

GLOSSARY

PART I - ABBREVIATIONS AND ACRONYMS

ABCCC	airborne battlefield command and control center
ACE	aviation combat element (MAGTF)
ACMES	Automated Communications Security Management and Engineering System
ADA	air defense artillery
AFAC	airborne forward air controller
AFEKMS	Air Force Electronic Key Management System
AFFOR	Air Force forces
AFKDMS	Air Force Key Data Management System
AFP	ARC-210 Fill Device
AFR	Air Force regulation
AJ	antijam
AKMS	Army key management system
ALO	air liaison officer
ALSA	Air Land Sea Application Center
AM	amplitude modulation
AMLS	Airspace Management Liaison Section
amp	amplifier
ANCD	automated net control device
ANCRS	Automated Navy COMSEC Reporting System
ANGLICO	air/naval gunfire liaison company
AO	air officer (USMC)
AOC	air operations center
AR	Army regulation; artillery
ARFOR	Army forces
ARG	amphibious readiness group
ARLO	air reconnaissance officer
ASC (A)	assault support coordinator-airborne
ASOC	air support operations center
ATC	air traffic control
ATO	air tasking order
AWACS	Airborne Warning and Control System
BATT	battery
BCE	battlefield coordination element
BDE	brigade
BGU	basic generation unit
BIT	built-in test
BN	battalion
BPS	bits per second
C3	command, control and communications
C3I	command, control communications intelligence
C6	combined forces communication staff
CARS	Communications Security Automated Reporting System

CATF	commander, amphibious task force
CAS	close air support
CCT	combat control team
CE	command element (MAFTF)
CEO	communications-electronics officer
CEOI	communications-electronic operating instructions
CFD	common fill device
CG	guided missile cruiser
CHAN	channel
CHG	change
CINC	commander-in-chief
CJTF	commander, joint task force
CLR	clear
CM	control monitor
cmdr	commander
CMIO	COMSEC material issuing office
CMS	COMSEC management system (Navy)
CMSC	communications security
CNR	combat net radio
CNV	crypto net variable
CO	company
COMM/NAV	communications/navigation
comms	communications
COMSEC	communications security
CONAUTH	controlling authority
CONOPS	concept of operations
CP	command post
CRC	control reporting center
CRE	control and reporting element
CRP	combat reporting point
CSAR	combat search and rescue
CSEP	consolidated single-channel radio electronic counter-countermeasures package
CSS	combat service support
CSSE	combat service support element (MAFTF)
CT	cipher text
CTAPS	Contingency Theater Automated Planning System
CTF	commander, task force
CVBG	carrier battle group
CWC	composite warfare commander
DA	Department of Army
DASC	direct air support center
DASC (A)	direct air support center-airborne
DCMS	Director Communications Security Material System
DCT	digital communications terminal
DDG	guided missile destroyer
DF	direction finding
DIV	division
DMD	digital message device
DOD	Department of Defense

DOS	Disk Operating System
DRA	data rate adapter
DTD	data transfer device (AN/CYZ-10)
EA	electronic attack
EAC	echelon above corps
ECCM	electronic counter-countemeasures
ECM	electronic countermeasures
EDES	Electronic DS-101 Emulation Software
e.g.	for example
EKDD	electronic key distribution device
EKDS	electronic key distribution system
EKMS	electronic key management system
EMP	electromagnetic pulse
EOD	explosive ordnance disposal
EP	electronic protection
EPLRS	Enhanced Position Location Reporting Systems
ERF	electronic remote fill or electronic counter-countermeasures remote fill
ESM	electronic warfare support measure
EUCE	end user computing equipment
EW	electronic warfare
EW/C	early warning/control
EWO	electronic warfare officer
FAC	forward air controller
FAC (A)	forward air controller-airborne
FACP	forward air controller post/forward air control party
FCTN	function switch
FFG	guided missile frigate
FH	frequency hopping
FH-M	frequency hopping-master
FLD	field
FLT	fleet
FM	frequency modulation; field manual
FMF	Fleet Marine Force
FMF EUCE	Fleet Marine Force end user computing equipment
FMFRP	Fleet Marine Force reference publication
FREQ	frequency
FSK	frequency shift keying
G-6	component signal staff officer
GCE	ground control element
GHz	gigahertz
GLO	ground liason officer
GPS	global positioning system
GPU	general purpose user
HELO	helicopter
HF	high frequency
HI	high

