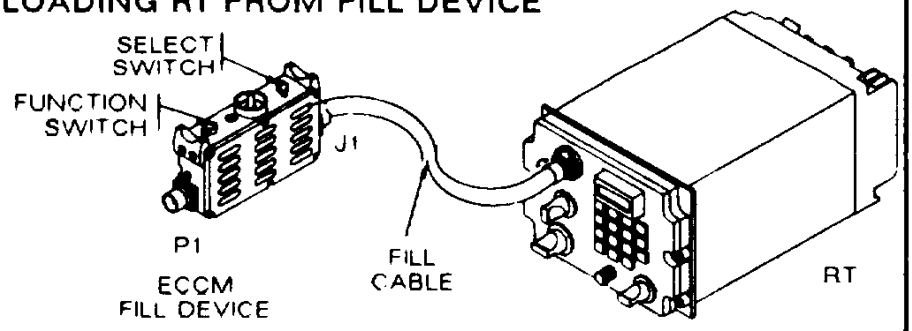
TASK 2-2	ACTIONS	RESULTS
	(2) Set: MODE to FH	
	(3) Turn: Fill device to OFF	No response
	(4) Connect: Fill device to RT using cable	No response
	(5) Turn: Fill device to ON	No response
	(6) Set: Fill device and RT to SOI-directed positions	No response
	(7) Press: (ICOM) LOAD	"LOAD", then "HF XXX"

FLOW CHART

TASK 2: LOCAL FILLS

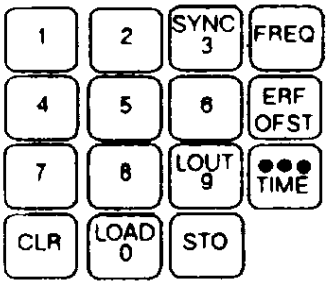
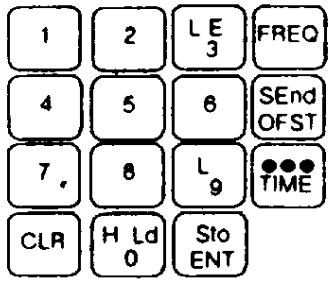
TASK 2-2	ACTIONS	RESULTS
	STO	Blinks. "STO _"
	PRESET number	"STO X". "COLD" and blinks
	Press: (NON-ICOM)	
	H-Ld	"Load". "Sto t". "Cold". blinks
	(8) Turn: Fill device OFF	
	(9) Disconnect: Fill device from RT	Local fill tasks are completed

LOADING RT FROM FILL DEVICE



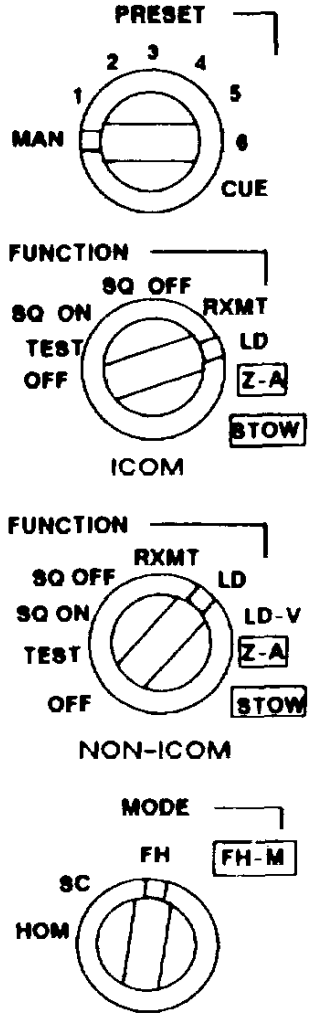
FLOW CHART

TASK 2: LOCAL FILLS

TASK 2-3	ACTIONS	RESULTS
CHANGE: Net ID	(1) Set: FCTN to LD MODE to FH-M PRESET to where FH data stored	
ICOM KEYBOARD  NON-ICOM KEYBOARD  	(2) Press: FREQ CLR ID numbers STO (Sto/ENT)	"F XXX" "F X_ _" "F XXX" "F XXX" blinks Net ID is stored

