

THE ARMY FIELD MANUAL
VOLUME II
GENERIC ENEMY (MOBILE FORCES)
PART 2
TABLES OF ORGANISATIONS & EQUIPMENT

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Authority This publication is issued under the overall direction of the CGS . It is an MOD Approved Code of Practice (ACOP).

Status The contents provide clear military information concerning the most up to date experience and best practice available for commanders and troops to use in their operations and training.

Amendment

Amendment No	Date	Amendment No	Date
1 - (INCORPORATED)	SEP 97		

Distribution As directed by LW1 DGD&D who is the sponsor and to whom comments and queries concerning this publication should be addressed.

PREFACE

GENFORCE MOBILE FORCES

GENFORCE

1. The purpose of the Generic Enemy Force (GENFORCE) is to provide a basis for the generation of enemy forces for all except the most specialised training needs. It is designed to be used flexibly, in a modular fashion, to craft enemy requirements for training.
2. GENFORCE offers three types of artificial, yet challenging and realistic, opposing force options. It has been issued in a series of three packages:

Basic Forces: This enemy has heavy and light armoured forces, predominantly equipped along Former Soviet Union (FSU) lines. Its Tactical Doctrine and Operational Art are modelled on the 1991 revision of Army Field Manual Volume II.

Mobile Forces: This enemy is a development from the Basic Forces, projecting forward to around 2005. It takes into account the impact of the early stages of the current revolution in military affairs and the effects of major force reductions. The battlefield, and consequently the operational art and tactics portrayed, are dominated by advanced weaponry and a manoeuvrist approach to warfighting. However, this GENFORCE is an army in transition and the majority of its formations and units are still of Basic Forces' type (albeit modified to cope with changing conditions on the battlefield).

Rest of the World Enemy (ROWEN): This composite enemy has a broad range of equipments of mixed origin. Its Tactical Doctrine and Operational Art are designed to support specific operational environments: normal, desert, mountain, FIBUA and jungle.

MOBILE FORCES

3. The final of the three GENFORCE packages, **Mobile Forces**, is issued in two separate folders as follows:

Part 1 - Operational Art and Tactical Doctrine
Part 2 - Tables of Organisations & Equipment

Acknowledgements

4. GENFORCE II, Operational Art and Tactics, was conceived and written by C J Dick, the Head of the Conflict Studies Research Centre, RMA Sandhurst (with help from the CSRC's air desk for the relevant air chapters). Comments and suggestions on this publication should be sent to Command Support Branch in the Directorate General of Development and Doctrine. Any enquiries about GENFORCE's concepts and *modus operandi* should be addressed to CSRC.

GENFORCE OPERATIONAL ART AND TACTICS II

INTRODUCTION

1. GENFORCE - Basic Forces "Tactics" and "Operational Art" described the GENFORCE approach to war in the nineteen eighties and early nineties. Essentially, this approach was a refined and updated version of that which had served GENFORCE well in World War II, but which took account of the lessons of subsequent local wars, particularly those in the Middle East in 1973 and 1982. However, GENFORCE theorists were increasingly aware that both their operational and tactical concepts needed considerable revision in the light of three developments. These were:
 - a. The reduction in the size of their own, and most of their potential enemies', armed forces. The initial impetus for this contraction came from the requirements of the Paris Treaty of 1990 which limited the size of armies and air forces in Europe. It was subsequently driven (in all countries) by the spiralling cost of the new weapons systems which were indispensable to any state which aspired to be a great military power. The economy simply could not maintain a mass army and at the same time equip it plentifully with modern instruments of war.
 - b. The revolution in military affairs. This subject, addressed more fully in Chapter 1, concerns the impact which radically new technologies are having on the nature of future war. Qualitatively new weapons, when deployed in relative quantity, render former methods of warfighting obsolete and require new approaches to be developed. GENFORCE had been aware from the early eighties that technological warfare would become the dominant force in combat in the future. This perception was given great impetus by the Gulf War of 1991, when a numerically superior Iraqi force (based on 1970s weaponry) was defeated at small cost in casualties by a coalition whose cutting edge was the weaponry of future war.
 - c. The downgrading of operational and tactical nuclear weapons and chemical warfare. GENFORCE has come to the conclusion that NBC weapons have only limited utility on the battlefield of the future, at least after the initial period of war (the period of mobilization, concentration and deployment). Weapons of mass destruction are now seen as insufficiently discriminating and responsive to be employed routinely in the sort of fragmented, non-linear combat which is described in Chapter 1. Situations will change too rapidly and radically and opposing forces will be too intermingled over huge areas for the effective use of such blunt instruments. Moreover, they are now unnecessary as precision and other advanced conventional munitions (eg, fuel-air explosive and remotely-delivered mines) can accomplish battlefield missions hitherto performed by NBC weapons both more successfully and rapidly and with no attendant collateral damage and contamination or danger of escalation to a strategic nuclear exchange. If nuclear and chemical weapons are employed at all (and GENFORCE'S fear of escalation seems to make this unlikely) their

use will be largely restricted to attacking targets in the operational and operational-strategic depth. Of course, a breakthrough in NBC technology, particularly in the BW area, which GENFORCE perceives as giving it a decisive advantage over a potential adversary, might well change this situation.

2. GENFORCE II - Mobile Forces describes in outline the changes that are being effected in GENFORCE operational art and tactics as the century turns. As yet, only the outline is clear, for GENFORCE is still pondering the implications of far-reaching change. For this reason alone, GENFORCE II is somewhat less detailed and prescriptive than the previous pamphlets, which set out concepts that had been refined and elaborated over many years. Moreover, GENFORCE is at a transitional stage in its development. For at least three reasons, it can confidently be asserted that further, probably radical changes can be anticipated in the medium and even in the short term.
 - a. The advanced weapons systems that are revolutionizing the nature of future war have not reached their full development potential and are, as yet, deployed in only limited numbers (if only on grounds of cost). They exist alongside more traditional equipments and are, in effect, add-ons radically improving but not transforming capabilities.
 - b. The revolution in military affairs is still in its early stages. The new weaponry currently being integrated into GENFORCE is based on currently available technology. Under development, however, are other systems based on both emerging technologies and new physical principles (eg robotization, directed energy, plasma and membrane technology, electronic, laser damage and infrasound weapons). When available in quantity, these will require further changes of an even more radical nature.
 - c. GENFORCE is still testing its new concepts and force structures. Doubtless, trials and further theoretical work will combine to reveal problem areas and errors which will necessitate further development.

GENFORCE

MOBILE FORCES

TABLES OF ORGANIZATION
&
EQUIPMENT

NOTE TO USERS

GENFORCE is a generic enemy compiled for exercise use and training by British Forces.

It is not all-encompassing and should not be used as the definitive ORBAT for any existing country's forces.

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GENFORCE

NEW BASIC FORCES

**TABLES OF ORGANIZATION
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EQUIPMENT**

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SECTION 1

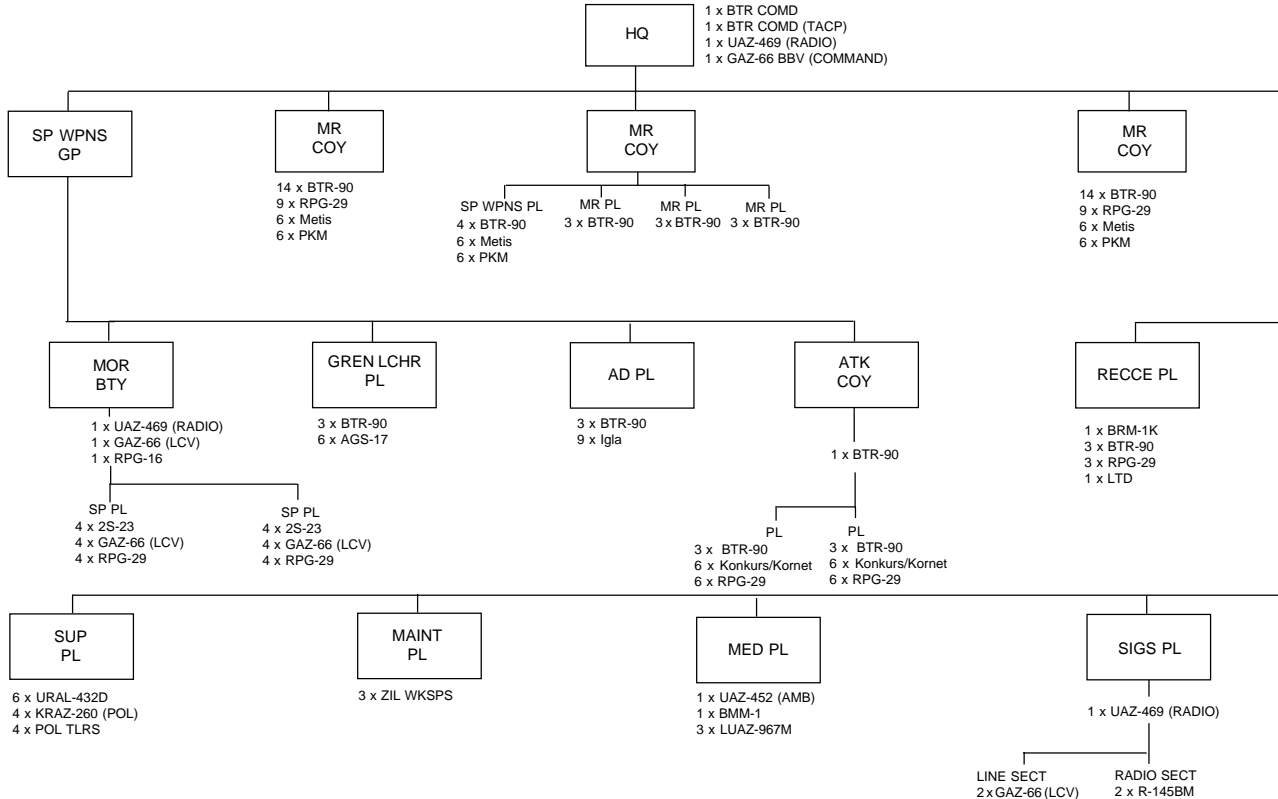
TABLES OF ORGANISATION - NEW BASIC FORCES

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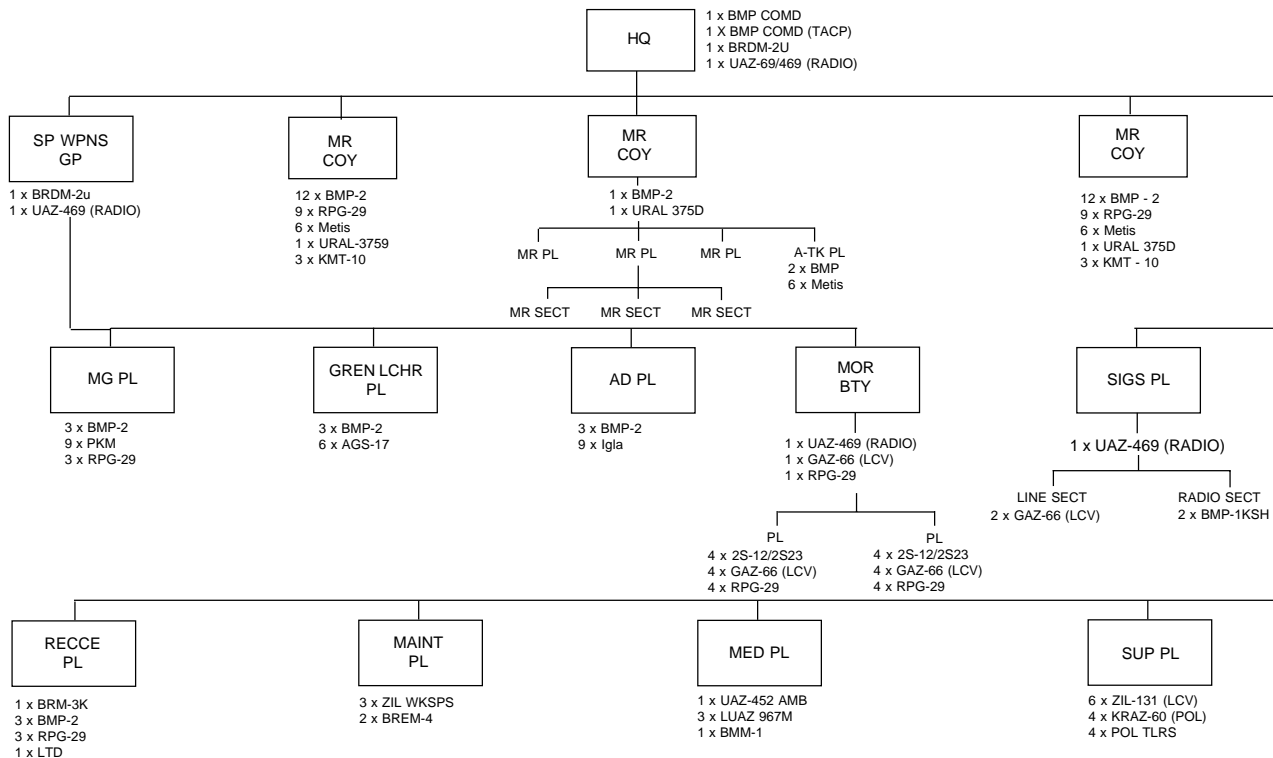
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02. MOTOR RIFLE BATTALION (BMP EQUIPPED)
03. TANK BATTALION (MOTOR RIFLE REGIMENT)
04. TANK BATTALION (TANK REGIMENT)
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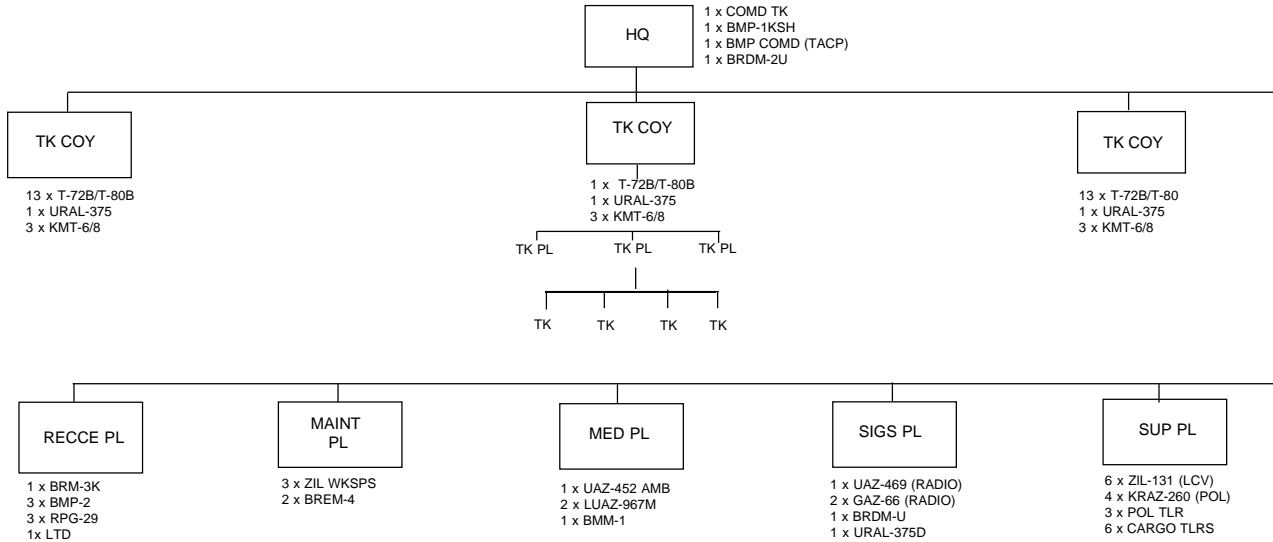
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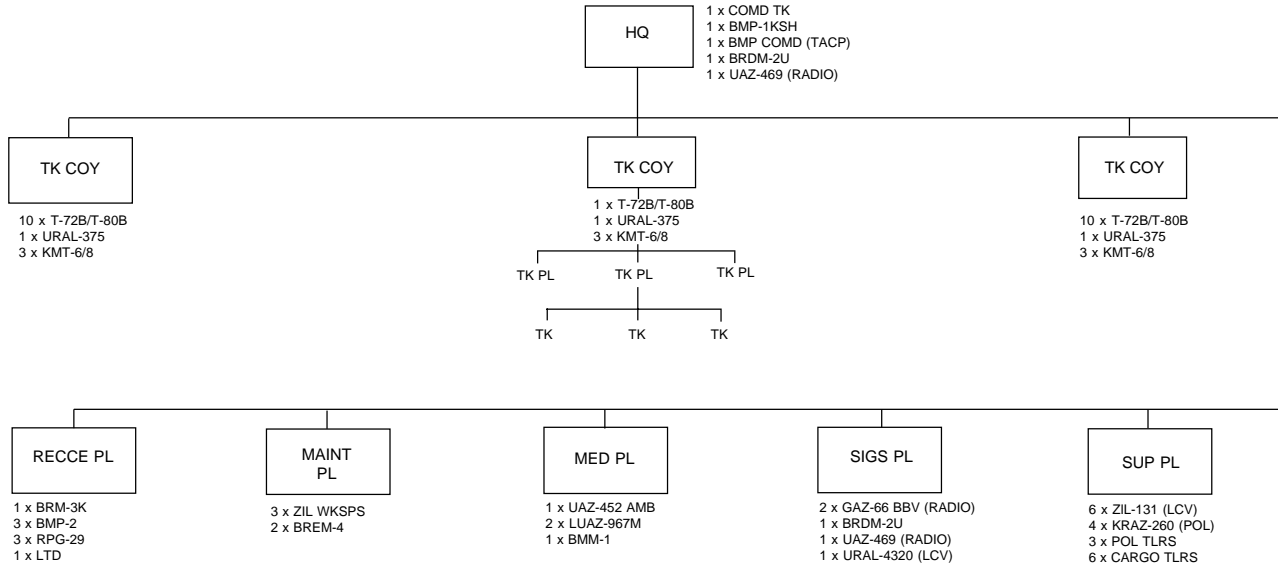
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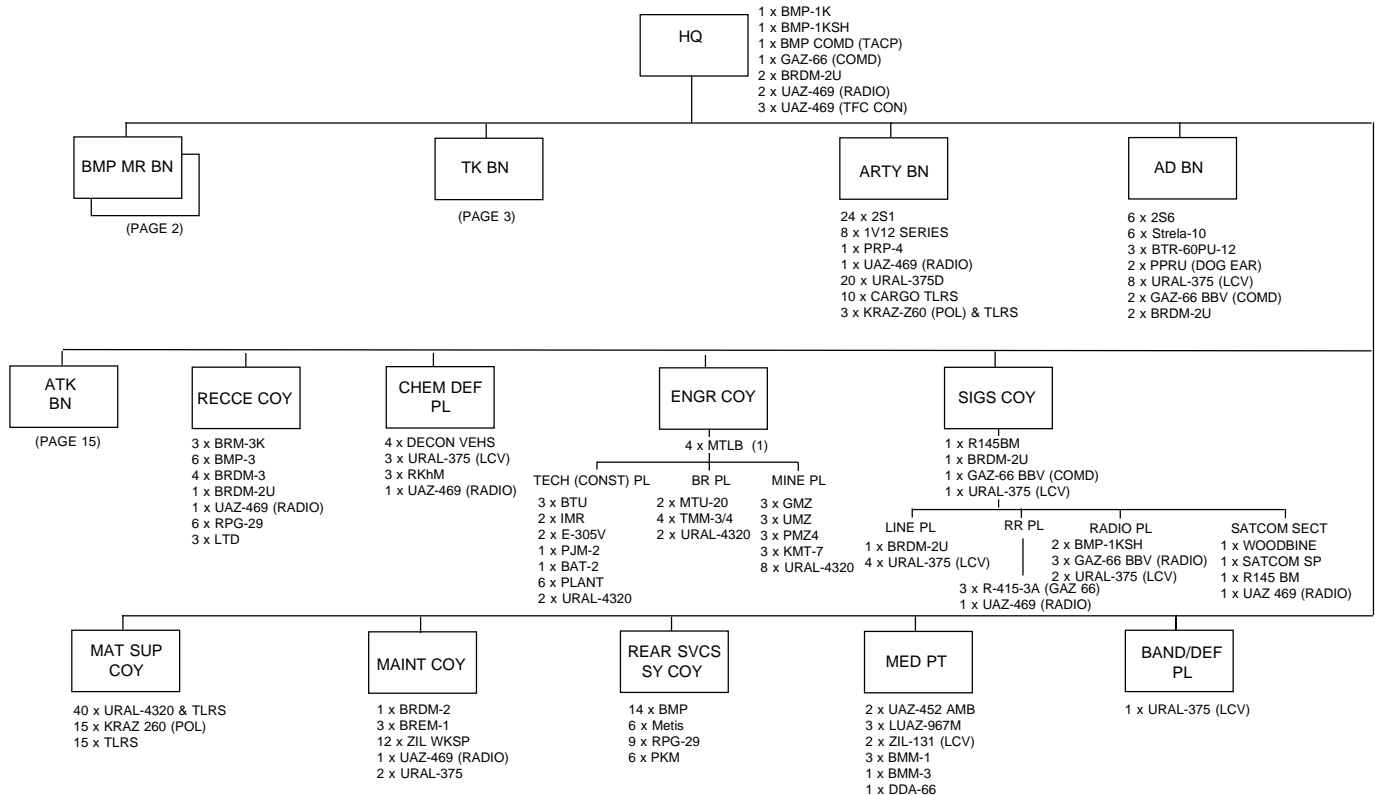
TANK BATTALION (MOTOR RIFLE REGIMENT)