H-LD	hold-load
HOM	homing
HQ	headquarters
hz	hertz
IAW	in accordance with
IBM	International Business Machines
IDM	improved data modem
ICOM	integrated communications security
ICP	intratheater communications security package
ID	identifier
i.e.	that is
IFM	improved frequency modulation
ISA	International Standardization Agreement
J-2	Intelligence Directorate of a joint staff
J-3	Operations Directorate of joint staff
J-6	Command, Control, Communications, and Computer Systems Directorate of a joint staff
JAAT	joint air attack team
JCEOI	joint communications-electronic operating instructions
JCEWS	joint commander's electronic warfare staff
JCS	Joint Chiefs of Staff
JD	Julian date
JFACC	joint force air component commander
JFC	joint force commander
JFCEWS	joint force commander's electronic warfare staff
JFLCC	joint force land component commander
JRFL	joint restricted frequency list
JIEO	joint interoperability electronic office
JKMS	joint key management system
JOR	joint operational requirement
JRFL	joint restricted frequency list
J-SEAD	joint suppression of enemy air defenses
J-STARS	Joint Surveillance Target Attack Radar System
JTF	joint task force
JTIDS	Joint Tactical Information Distribution System
kb	kilobits
kbps	kilobits per second
KDD	key distribution device
KDMS	Key Distribution Management System
KDS	key data system
KEK	key encryption key
kHz	kilohertz
km	kilometer
KP	key processor
KPE	key processing equipment
L	lockout
LAAM	light anti-aircraft missile

LAAD	low altitude air defense (USMC)
LAMPS	light airborne multipurpose system
LAN	local network area
LCAC	landing craft, air cushion
LCC	amphibious command ship
LCMS	local communications security management software
LCU	lightweight computer unit
LD	load
LD-V	load variable
LE	late entry
LED	light emitting diode
LHA	amphibious assault ship
LMD	local management device
LO	low
LOUT	lockout
LPD	amphibious transport dock ships
LPH	amphibious assault ship
LSD	landing ship, dock
LST	landing ship tank
M	medium
MAN	manual
MAGTF	Marine air-ground task force
MARFOR	Marine Corps forces
MARLO	marine liaison officer
MATCS	Marine air traffic control squadron
MB	megabyte
MCCDC	Marine Corps Combat Development Command
MCE	modular control equipment
MCEB	Military Communications-electronics Board
MCPDS	Marine Corps Publication Distribution System
MCRP	Marine Corps Reference Publication
MD	mission day
MEB	Marine expeditionary brigade
MED	medium
MEF	Marine expeditionary force
MEU	Marine expeditionary unit
MHz	megahertz
MIL STD	military standard
MILSTRIP	Military Standard Requisitioning and Issue procedure
MKRV	mark receive variable
MLE	maritime law enforcement
MS-DOS	Microsoft-Disk Operating System
MSC	major subordinate command
MSE	mobile subscriber equipment
MUTE	Unit for Transmission Elimination
N6	Command, Control, Communications, and Computer Systems Directorate for Naval Forces
N/A	not applicable
NALE	naval and amphibious liaison element
NAVFOR	Navy forces

NAVSOP	Navy Standard Operating Procedure
NCS	net control station
NKDS	Navy Key Distribution System
NKMS	Navy Key Management System
non-ICOM	non-integrated communications
non-ICOMSEC	non-intergrated communications security
NORM	normal
NSA	National Security Agency
NSFS	naval surface fire support
NST	net station time
NST-JD	net station time-Julian date
NWP	naval warfare pamphlet
OFST	offset
OI	operating instruction
OPLAN	operations plan
OPORD	operations order
OPR	office of primary responsibility
OTAR	over-the-air rekey
OTH	over the horizon
OTC	officer in tactical command
PA	power amp
PACAF	Pacific Air Force
PC	personal computer
PCN	publication control number
PLGR	precision lightweight global positioning system receiver
PSN	packet switch node
PT	plain text
PTT	push-to-talk
RAM	random access memory
RBECS	Revised Battlefield Electronics Communications-electronic Operating Instruction System
RCH	remote control head
RCU	remote control unit
RDG	random data generator
RDS	revised battlefield electronics communications (RBECS) system data transfer device (AN/CYZ-10) (DTD) software
REC	radio electronic combat
RECCE	reconnaissance
REM	remote
RGT	regiment
RKV	remote key vehicle
RSINISS	revised SINGARS integrated communications (ICOM) security/ non-integrated communications (non-ICOM) support software
RT	receiver transmitter
RV	receive variable
RXMT	retransmit
SAR	search and rescue

