

US Subs Crypto

	Vallor		bpc
VLF/LF	NATO -	KWR-46	
	US Vallor	KWR-46	
	Vardi Fin Stand	KG-38	
	Vardi Shaly	KG-38	
	Vardi Tadi	KG-38	
	Vardi Double Decrypt	KG-38/KWR-46	
UHF	CDR Subcom	KG-84C	bpc 75
UHF	OTCXS	KG-84A	2000
	SSIXS	KG-84A	2000/4000
	BG IXS	"	"
	LINK II	KG-40	2250
	TADIXA	KG-84A	2000
	TADIXSB	KWR-96	
	SATCOM BUOY	KG-84A	
	<u>SECVOX</u>		
	Secu TTY	KG-84A	AFTSI
	ATISATCOM		
	ENF Sec TTY	KG-84A	
US TRI Subs Crypto	-	KG-44C; KG-36, KG-84A; KG-38; KWR-46.	

For ENF only at low data rate when submersed with cable
 → need board for Medium Data Rate

LEA. LEMATS

Improved EAM

to CIN.C

- AUTODIN

Alberta - JSCAN

AFSATCOM

SCTIS

CF

MF

GTB can be General Theory of Behavior

SSIXS → Submarine Satellite Information Exchange
System.

- UHF SATCOM

4500 band.

Sub BCAs

SSIXS
computer
operators

NCTAMS →
(receives & transmits
TTL, sub com)

May
FLTSAT
Satellite

ISADPs

FULF/LP transition

in event of
FLTSAT will
inform use UHF
DAMA → when
MILSATCOM transition
over

Subcom x b → & NATO independently.

Subcom x e

Current ('95) data rate 2.0 kbps → for D+L image →
allow up to 30 mins.

Need for high data rate for ~~TTL~~ Tomahawk

- had - 128 kbps now; 256 by '98 + 512 by '02

→ Maint system should be limited to 1-5 mins

120

Sno core limits -

No EKF ~~North~~ beyond 65° N.

→ 52N22/1W11
Rugby - final training 31/3/03

- replaced by Skelton and/or Anthony

55N00/3W30

31/3/03 - final training Craigie -
replaced by Skelton +/or Anth

LF 03 - pos. Covered & Oxford Thames

Alerts completed with also provide receipts
for subs.

Martin run Skelton
- built new mats in 2001

Anthony -
22.1kHz

about issued 2001

Skelton SKN 54N44 002W54
NW of
near Rennith - Cambria

Skelton has BOC World Series Canisters

Rugby Canisters on 16kHz

(ULF Canisters would be allocated several
Rennith NW)

10/7/03 -

12/02

NAU	Pearba Riuo	60.75 kWh	dx
NRK	Keflavik	37.5	
DKO	Rhaukatchu	23.6	.
GQD	Anton	22.1	- 19.0
HUU	Rosnay (Kron)	20.9	dx
HUU	Leblanc	18.3	
	(Crzyzi)		- 19.6

Anton - FSK, ERP = 100kw

Ruyb ~ 60kw

Ruyb VLF - 12 x 820 formats

Intep ??

to 512 kbps 02

1.544 Mbps 2006

Foras Mer

Croughton (England)

VLF/CF (HF) → in Nov 03

US SPALAR cabinet to system

6 Channel Merit receiver system CMRS

to system 2001-2003

→ 3 in

→ UK site is Croughton.

ATC / 3 PAE

→ CMRS → monitor Submarine Emergency Command

Transmitter bought from SSBN → + alert release

Autotid.

www.subbrit.org

in ~~Crippin, heads~~ - VLF sent to UK subs by

Alert Comms (initial Merit)

→ from a new transmitter at Skelton + an update as at
Aurora, Lumbury

NCSBS - to ~~to~~ for US to transmit
to NATO on US VLF/LF

2002 Contract ~~for~~ to Long wave in from SPAWAR

Integrated Sub Automatic ~~Process~~ Broadcast

Processing System (ISABPS),

NCSBS

Special Communications (SPECOMM)

Sub LF (VLF) VMEbas Receiver (SCUR)

VLF Com

~~VLF~~ VERDIN

Skynet 5

→ Paradigm Secure Coms

has contract for MOD 2A (10/03) → 2 satellites.

→ launch 2006 + 2007

ground stations → RAF Colerne

2 9m X-band feeds,

1 FIRE upgrade

SAT control,

UKSAT Mission Co

→ RAIR Oakhanger - 1 FIRE

→ DCSA Consham → over op at

Connelly → Skynet 6

- Lab of what launched Feb 01

- Paradigm has code over op. + management.