TANK BATTALION (TANK REGIMENT)

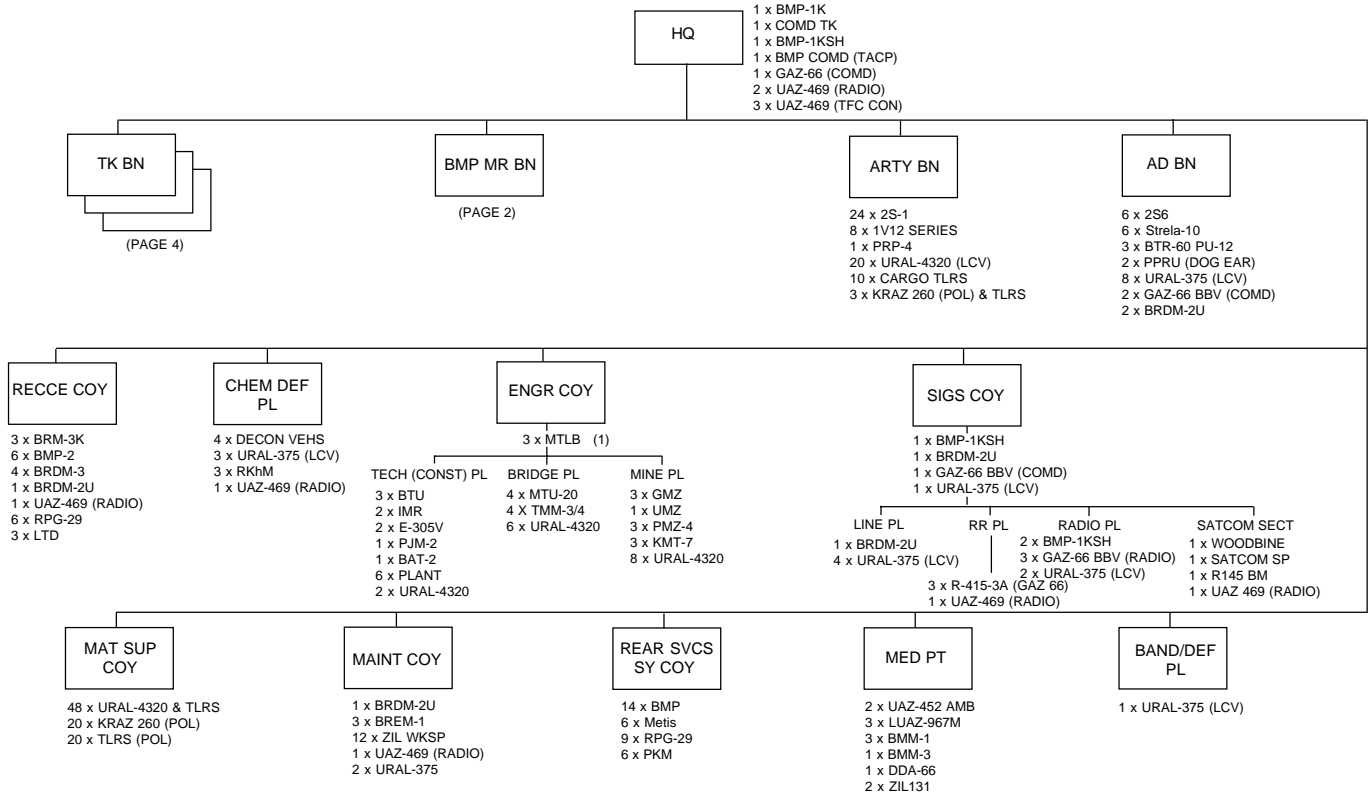


MOTOR RIFLE REGIMENT (BMP EQUIPPED)



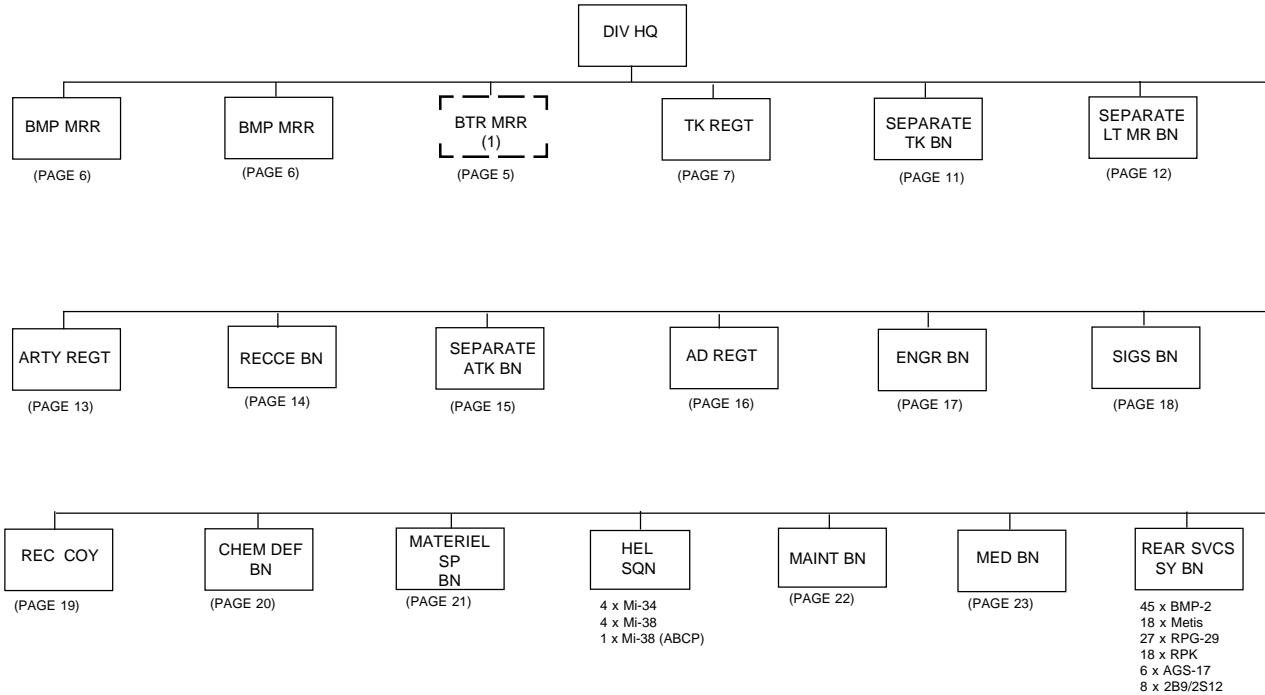
(1) Incl 3 x MTLB in recce pl.

TANK REGIMENT



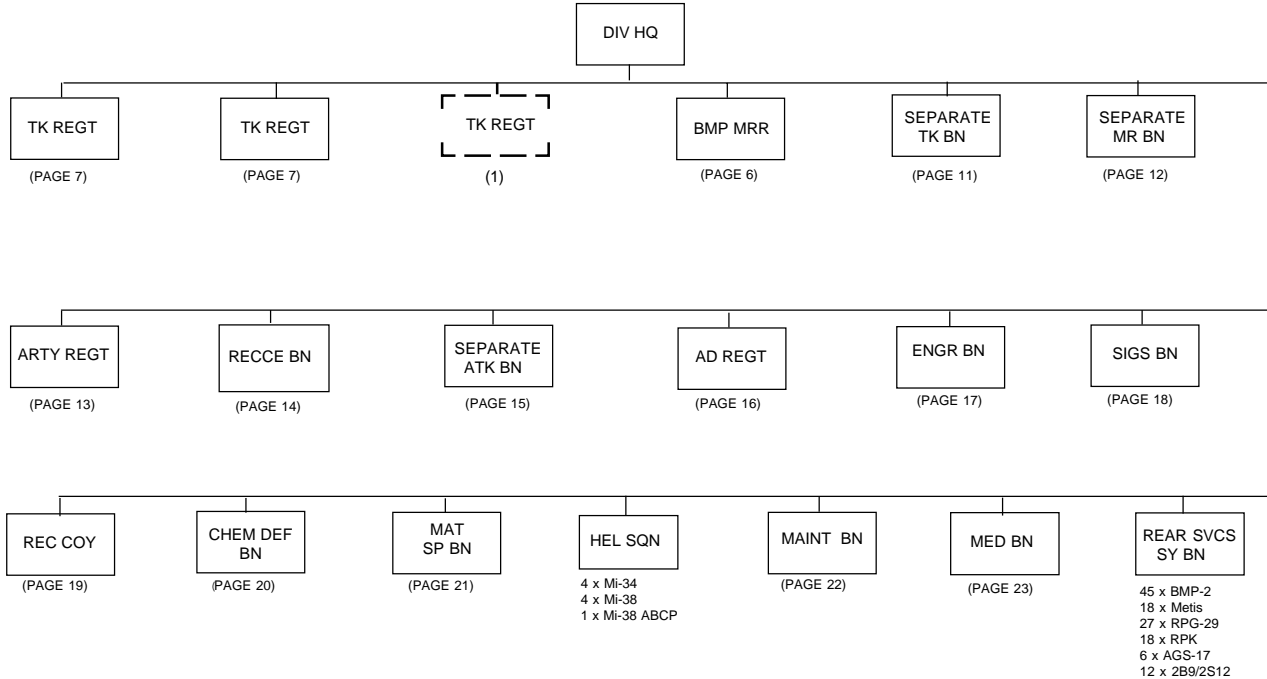
(1) Incl 3 x MTLB in recco pl.

MOTOR RIFLE DIVISION



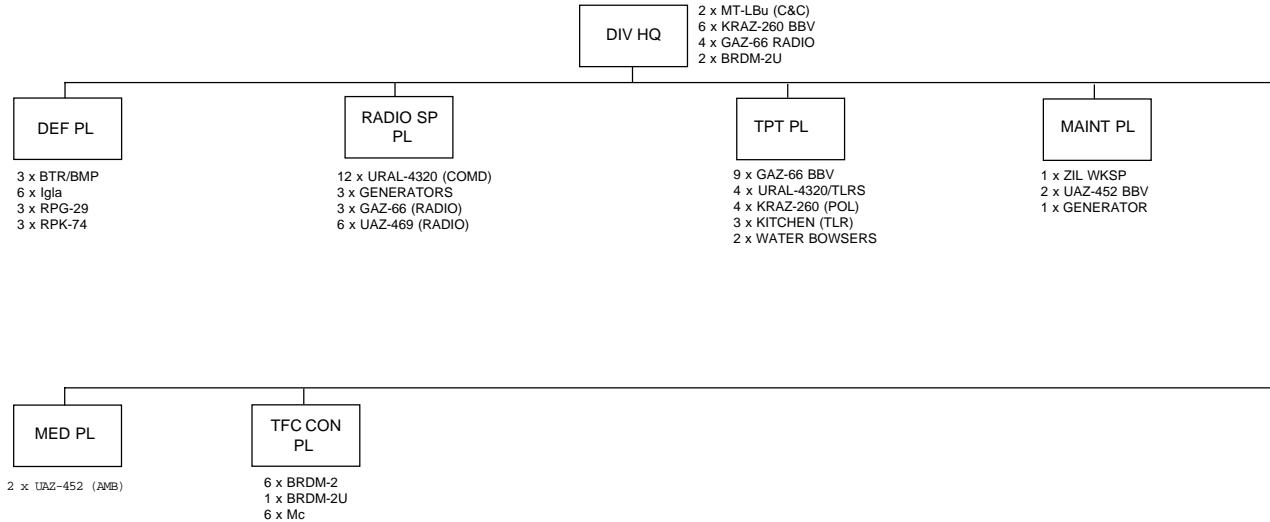
(1) Only in heavy MR division

TANK DIVISION

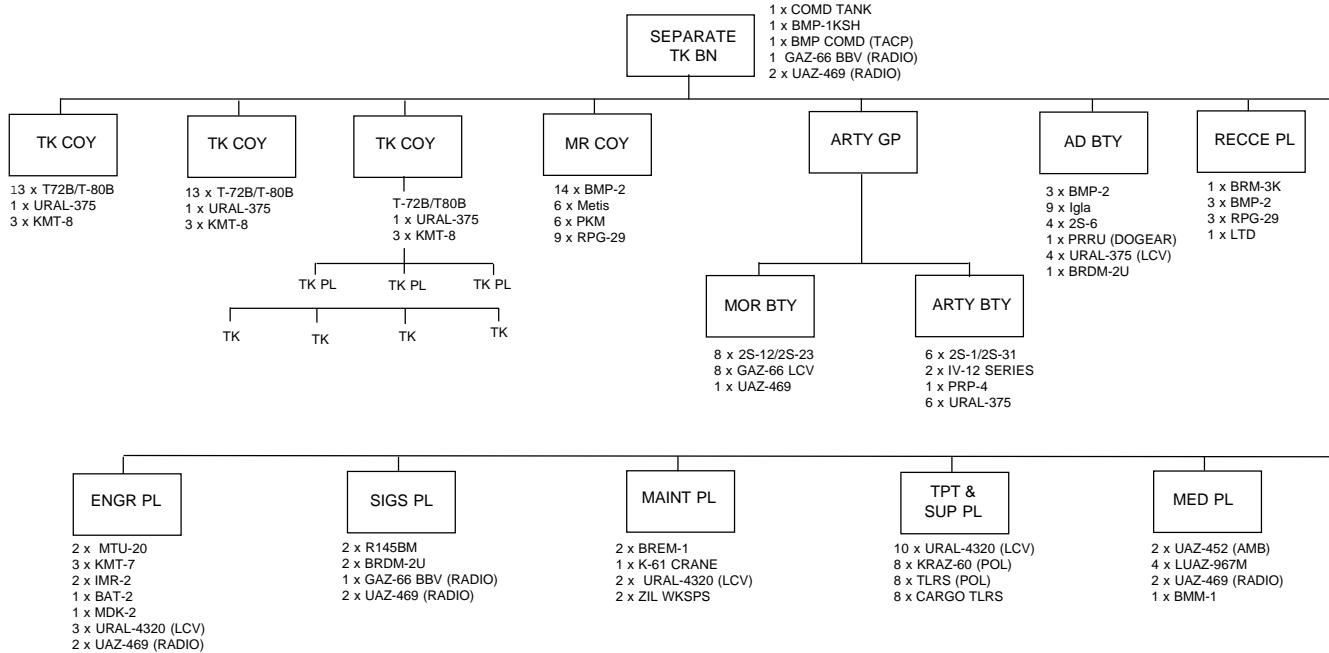


(1) Some (heavy) divisions would have a third tank regiment.