SAS	single audio system
SATCOM	satellite communications
SC	single channel
SCRU	secure remote control unit
SEAL	sea-air-land team
SINGARS	Single-channel Ground and Airborne Radio System
SIU	ship interface unit
SOI	signal operating instructions
SOLE	special operations liaison element
SOP	standing operating procedure
SPEED	systems planning engineering and evaluation device
SQs	squadrons
SQ OFF	squelch off
SQ ON	squelch on
SQNs	squadrons
SRU	shop replaceable unit
SSN	attack submarine, nuclear
STANAG	standardization agreement
STBY	standby
STO	store
STW	stow
STU	ship interface unit
STU-III	secure telephone unit III
sync	synchronize
TAC-A	tactical air commander-airborne
TACFIRE	tactical fire direction system
TACC	tactical air control center (USN); tactical air command center (USMC)
TACP	tactical air control party
TACS	tactical air control system
TADC	tactical air direction center
TAF	tactical air forces
TAMPS	Tactical Air Mission Planning System
TAOC	tactical air operations center (USMC)
TD	time delay
TBD	to be determined
TEK	traffic encryption key
TF	TACFIRE
TIP	tactical information pamphlet
TOD	time of day
TRADOC	US Army Training and Doctrine Command
TRANSEC	transmission security
TSEC	telecommunications security
TSK	transmission security key
TST	test
UAS	user application software
UHF	ultra high frequency
US	United States

USAF	United States Air Force
USMC	United States Marine Corps
UTC	universal time, coordinated
VAC	volts, AC (alternating current)
VDC	volts, DC (direct current)
VHF	very high frequency
VHF-FM	very high frequency-frequency modulation
VINSON	Encrypted Ultra high Frequency Communications System
VRC	vehicle, radio configuration
W	watts
WAN	wide area network
WCCS	Wing Command and Control System
WOC	wing operations center
WOD	word of day
Z	zero
ZA	zero all
Z-FH	zero frequency hopping
ZULU	time zone indicator for Universal Time
#	number

PART II - TERMS AND DEFINITIONS

buffered. Temporary storage used to compensate for the difference in rates of flow and acceptance of data or time of reception.

cold start. Process to initially open a net. The net users require the same TRANSEC and manual frequency. The NCS RT should be fully loaded with all the variables.

common lockout. A collection of data words (defined in JTC3A Specification 9001) which provide net definition (frequencies) by locking out frequencies on all preset nets within the radio. See also lockout.

cold-start electronic remote fill (ERF). One process for initially opening a net. users need a common coldstart designated TRANSEC key and manual frequency for this process. Also see ERF.

cue frequency. An SC frequency listed in the CEOI; the primary means of alerting a net into which entry is desired. Users who may lack some of the necessary ECCM variables to enter an established net directly cue members of an active FH net on this frequency. Users can load the cue frequency into the radio's cue channel through the keyboard. They use the cue channel when they have missed the initial net opening and need an ERF or when they want to enter an alternate net.

ECCM variables. The electronic fill data which supports ECCM operations. This includes hopsets, net IDs, lockouts, TRANSEC key, Julian date and net sync time information. This excludes COMSEC keys, cue channels, manual channels, and single channel frequencies.

electronic fill data. The initialization parameters for the radio which are loaded via SINGARS fill device: As a minimum, all SINGARS radios can electronically load fill data which cannot practically be loaded manually into the RT. This includes fill data such as lockouts, hopsets, and TRANSEC key. Some SINGARS equipment can also receive SC frequencies, cue frequencies, manual frequencies, frequency offsets, TRANSEC key "locations," COMSEC key "location," and Julian date and NST. This data is entered through the front panel.

electronic fill data tag. An alphanumeric to identify a set/subset of SINGARS electronic fill data, used like a COMSEC short title to identify data sets for association with contents, effective periods, controlling/originating authority and regions where use is authorized.

electronic remote fill (ERF). A method of loading an RT with FH data over a radio frequency data link. The electronic remote filled data is transmitted by a radio in the FH master mode, usually the net controller. The two types of ERFs are in-net and cold start. The former is performed in an established FH net, the latter when an FH net is not available. Lockouts and hopsets with appended TRANSEC key can be electronic remote filled between two or more SINGARS radios.