FLOW CHART

TASK 3: NET OPENING

TASK 3-1	ACTIONS	RESULTS
SET: RT controls  	(1) Follow: NCS direction	
	(2) Set: PRESET to MAN FCTN to LD MODE to FH	

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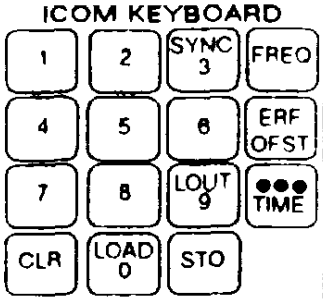
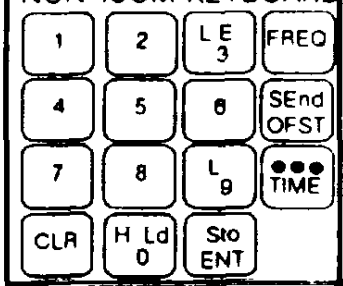
FLOW CHART

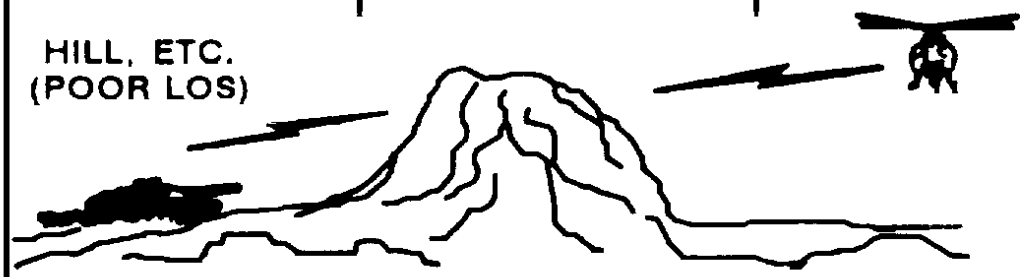
TASK 3: NET OPENING

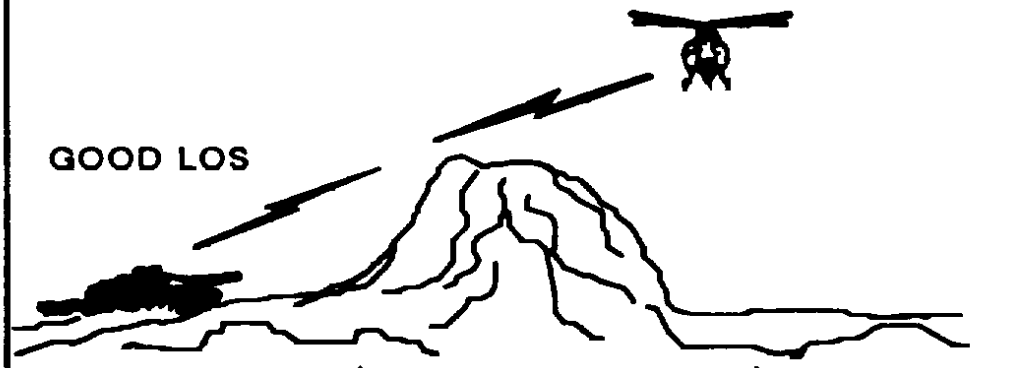
TASK 3-2	ACTIONS	RESULTS
RECEIVE: ERF STORE: ERF ICOM KEYBOARD  NON-ICOM KEYBOARD  	(1) Wait: For NCS to send ERF When ERF received	 Display shows "HF XXX" or "HL XXX"
	(2) Press: STO (Sto/ENT) Number of pre-set, as required	 "Sto _" "Sto X" (blinks)
TASK 3-3	**ACTIONS**	**RESULTS**
CHECK: Communications	(1) Set: FCTN to SQ ON PRESET to where ERF is stored	 "F XXX"
	(2) Answer: NCS call	 This task is completed