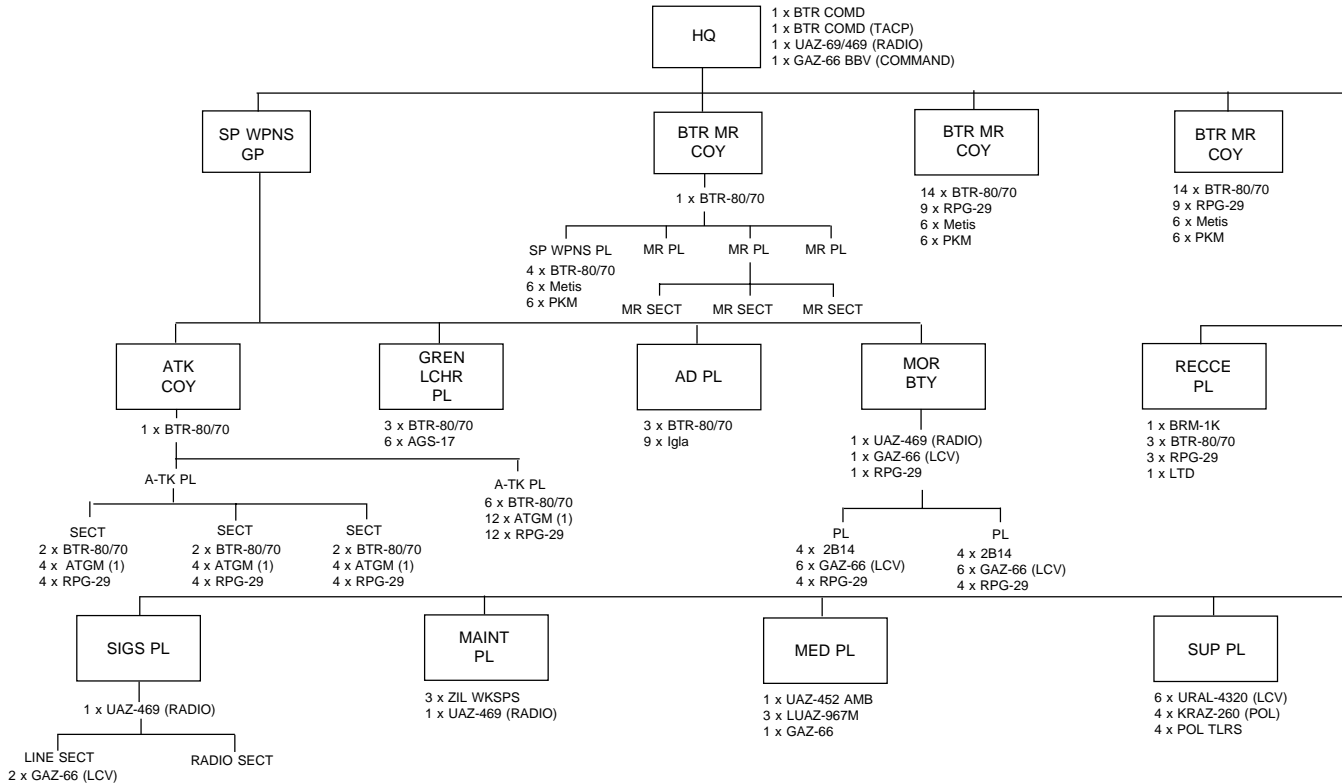
DIVISIONAL HEADQUARTERS



SEPARATE TANK BATTALION

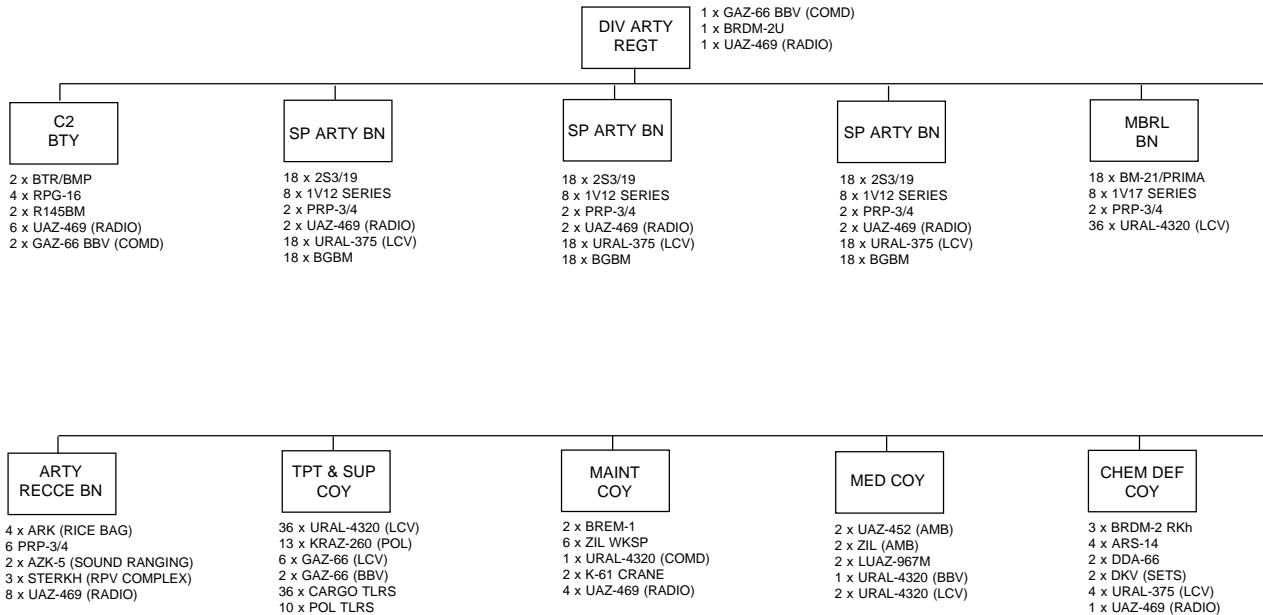


SEPARATE LIGHT MOTOR RIFLE BATTALION (BTR EQUIPPED)

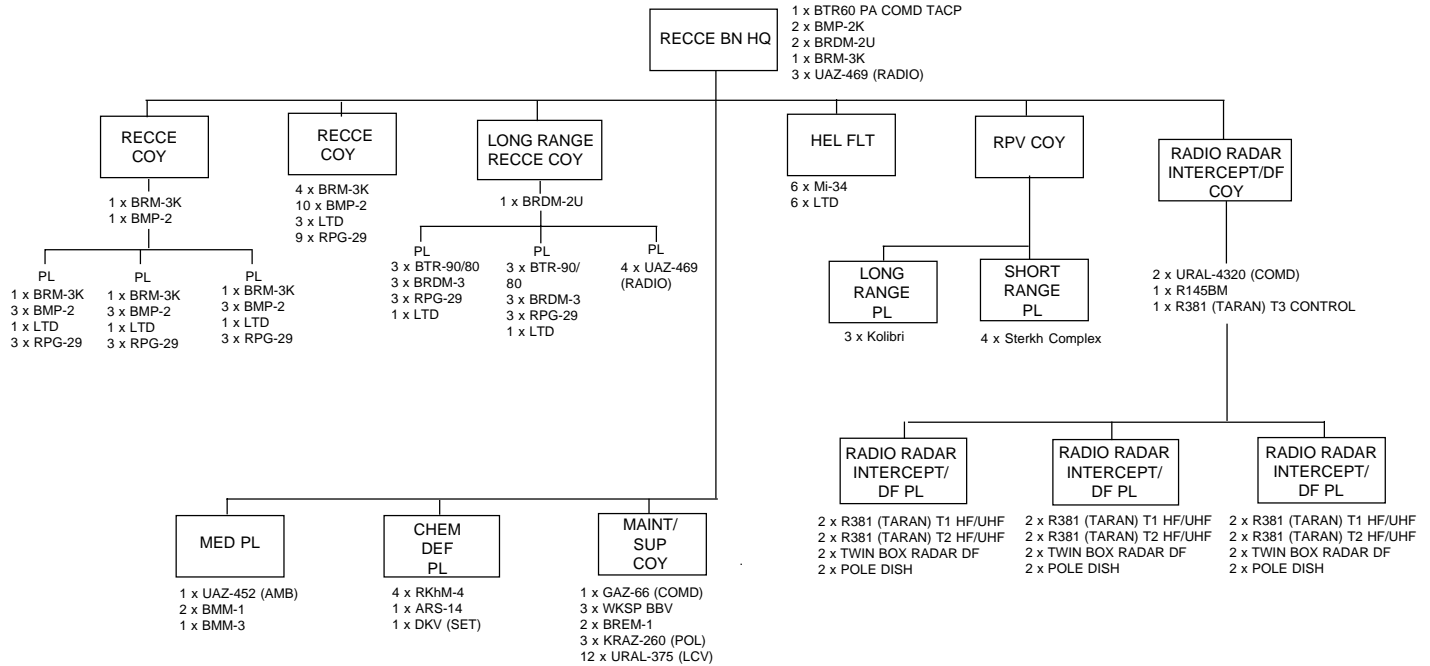


(1) ФАКТОРИЯ, КОНКУРС ОР КОРНЕТ
 АЛ 1

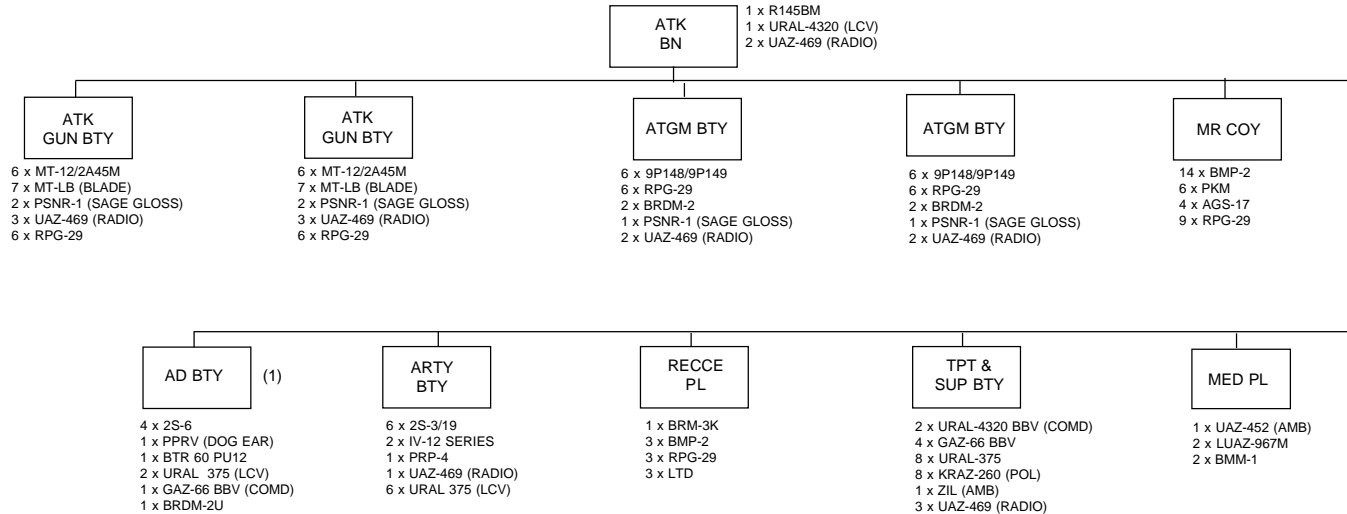
DIVISIONAL ARTILLERY REGIMENT



DIVISIONAL RECONNAISSANCE BATTALION

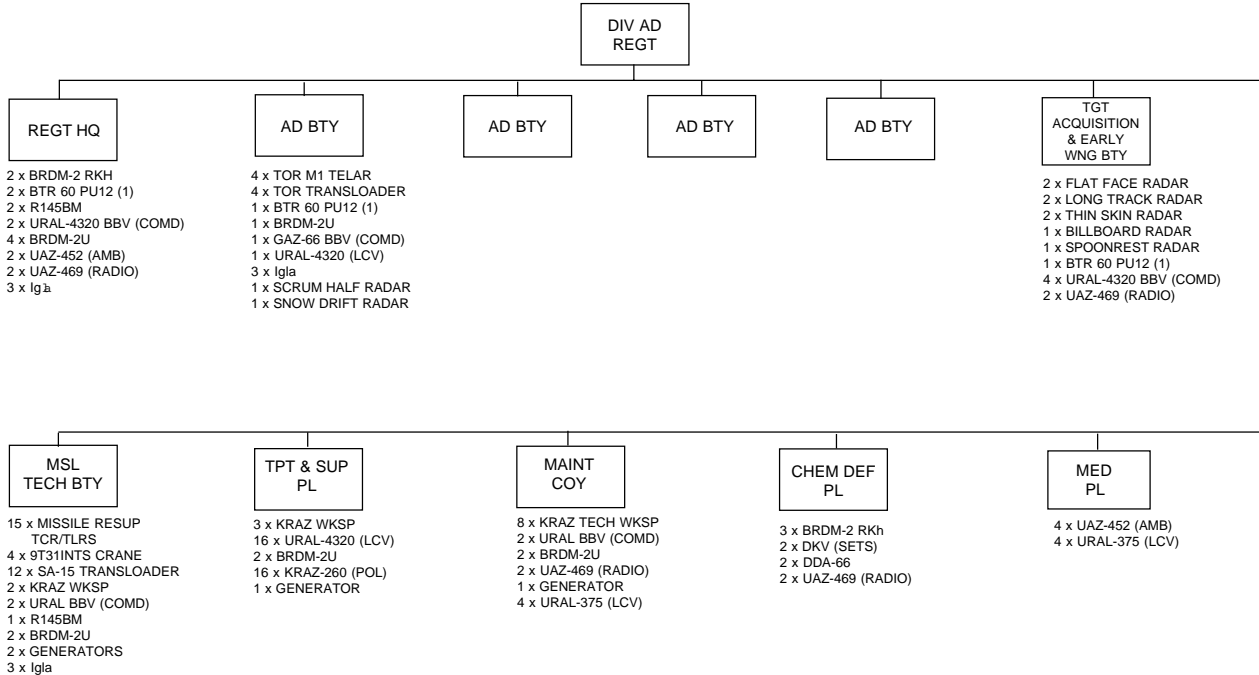


REGIMENTAL AND SEPARATE ANTI-TANK BATTALIONS



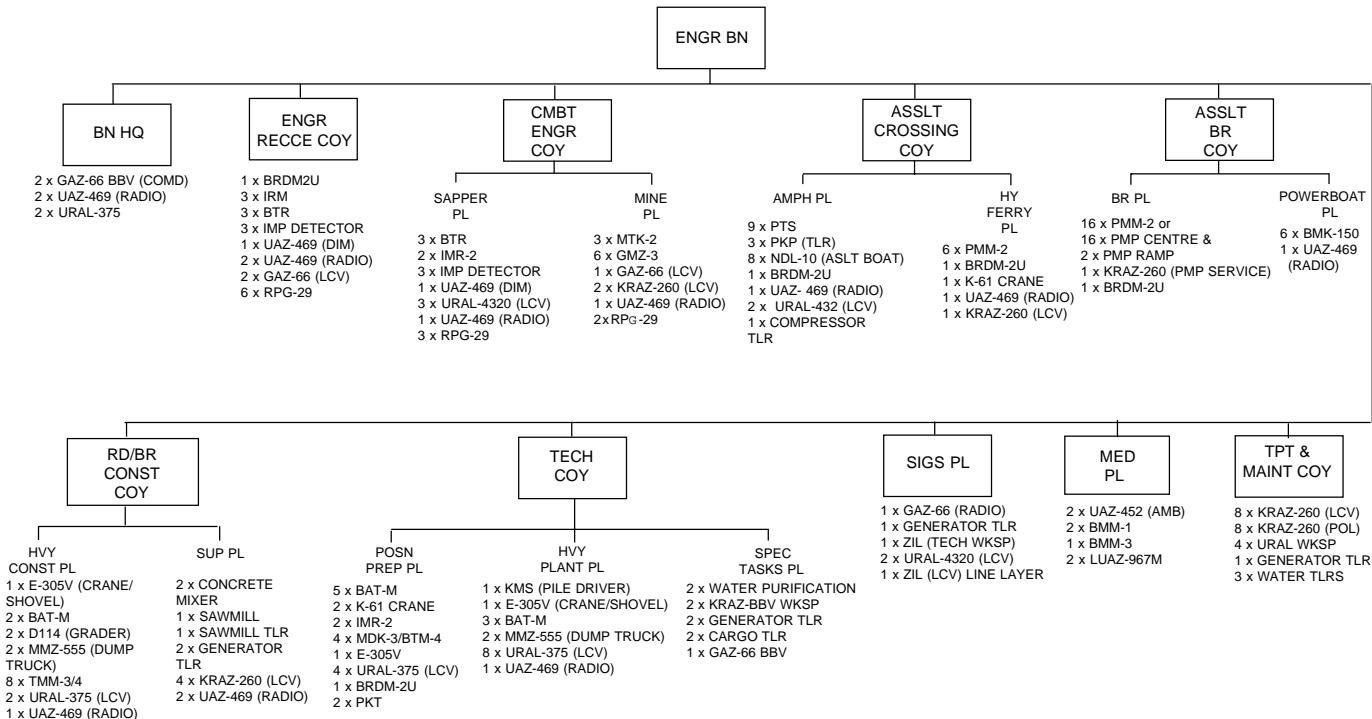
(1) Not found in regimental anti-tank battalions.