hopping sequence. The pattern of frequencies over which the radios in the net hop. The net ID and mission day (MD) and time of day (TOD) are input to the linear sequence generator. The linear sequence generator output and the TRANSEC are input to the KGV-10, whose output determines the pattern of hopping.

hopset. An FH preset; a structured set of data words which, when combined with lockout net definition data words, determine the frequencies on which a SINGARS FH net will operate. The actual net frequencies are known as the net frequency map.

joint restricted frequency list. A time and geographical listing of prioritized frequencies essential to an operation and restricted from targeting by friendly ECM to minimize frequency conflicts between friendly units.

joint tactical information distribution system (JTIDS)

A secure antijam point-to-point information distribution system used by all services to provide the *big picture*. JTIDS platforms can exchange location for friendly, hostile, and neutral platforms and navigation information. Terminals are flexible and can limit the amount of information relayed or received.

key distribution management system. Software that manages the ECCM fill variables, transmission security keys (TSKs), communication security keys (key encryption keys (KEKs), and traffic encryption keys [TEKs]) for SINGARS-operative radios.

late net entry or late entry (LE). A method of joining an already operating net. LE requires the correct TRANSEC, net ID, hopset, and lockouts.

lockout. A collection of data words, defined in JTC3A Specification 9001, that provide net definition (frequencies) by excluding, or locking out, frequencies from use within the radio. The two primary types of lockout are common lockout and net selectable lockout. The former, L1 through L6, apply to all preset nets; the latter, L7 and L8 are enabled or disabled by each preset net. The frequencies excluded by the lockout data words combine with those excluded by the hopset data words. All frequencies not excluded by these combined data words make up the selected preset net's frequency map.

manual channel frequency. A single channel frequency loaded into the manual channel in the Army's SINCGARS radio and into the "manual" preset in the AN/ARC-222. It is loaded into the manual channel by keyboard actions. The frequency is listed in the CEOI and is used for communications and ERF during cold start net opening.

mission day. Mission day of the operation corresponds to Julian date.

mission set. A block of fill data generated from Air Force KDMS for loading into a specific radio to perform a specific mission.

Net ID. A net variable unique to a particular FH net, analogous to a phone number or a single channel frequency in the SC mode. It is a three-digit number from 000 to 999. It assists in net definition since it is also used by the radio as a net ECCM parameter, which allows nets with identical hopsets, lockouts, MD/TOD, and TRANSEC key to operate on different FH nets. It is assigned by the delegated office of responsibility (JFC J6 for joint nets) using one of the computer-based net management tools: Revised Battlefield Electronic Communications-electronics Operating Instructions System (RBECS), KDMS, Navy Automatic Key Management System.

Net ID band. A group of 100 net IDs X00 to X99 accessible from a preset by the radio operator through the radio keypad.

Net ID band definition unique lockout

A group of frequencies whose use in a specific FH band of nets is excluded. The lockouts are interfaced with common lockouts and associated with a preset on the radio.

pseudorandom. A process with an extremely long period before it repeats itself. It appears to be random but is actually seed dependent.

spectrum management. For SINCGARS and RBECS, limited in scope from optimization of the frequency spectrum to include computation and assignment of those ECCM variables and SC frequencies required to operate concurrently within an assigned area of operation. Frequency co-site interference and resolution are taken into account but only after the division-corps frequency manager has identified potential conflicts to the software.

tempest. The study and control of decipherable electronic signals unintentionally emitted from equipment.

time of day. The ZULU-based time reference that can be manually entered into the radio from the front panel. Time is automatically maintained within the radio but can be updated through the reception of in-net FH messages or ERFs. For normal in-net synchronization, all stations must be within plus or minus 4 seconds of the sending radio's time. The LE mode of operation may be selected for extending the acquisition time window to plus or minus 60 seconds.

Traffic Encryption Key. A COMSEC key that encrypts normal voice and data traffic.

TRANSEC key. Similar to COMSEC key. It scrambles the hopping pattern in a pseudo-random sequence so that it looks random to anyone without the key. All members of an FH net need a common TRANSEC in order to communicate.

zeroize. An operating procedure performed to clear COMSEC or TRANSEC key from the radio's internal variable storage registers. This process ensures that all data has been removed and cannot be recovered from the radio.

ZULU Time. Formerly called Greenwich Mean Time. Also called Universal Time. A measure of time that conforms, within a close approximation, to the mean diurnal rotation of the earth and serves as the basis of civil timekeeping. Accepted by many nations and independent of time zones, it is the standard time base for TOD in SINCGARS FH nets.