FLOW CHART

TASK 4: COMMUNICATE IN FH NET

TASK 4-1	ACTIONS	RESULTS
COMMUNICATE: With Airborne radio	(1) Push-to-talk	Message sent
	(2) Adjust volume to hear	Message received
	(3) Seek Line-of-Sight	Avoid loss of communication



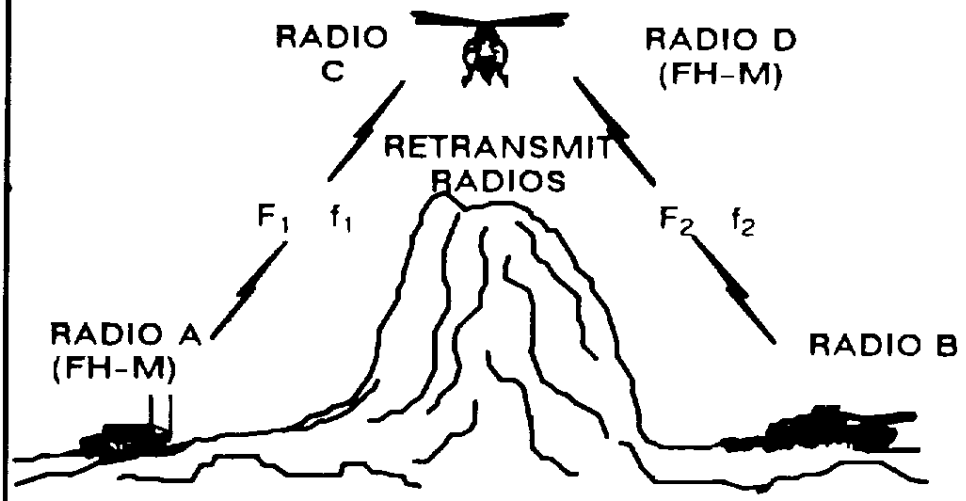


	(4) React if jammed	Avoid loss of communication

FLOW CHART

TASK 4: COMMUNICATE IN FH NET

TASK 4-2	ACTIONS	RESULTS
PROVIDE: RXMT communication		

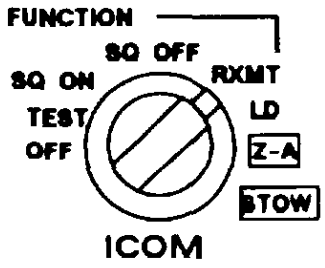
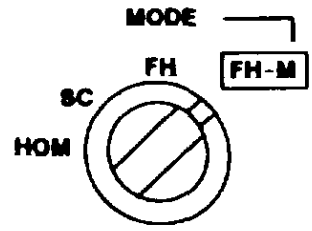
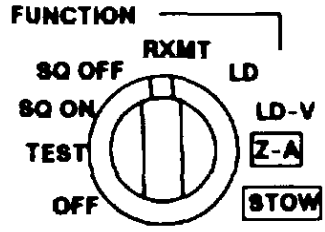


RETRANSMIT ARRANGEMENT
(F1/F2 = FH; f1/f2 = SC)

(SC to SC)	(1) Get: RXMT freq from SOI	
	(2) Check: Communication. A to C and D to B	

FLOW CHART

TASK 4: COMMUNICATE IN FH NET

TASK 4-2	ACTIONS	RESULTS
 ICOM	(3) Set: C and D FCTN to RXMT	A has SC comm with B thru RXMT station
(FH TO FH)	(1) Get: RXMT FH data from SOI	
	(2) Load: C and D for FH communications	A and C: F1 B and D: F2
	(3) Set: A and D (or C and B) to FH-M	
 NON-ICOM	(4) Set: C and D FCTN to RXMT	A has FH comm with B thru RXMT station