DIVISIONAL AIR DEFENCE REGIMENT

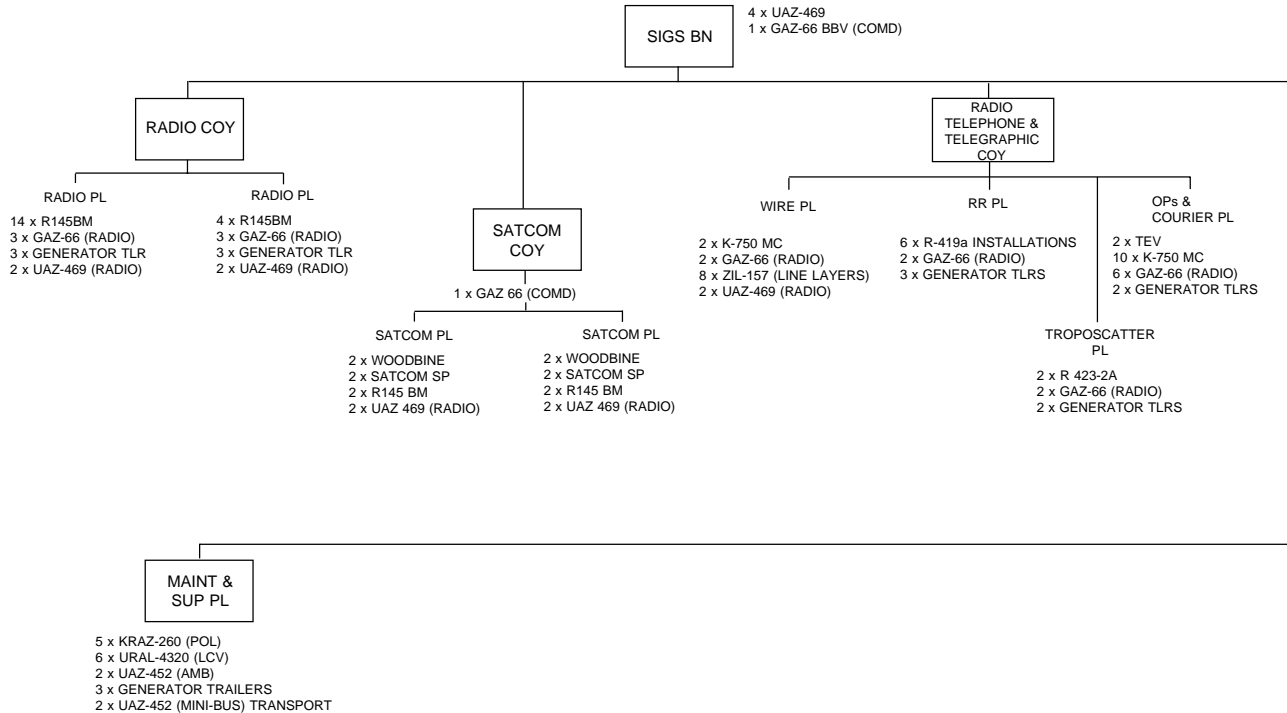


(1) BTR 60 PU12 OR MT-LBu AD CTL

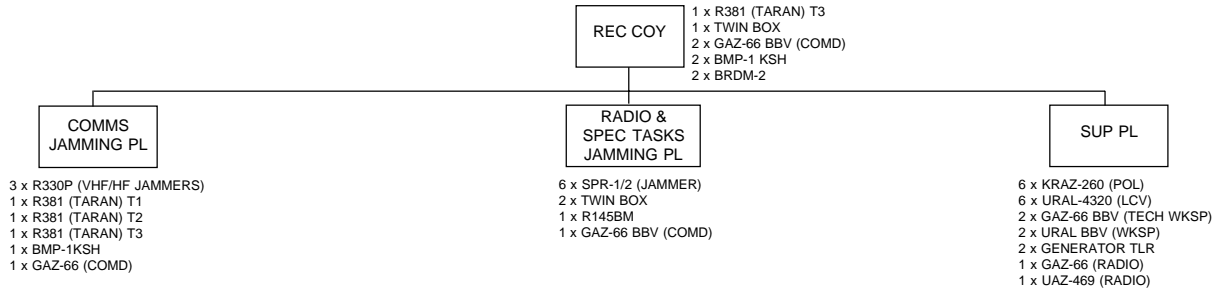
DIVISIONAL ENGINEER BATTALION



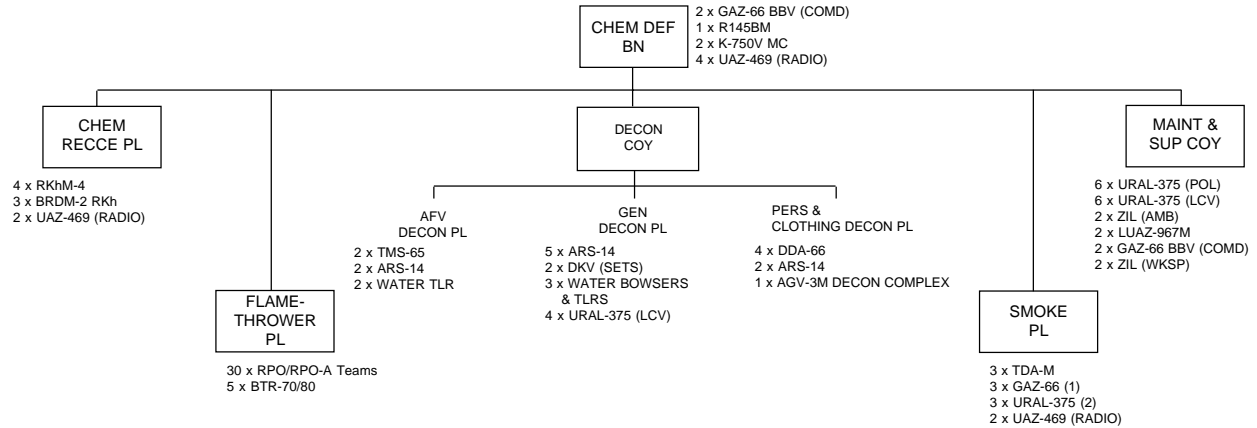
DIVISIONAL SIGNALS BATTALION



DIVISIONAL RADIO-ELECTRONIC COMBAT COMPANY

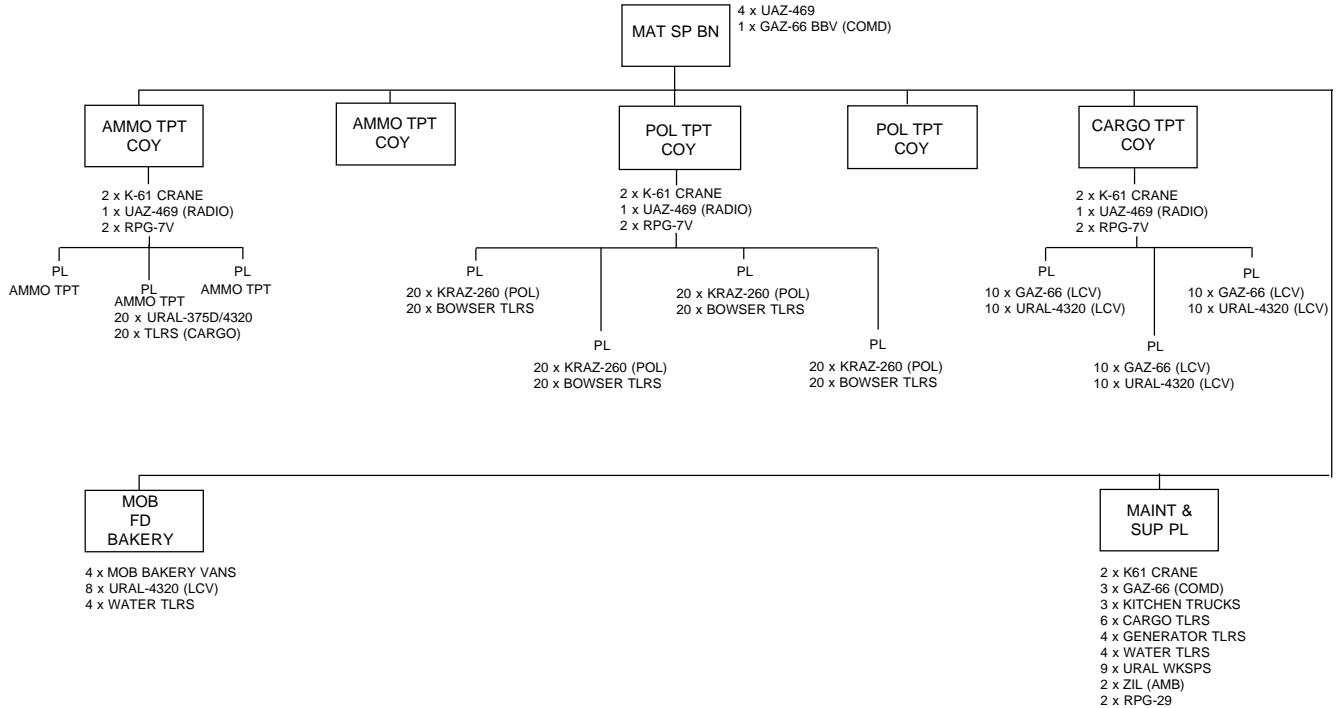


DIVISIONAL CHEMICAL DEFENCE BATTALION

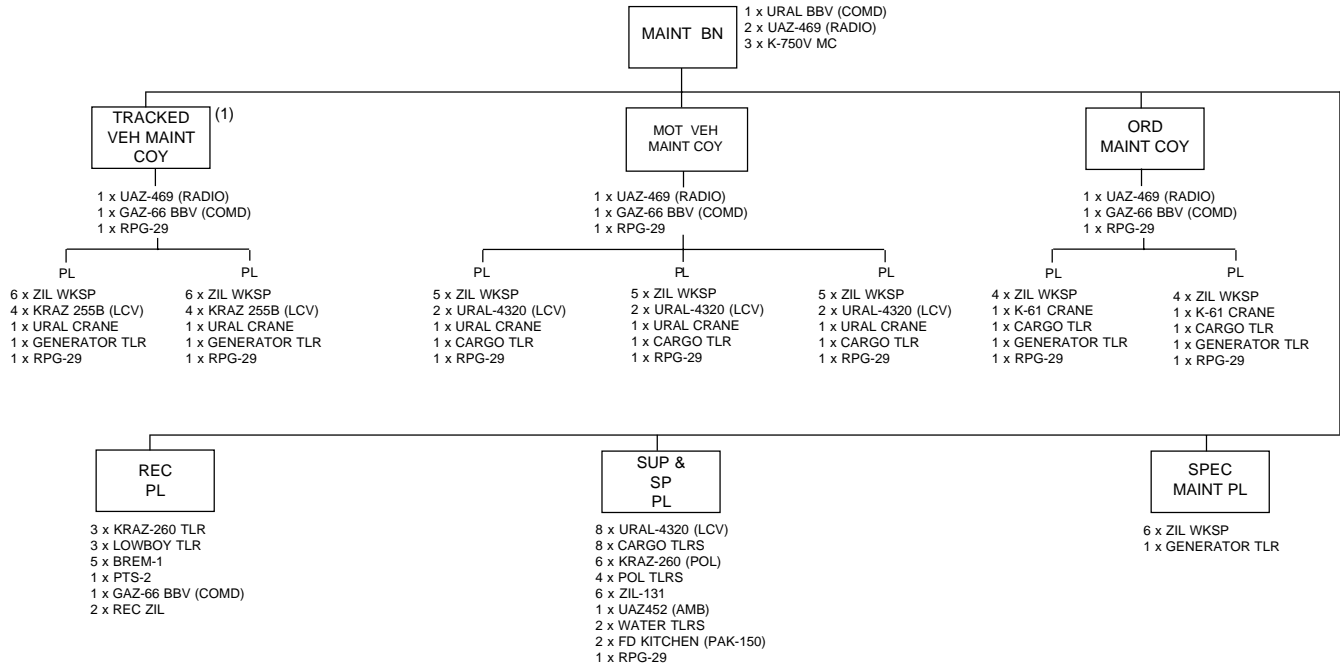


- (1) EACH TRACK CARRIES UP TO 500 x YAD-11, YAD-21 OR DM-11 SMOKE POTS
 (2) EACH TRACK CARRIES UP TO 100 x BD S65 OR BD SH15 SMOKE POTS

DIVISIONAL MATERIEL SUPPORT BATTALION

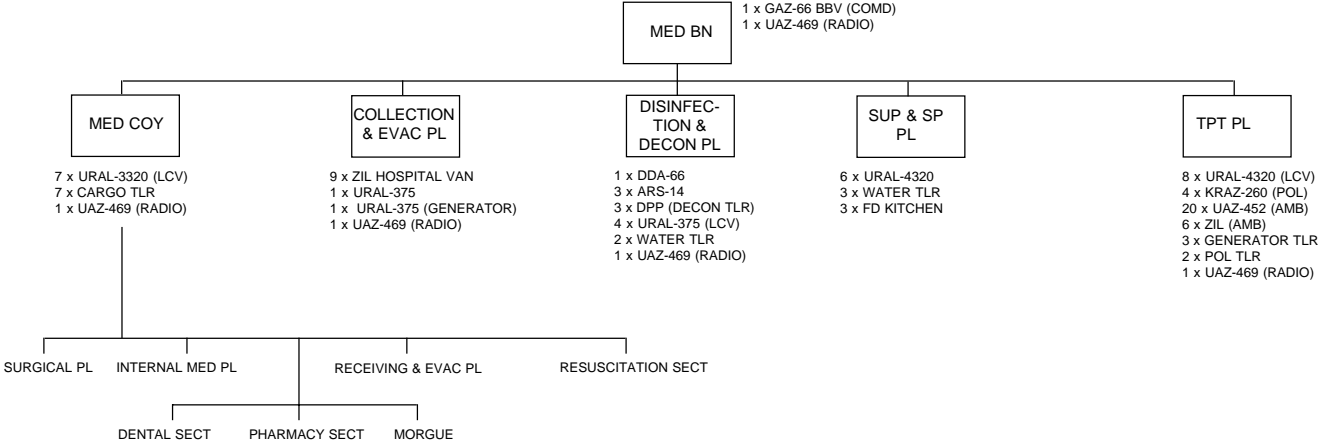


DIVISIONAL MAINTENANCE BATTALION

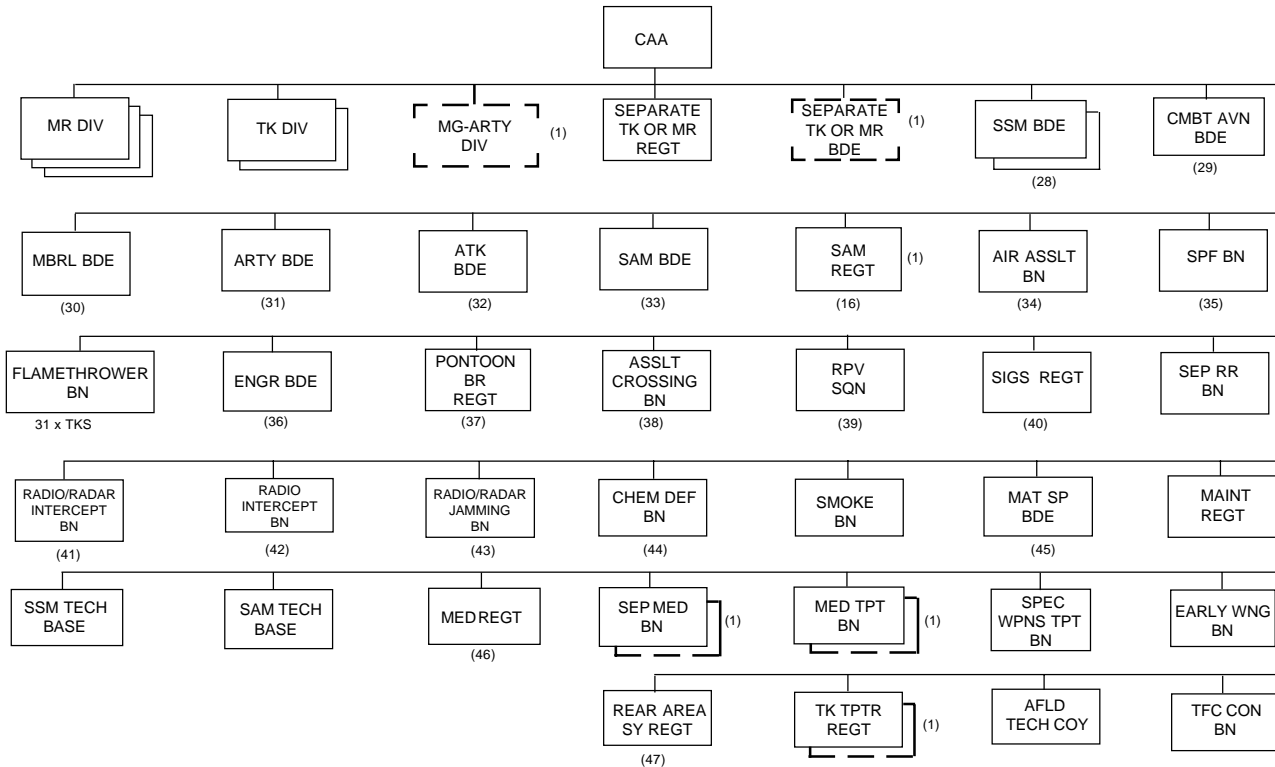


(1) THIS COMPANY HAS 2 PLATOONS WHEN ORGANIC TO A MRD AND 3 PLATOONS WHEN ORGANIC TO A TK DIV.