Skynet 5 will be over Atlantic + Indian Ocean

Skynet 6 ^{Stage 1 -} A, B, C - 1988 → 3 X-band transponders, 2 UHF transponders

Stage 2 → D ^{E - 99} F - 003 → UHF + SHF

60-125 MHz SHF, 3 @ 50 MHz
2 UHF 25-MHz

A → 326° E (1990)

B → 53° E (1988)

C → 1° W (1990)

stage 2 to replace stage 1

195 → 3rd of 3 to replace original satellites

D replaced B

Memoranda of Understanding with France about project delivery

→ TRIMILSATCOM

Servo /

Rakmuli - co. cd

→ Feasibility Study with Smith Group
into Satellite EMF for RN

RN SHF Sat Com (SCOT)

NATO ALLANT ~~Northwood~~ (Northwood) (Northwood)
(mission) → RCEAN (Northwood)
include prototyping the deployment of the
Alliance sea based com. deb.

2003

→

→ COMSAB

18/6/03

change of name →

COMSUBCANT Rep at Northwood

→ COMSUBGRU EIGHT (Command Submarine Group 8)
reestablished at Northwood.

because Comsubgru 8 now in charge of units (subs) /
deployed to N Atlantic.

Comdr US Fleet Forces Com

↓

Comdr Subforce US Atlantic

↓

Comdr Sub Group 8

↓

Comdr Submarine Group 8

Universal Modem System (UMS)

→ family of modems to provide service... C²
for US / UK / NATO.

for DefSat Com Sys (DCSC) II + 3
NATO III + IV
Skynet 4
+ Telecom 2

} Satellite system.

UMS will replace AN/USC-28(U) + OM-55(U)/USC

Skynet is geographically

→ 4 x 6 channels 60-135 MHz - compatible with
US Army & SHF DCSC;
+ 2 UHF USFLTSATCOM compatible channels
+ 1 experimental 60 MHz EHF channel.

AN/USQ 17A - at RAF Oakington for control of
TACSAT demands across the spectrum.

NATO III sat + 3 SHF x band channels compatible with DCSC
NATO IV A ('91) - based on Skynet 4
- combined for RAF Oakington

NATO Satellite Ground Terminals include →

Oakberger (F4) ← designation.

Balado Bridge (F17)

Saxa Vord (F29)

NATO IIA → Atlantic → 80°W - 60°E } SNAE
25°S - 75°N

90°W - 60°E } UNF
75°S - 75°N

NATO II + Skynet for global operational purposes

RN UNF SATCOM Shore Station → Mod Code
DAMA + Network

+ 'T', 'U' + 'A' Subs.

Thales Undersea system + masts for subs (RN +)

DAMA SATCOM submers for subs.

↓
Demand Assigned Multiple Access

SMC2 program → to maintain US/UK
interoperability by migrating RN SSIXS & IP

Sub DAMA Satellite Com Sys (SDSCS)

→ replace UKF DAMA with US program
mini-DAMA + associated Tables Com nets

Tota
mini DAMA

AN (USC-42 (U) 2 + (U) 3

MILCOM given sp. mini sub com f/ Los Angeles et

Server 5550, Utd. nat. navy. mil / projects / sub comm / perf. htd

MTVAN - IP network plan to deployed
tabled with inter-robot from

CTF 345 - at Nathwood

AMS - 17m Euro contract for MOD for 5₂

Sp. Exp. unit + providing security

→ prime contract CTF 345 Comrad Centre project,
+ has developed a Submarine Broadcast Receiving System
(SMBRS) to provide HQ command to UK sub fleet
+ allied sub

CTF - Comrad Task Force

MOD - CTF 345 - A 'tam-log' project involving the
provision of keyhole message receiving + hardy system for
conducting radio traffic to submarine

Subopault - Submarine operations authority

IP - internet protocol

NAVACT

- COMNAVACTS (CNAV) UK +
Blenheim Crescent; near RAF West Ruislip;
(15 miles WNW of central London;

CINCPAC USA NAV EUR - N Audley Sq

(99) CONSULTANT rep at Northwood
→ Ex SSBN CO.

→ Rep also - ex NATO Chief of Staff for
Submarine East Atlantic / Submarine Allied Force North.

→ Was in equivalent position in charge of command
to Sub Group Comd. → Sub group 2, 8 + 10

Very Northwood

Exchange office - CINCPAC, Northwood -
Submarine Assistant Operations Office

EAMAS - Authenticates Sign

Director, Permanent Analysis Team (DIRPAT)

in Northwood - under input of 'Leaves Cleared'
to a US system not available to Allies

COMSUBGRU EIGHT REP NORTHWOOD

⇒ computer & is in stage of work deployed to Cc
NATCOM

RAK MUCTI-co. uk → provided \$2.7m project
for IT, Telecom + TV infra for
PSHQ & NATO

Col Mod Jackson - UK PSHQ CNO to USJFCOM

Spent, Greek + Turkish allies have been
assigned to PSHQ