FLOW CHART

TASK 4: COMMUNICATE IN FH NET		
TASK 4-2	**ACTIONS**	**RESULTS**
(SC to FH)	(1) Get: RXMT SC and FH data from SOI	
	(2) Check: SC comm. D - B (or C - A) FH comm. C - A (or D - B)	
	(3) Set: C and D FCTN to RXMT	A has FH to SC comm with B thru RXMT station
TASK 4-3	**ACTIONS**	**RESULTS**
SEND: ERF	(1) Contact: (D) Ask B if ERF needed for RXMT	If yes, go to step (2)
	(2) Set: (D) FCTN to LD MODE to FH-M PRESET to MAN	
	(3) Press: (D) LOAD (H-Ld) PRESET number ERF (Send)	ERF sending completed

FLOW CHART

TASK 5: COMMUNICATE IN FH NET			
TASK 5-1		**ACTIONS**	**RESULTS**
RECEIVE: FH net update	(1)	Follow: NCS directions	
	(2)	Set: FCTN to LD	
	(3)	Wait: For NCS to send ERF	“HF XXX” or “HL XXX”
	(4)	Press: STO (Sto/ENT) Number of PRESET to store ERF	“Sto _“ “Sto X” (Blinks)
	(5)	Turn: (D) To PRESET where ERF is stored	“F XXX”
	(6)	Set: FCTN to SQ ON	FH net update completed

FLOW CHART

TASK 5: COMMUNICATE IN FH NET		
TASK 5-1	**ACTIONS**	**RESULTS**
LATE NET ENTRY: Passive method	(1) Press: FREQ SYNC (L. E.) Note: Press SYNC (L. E..) again to cancel late net entry mode	 "F XXX" "LF XXX"
	(2) Wait: For radio traffic (DO NOT PRESS PTT SWITCH)	 Comm heard "F XXX" (L is dropped)
	(3) Check: Communication	 Passive LNE is completed Note: After 3 minutes. go to CUE and ERF LNE method

FLOW CHART

TASK 5: COMMUNICATE IN FH NET			
TASK 5-3		**ACTIONS**	**RESULTS**
LATE NET ENTRY: CUE and ERF method	(1)	Turn: KY-58 to P	
	(2)	Set: Mode to SC PRESET to CUE FCTN to SQ OFF VOL to full IFM to HI	*NOTE: Load proper CUE and MAN frequencies for net to be contacted.
	(3)	Press: PTT for 4 seconds	
	(4)	Turn: KY-58 to C at once to hear response	NCS or Alt NCS will respond on CUE freq. In secure mode.
	(5)	Repeat after 15 seconds if necessary	
	(6)	When CUE is answered. Request ERF	CUE and ERF complete NOTE: Reload own unit MAN frequency upon leaving net entered by CUE and ERF.

ABBREVIATIONS USED

CLR	Clear
COMM	Communications
COMSEC	Communication Security
CT	Cipher Text
ECCM	Electronic Counter-Counter Measures
ENT	Enter
ERF	Electronic Remote Fill
FCTN	Function
FH	Frequency Hopping
FH-M	Frequency Hopping-Master
FREQ	Frequency
HI	High
H-LD	Hold
HOM	Homing
ID	Identification
IFM	Improved Frequency Modulation
LD	Load
LD-V	Load Variable
L.E.	Late Entry
LO	Low
LOS	Line of Sight
LOUT	Lockout
MAN	Manual
NCS	Net Control Station
NORM	Normal
OFST	Offset
PT	Plain Text
PTT	Push-to-talk
REM	Remote
RF (PWR)	Radio Frequency Power
RT	Receiver-Transmitter
RXMT	Retransmit
SC	Single Channel
SOI	Signal Operating instructions
SQ ON	Squelch On
STO	Store
SYNC	Synchronization
VOL	Volume
Z-A	Zero All

By Order of the Secretary of the Army:

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Chief of Staff

Official:

MILTON H. HAMILTON
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