DIVISIONAL MEDICAL BATTALION

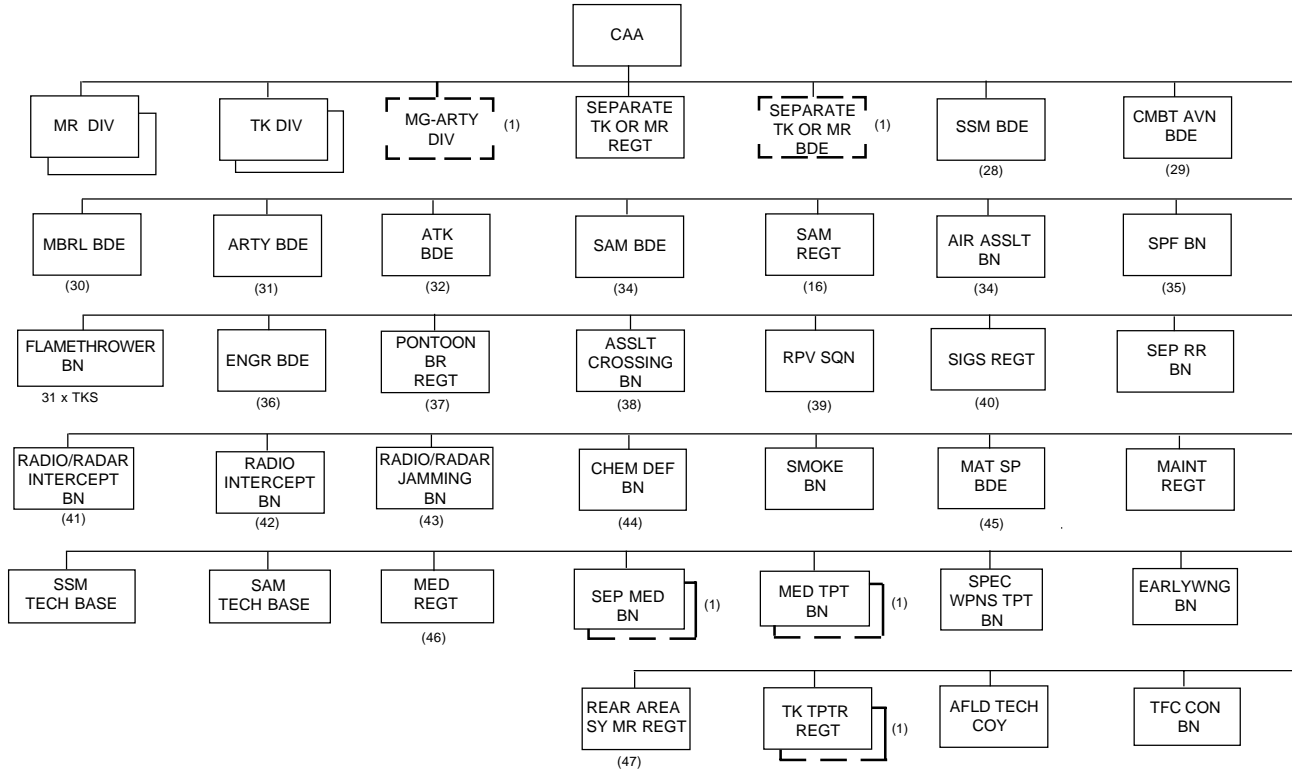


COMBINED ARMS ARMY (TYPE 1)



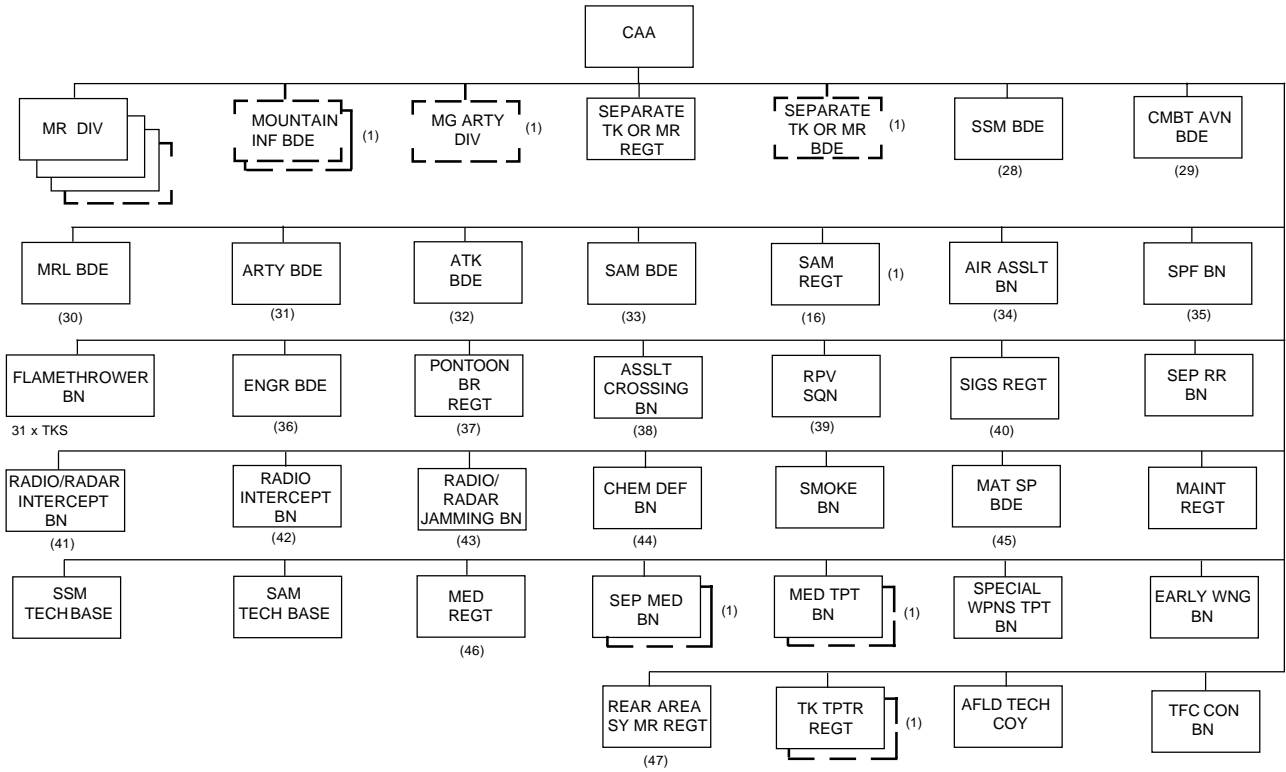
(1) Possible attachment from SG
AL 1

COMBINED ARMS ARMY (TYPE 2)



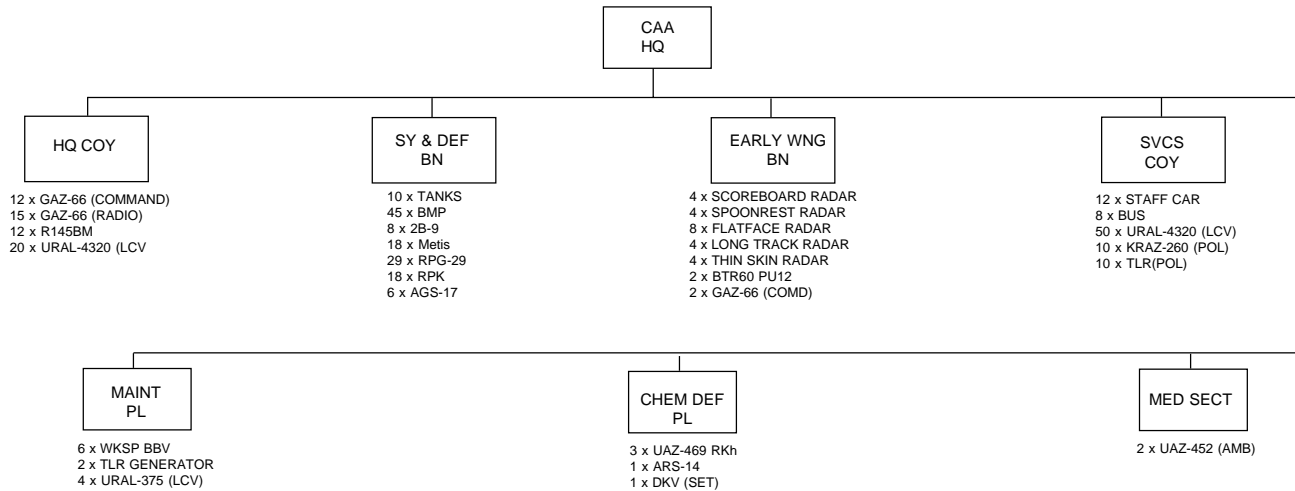
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COMBINED ARMS ARMY (TYPE 3)

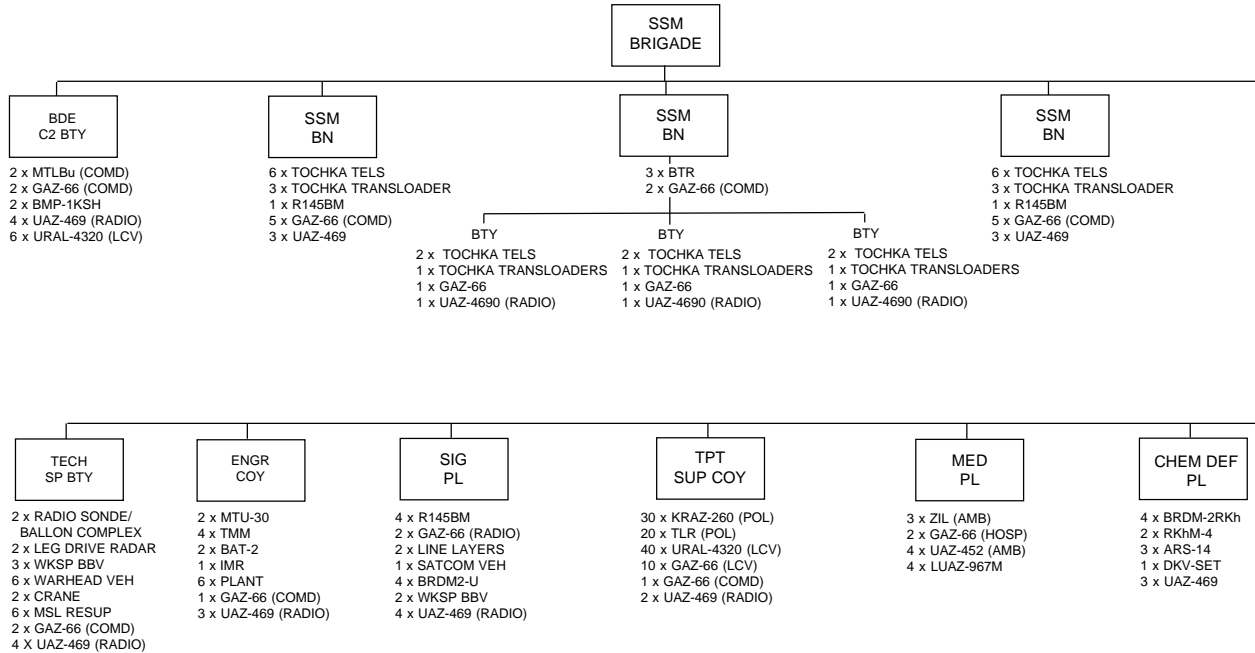


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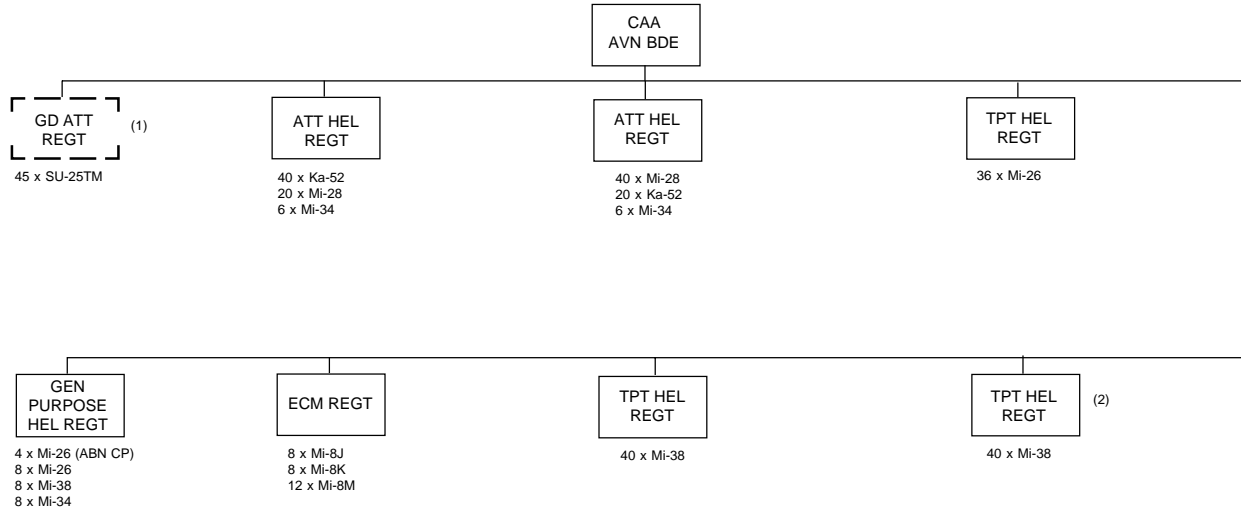
COMBINED ARMS ARMY HEADQUARTERS



COMBINED ARMS ARMY SURFACE-TO-SURFACE MISSILE BRIGADE



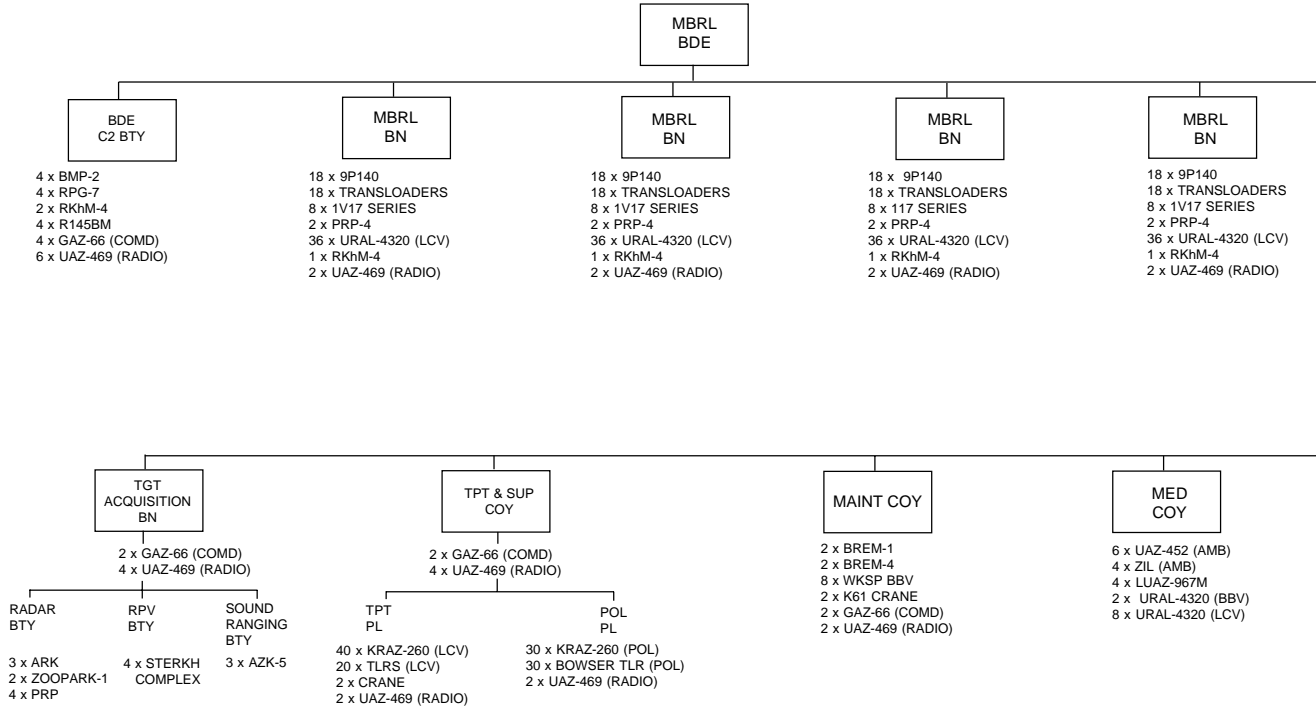
COMBINED ARMS ARMY AVIATION BRIGADE



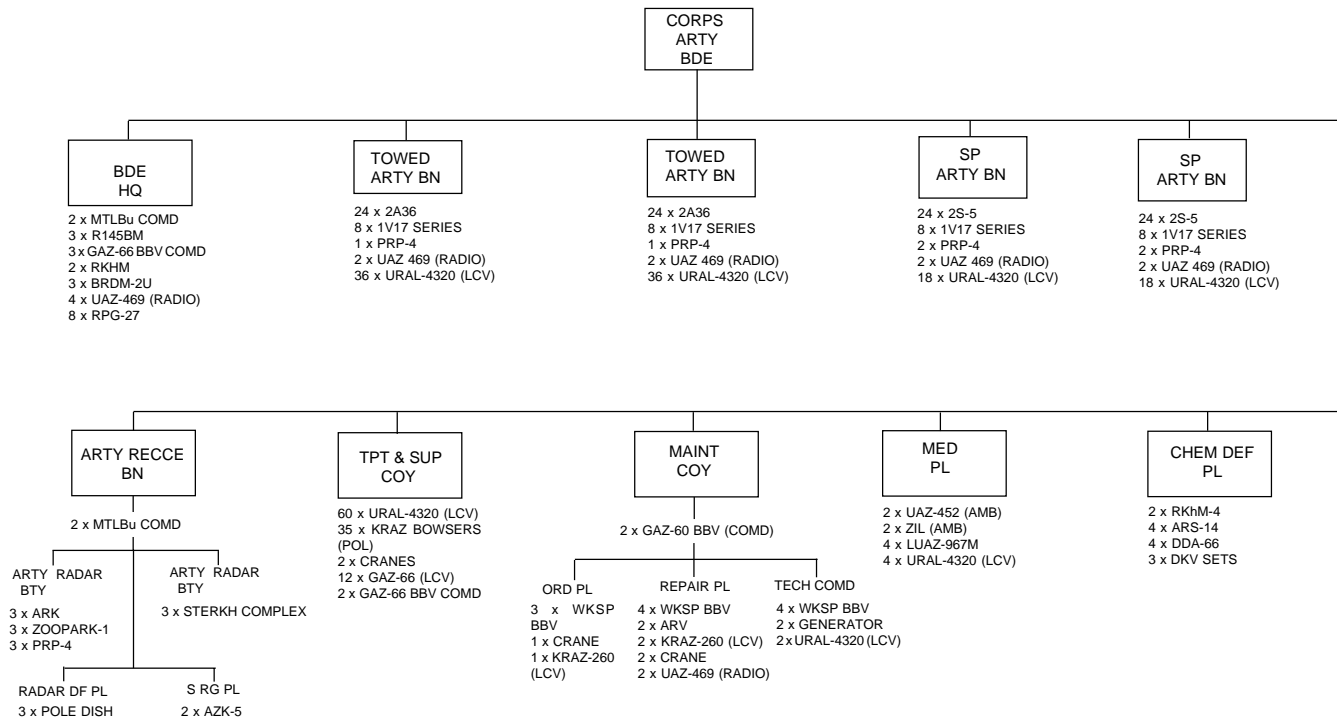
(1) Possible in direct support from SG

(2) Possible attachment from SG

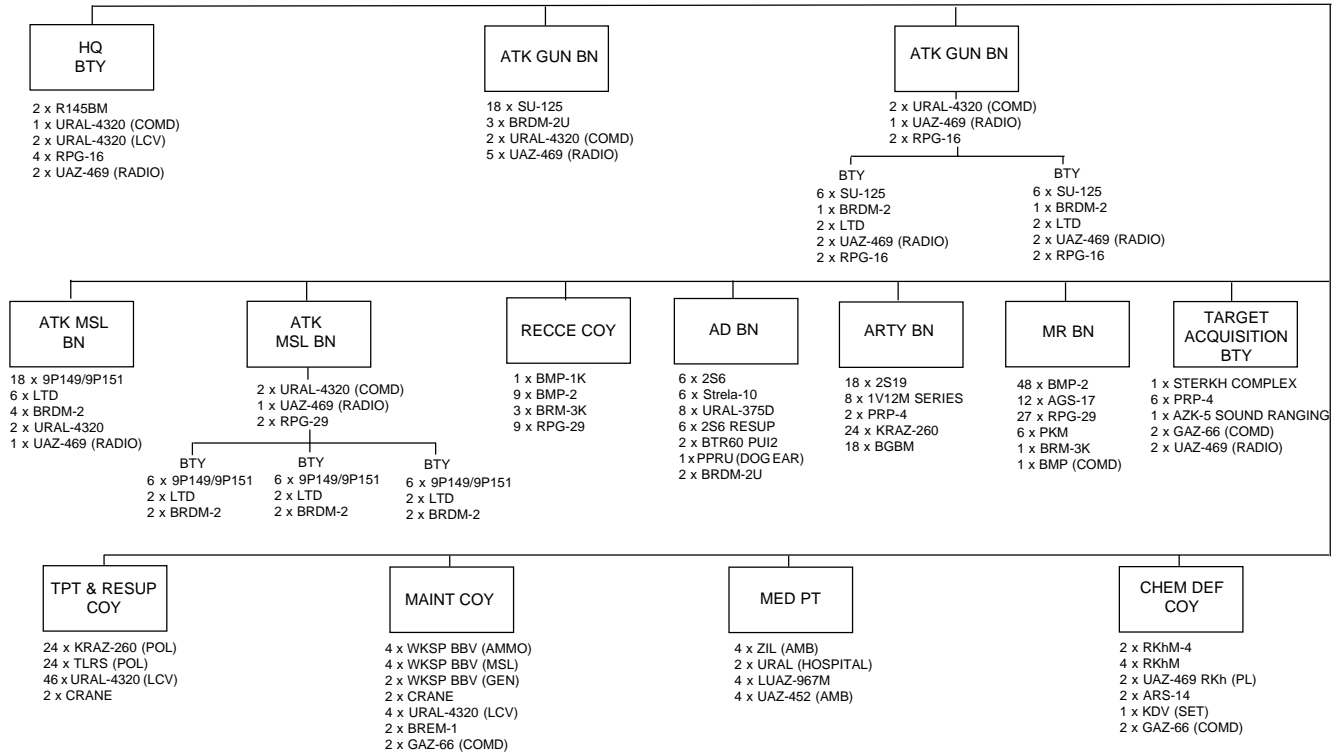
COMBINED ARMS ARMY MULTI-BARRELLED ROCKET LAUNCHER BRIGADE



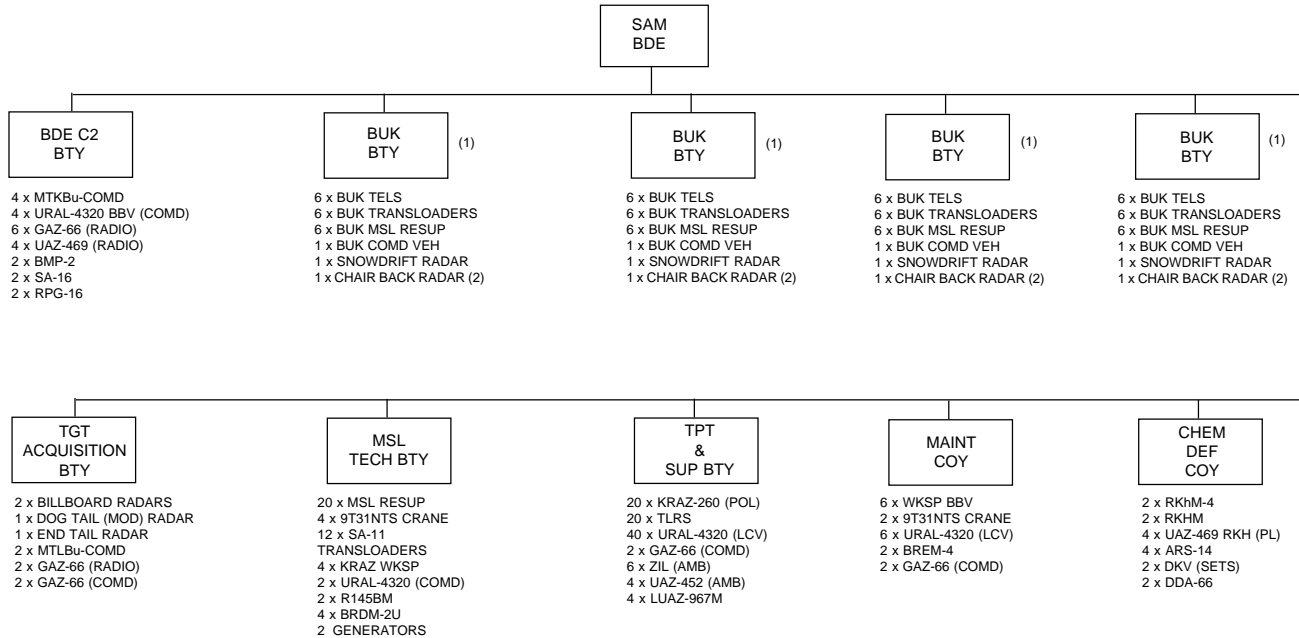
COMBINED ARMS ARMY ARTILLERY BRIGADE



COMBINED ARMS ARMY ANTI-TANK BRIGADE

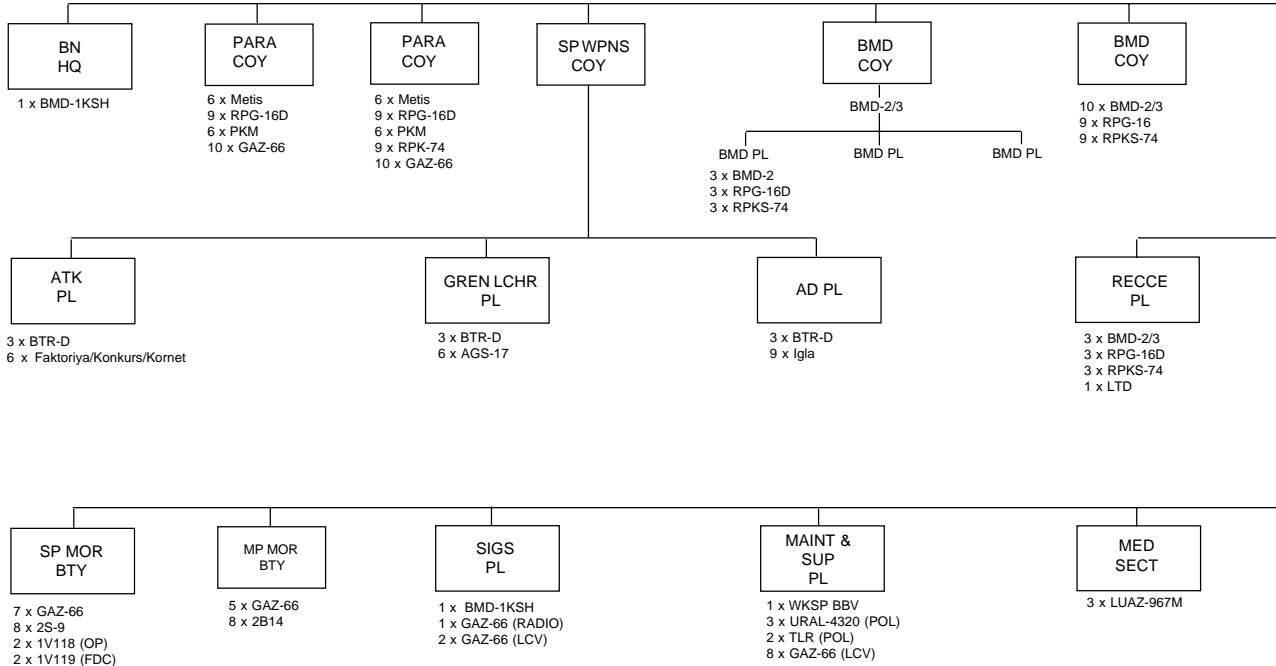


COMBINED ARMS ARMY SURFACE-TO-AIR MISSILE BRIGADE

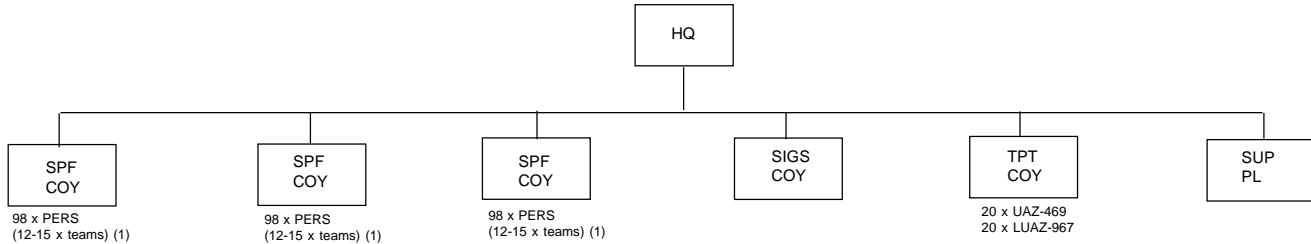


(1) SAM either BUK-M1 or BUK-M2
 (2) In BUK-1M batteries, FIRE DOME

ARMY AIR ASSAULT BATTALION

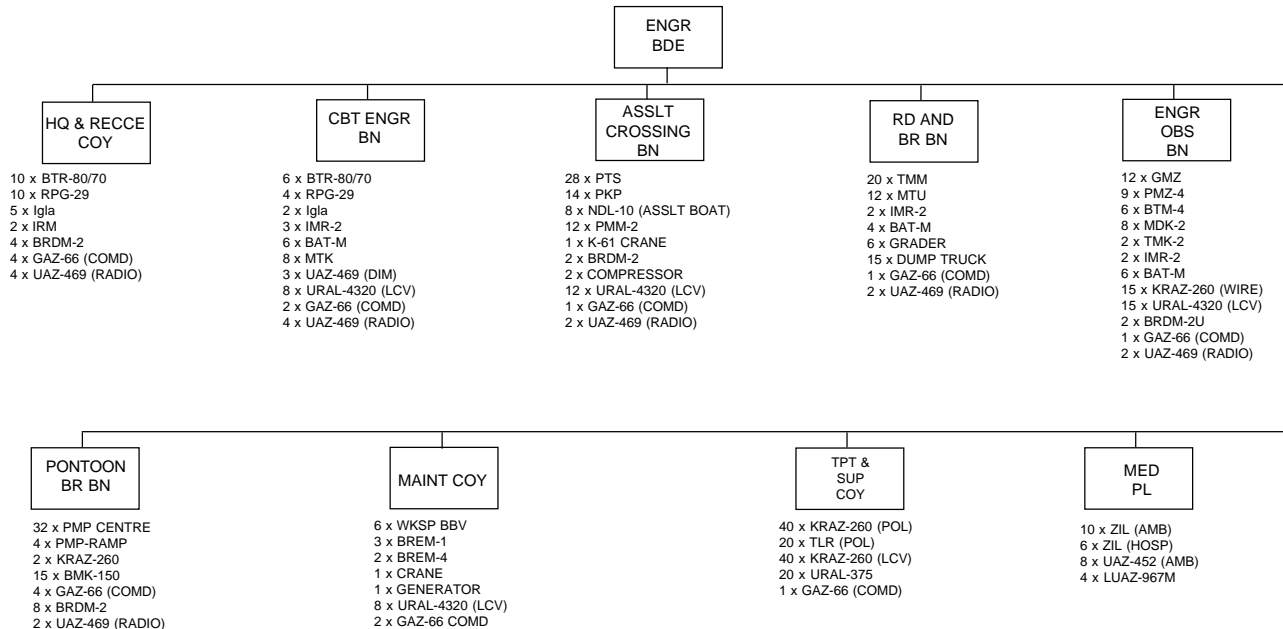


ARMY SPECIAL PURPOSE FORCES BATTALION

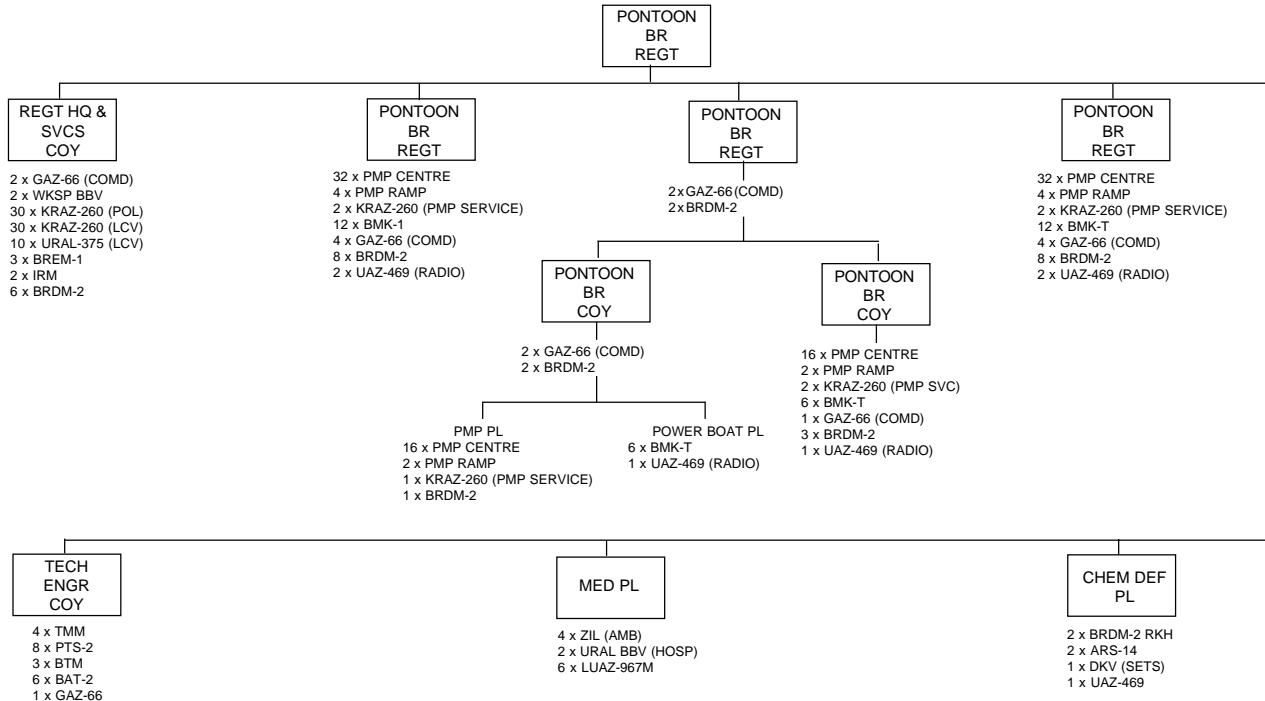


(1) Typical team comprises Comd (Offr), 2i/c, 1-2 Radio Op, 1-4 Wpns Specialists (Metis, RPG-16D, RPO-A, Igla), 1-2 Dml Specialists, 0-4 Recce Specialists, 1 LTD Specialist ; 1-3 Vehicles, possibly with ATGMs, or 3-7 Microlight Aircraft.

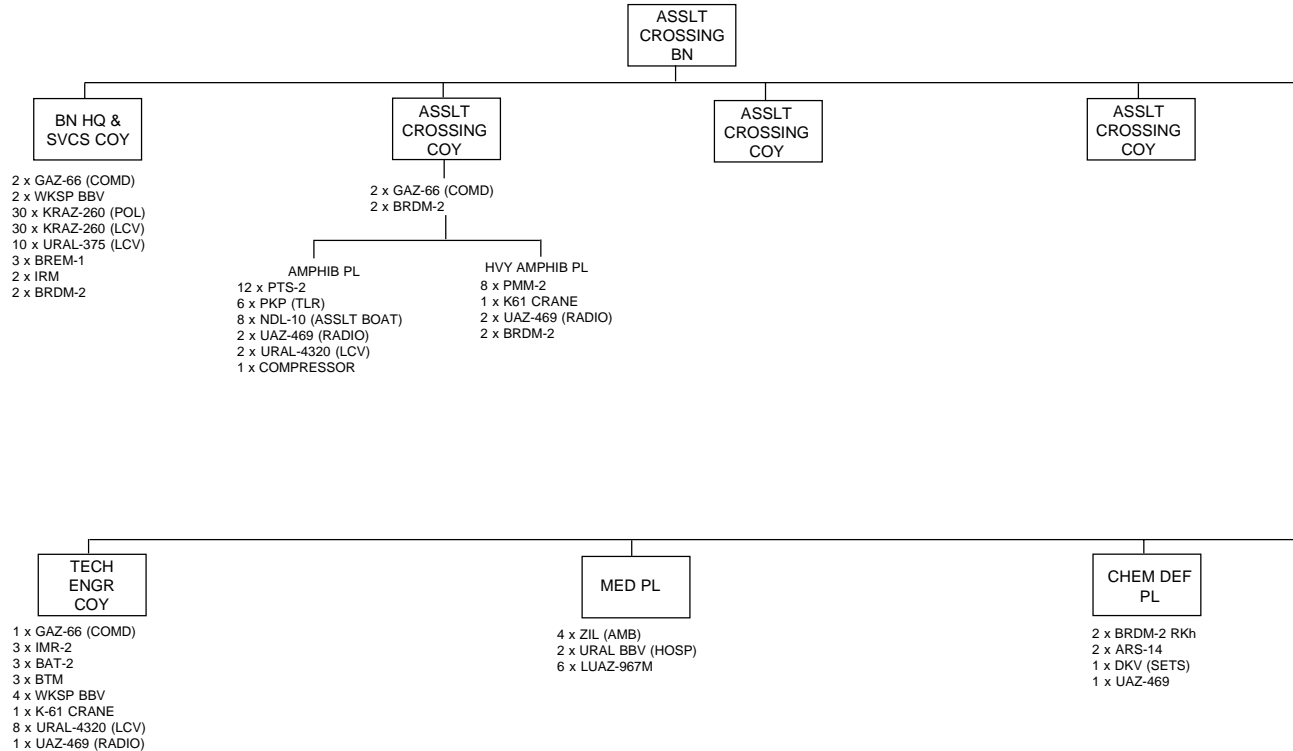
COMBINED ARMS ARMY ENGINEER BRIGADE



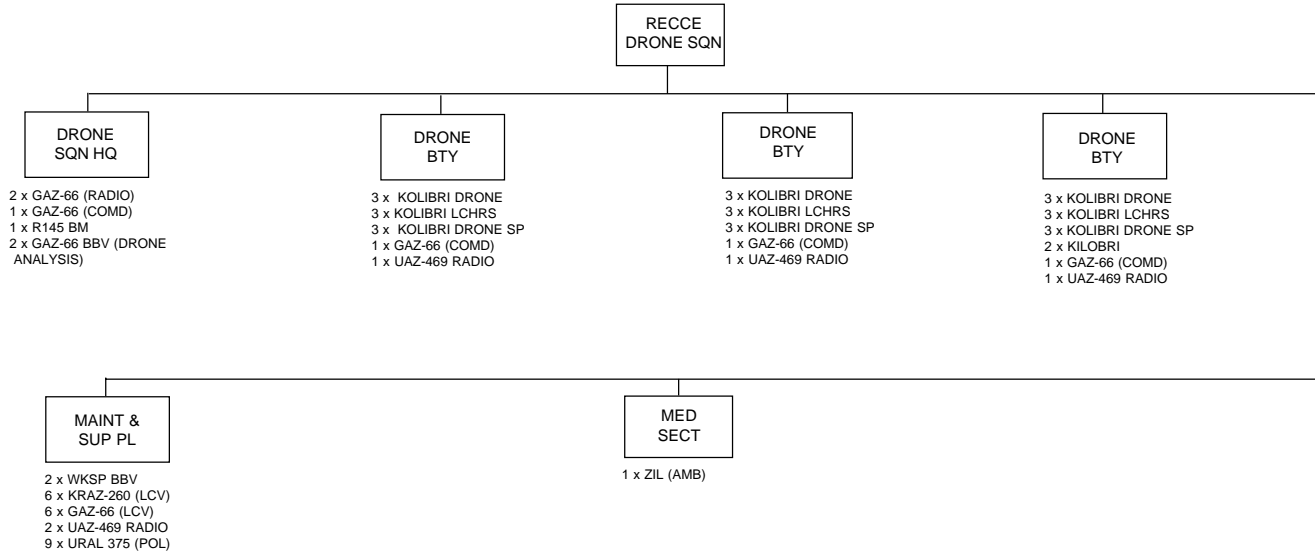
COMBINED ARMS ARMY PONTOON BRIDGING REGIMENT



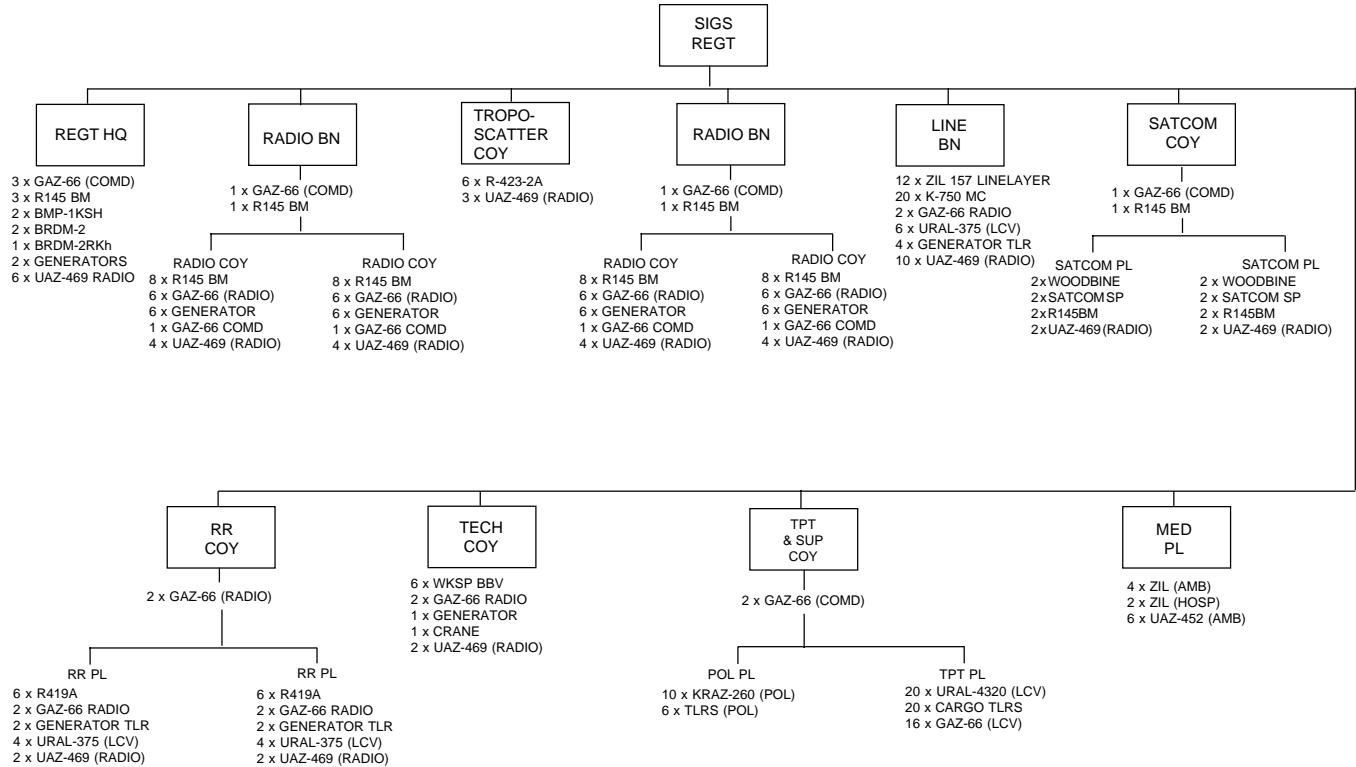
COMBINED ARMS ARMY ASSAULT CROSSING BATTALION



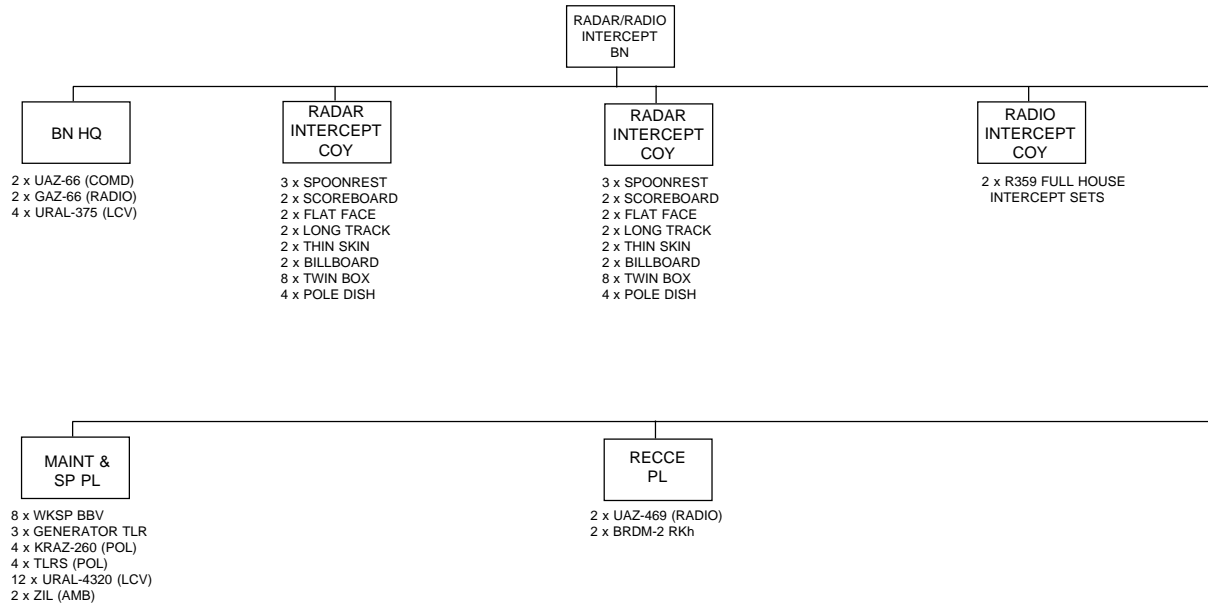
COMBINED ARMS ARMY RECONNAISSANCE-DRONE SQUADRON



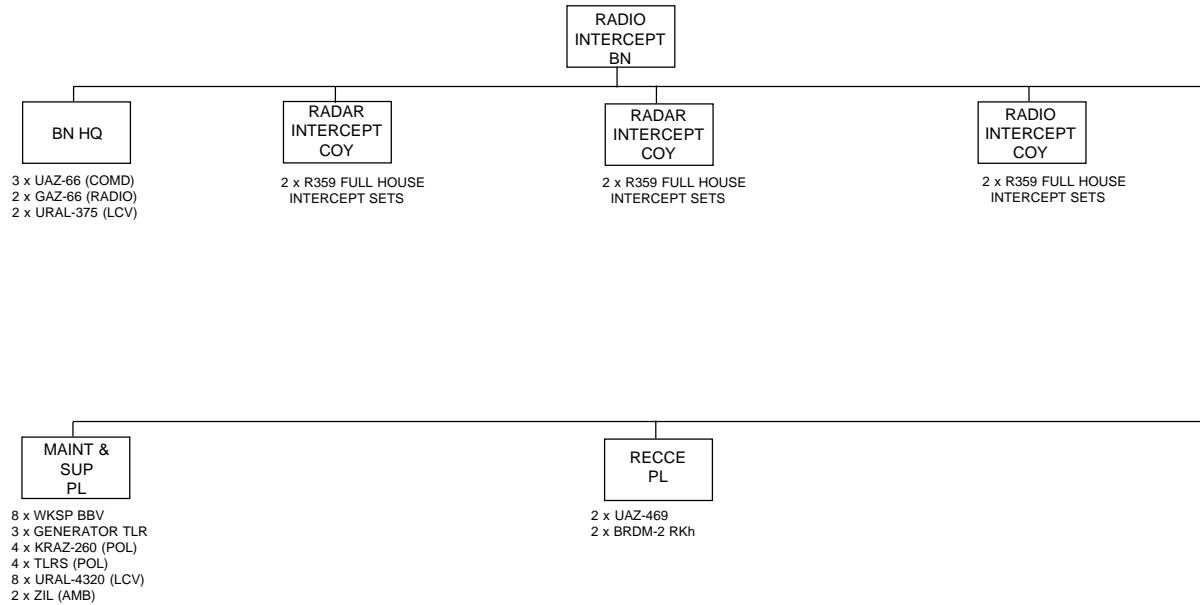
COMBINED ARMS ARMY SIGNALS REGIMENT



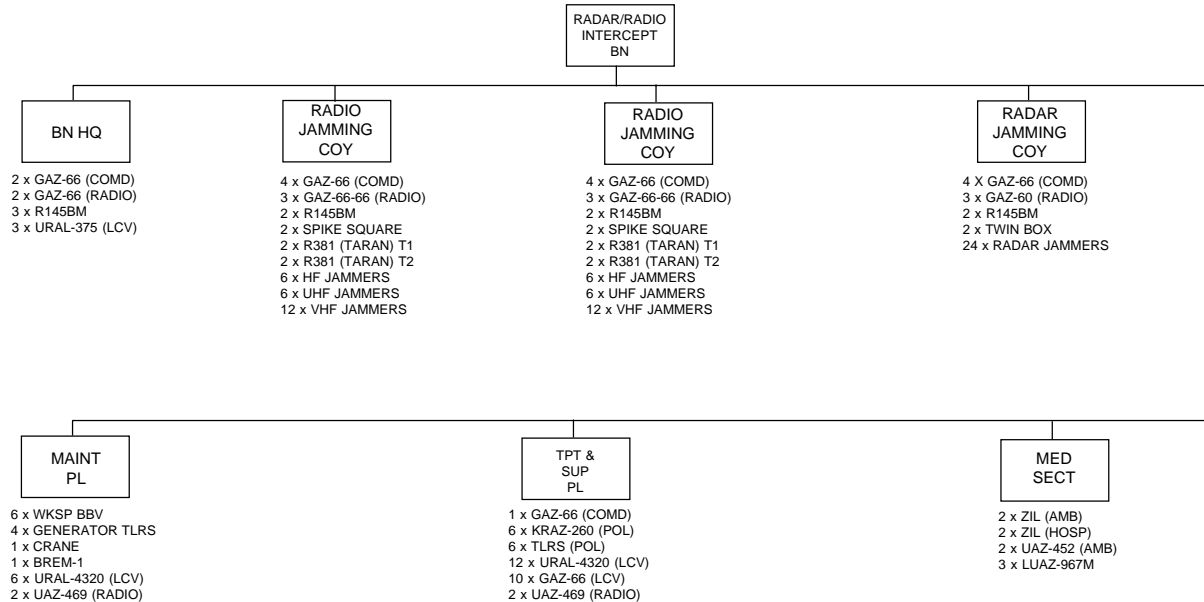
COMBINED ARMS ARMY RADIO/RADAR INTERCEPT BATTALION



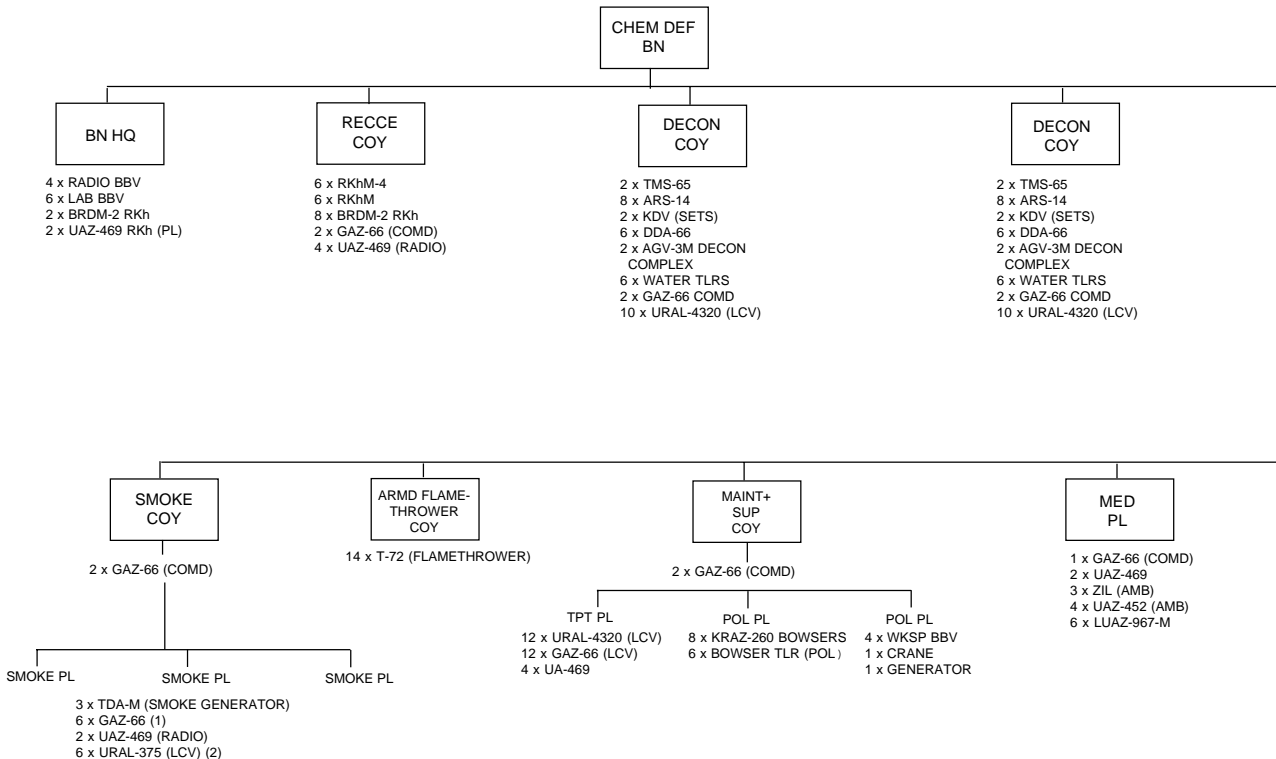
COMBINED ARMS ARMY RADIO INTERCEPT BATTALION



COMBINED ARMS ARMY RADIO/RADAR JAMMING BATTALION



COMBINED ARMS ARMY CHEMICAL DEFENCE BATTALION

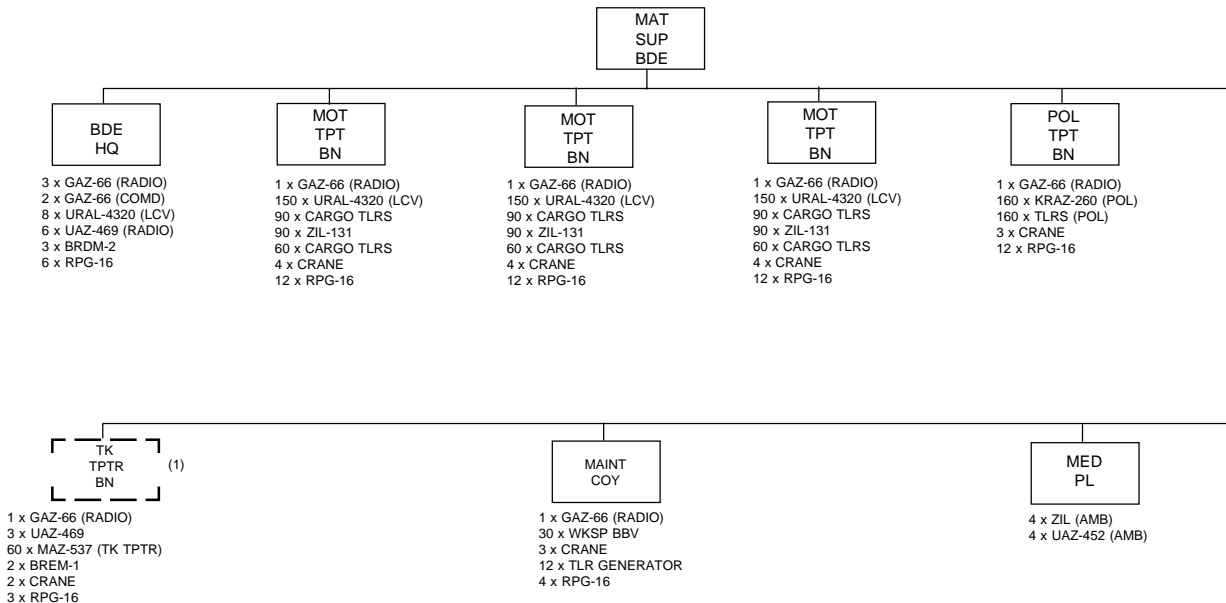


(1) EACH TRUCK CARRIES UP TO 500 YAD-112, YAD-21 or DM-11 SMOKE POTS

(2) EACH TRUCK CARRIES UP TO 100 BDSH5 or BDSH15 SMOKE POTS

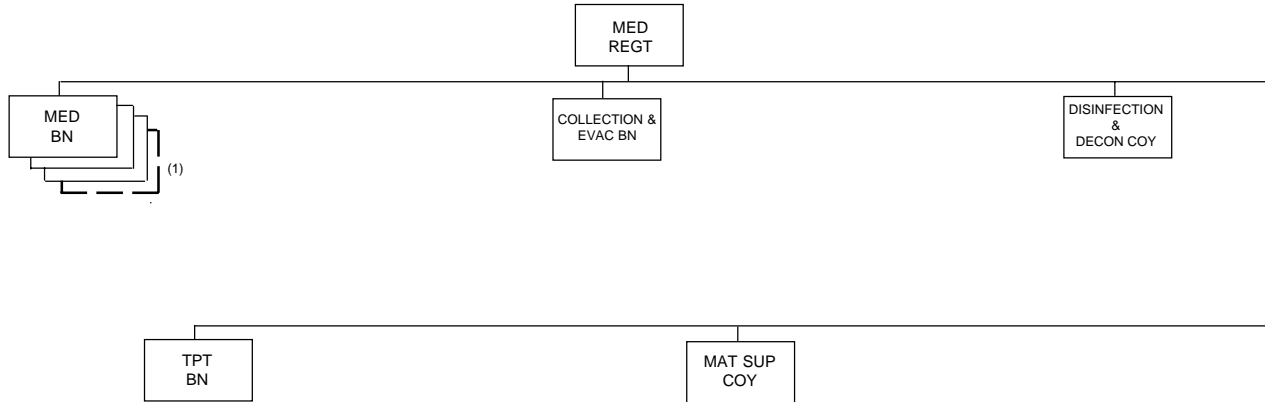
AL 1

COMBINED ARMS ARMY MATERIEL SUPPORT BRIGADE



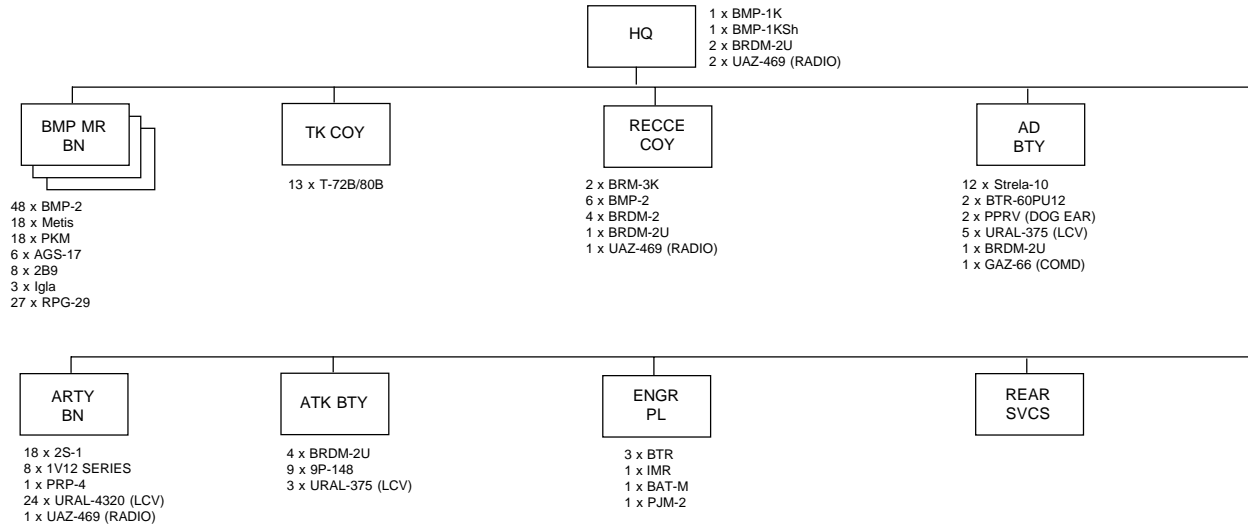
(1) Attached from SG as required

COMBINED ARMS ARMY MEDICAL REGIMENT



(1) Possible attachment from SG

COMBINED ARMS ARMY REAR SERVICES SECURITY REGIMENT



SECTION 2

GENFORCE

MOBILE FORCES

**TABLES OF ORGANIZATION
&
EQUIPMENT**

AL1

SECTION 2

TABLES OF ORGANISATION - MOBILE FORCES

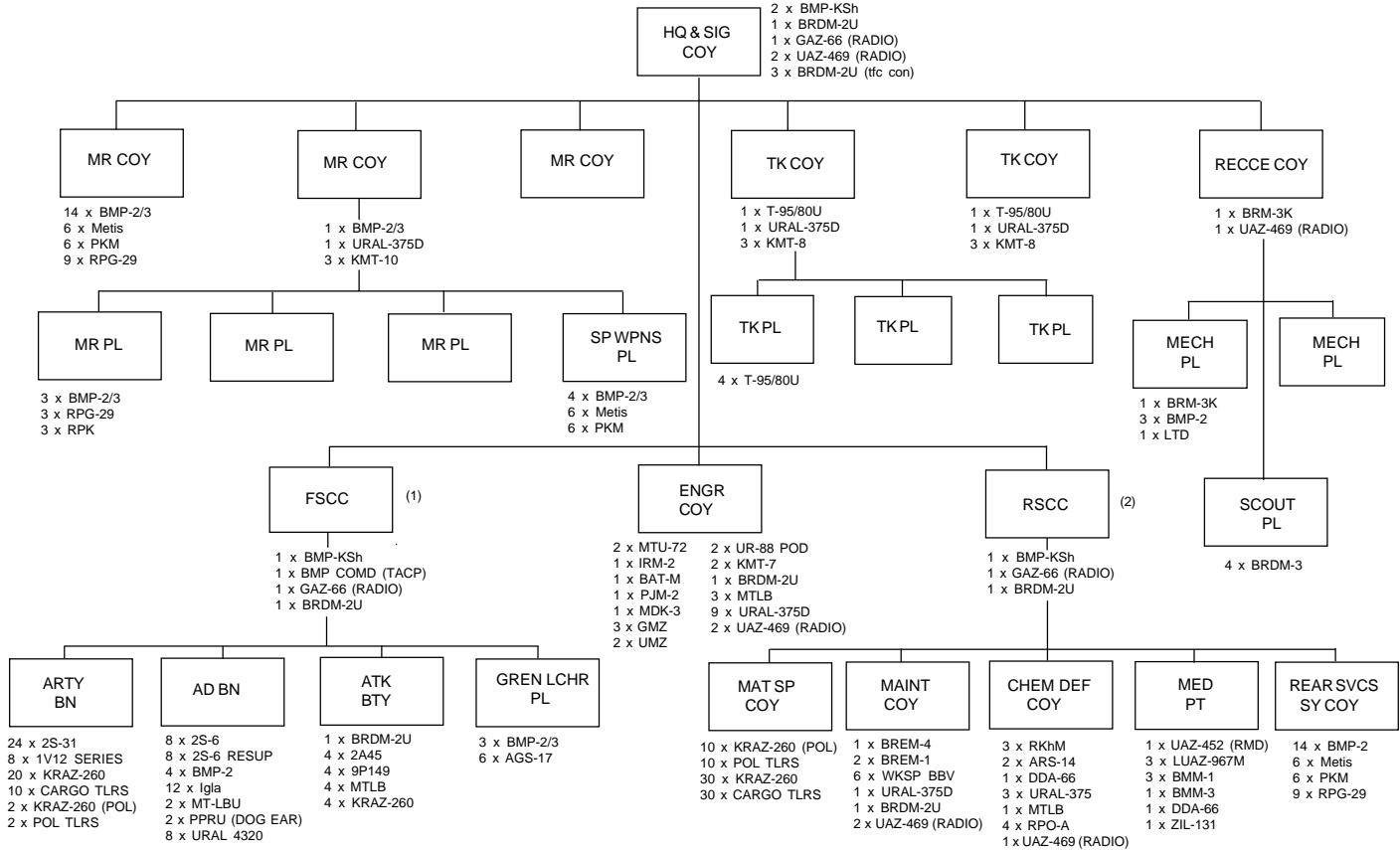
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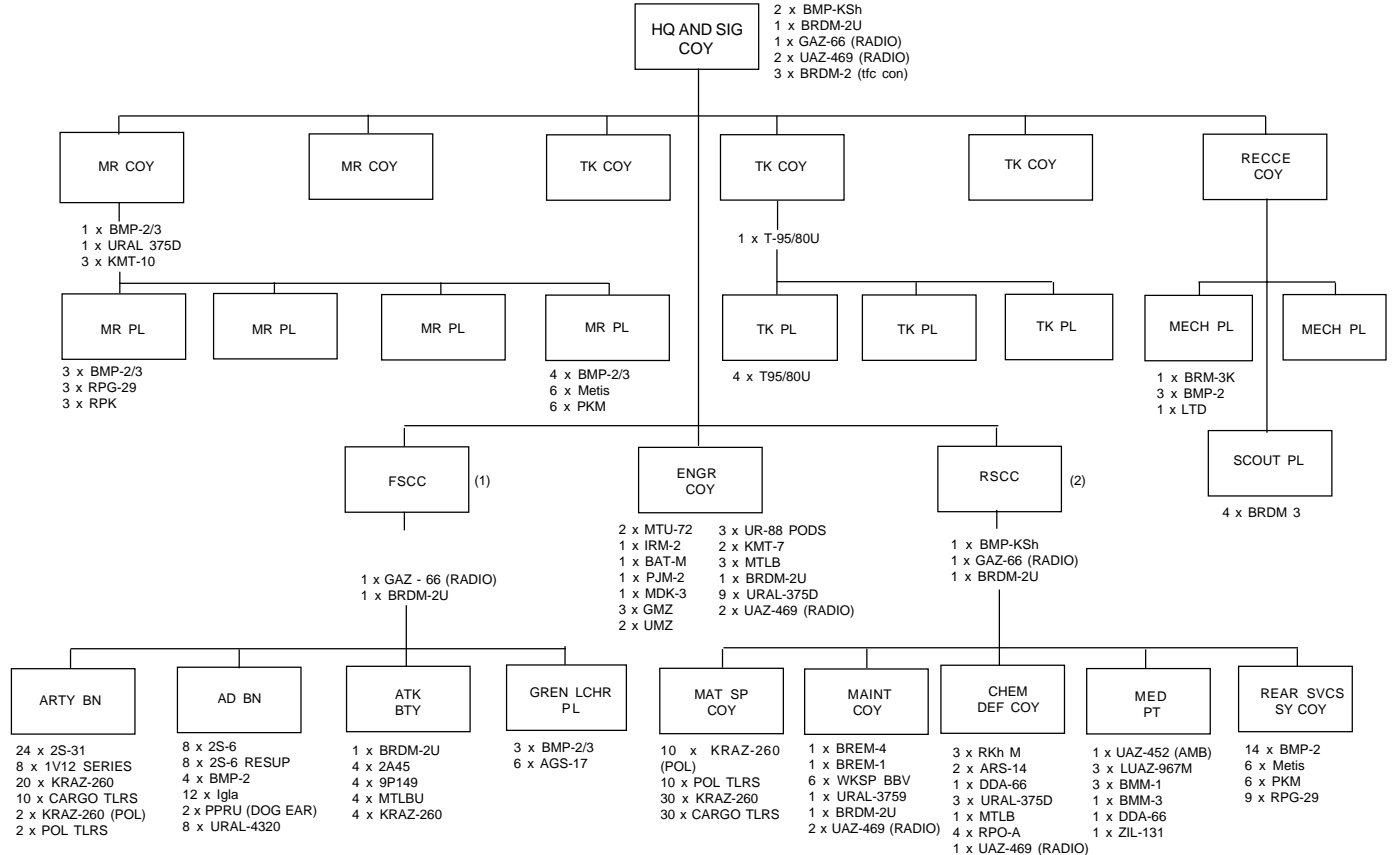
45. CORPS RADIO/RADAR INTERCEPT BATTALION
46. CORPS RADIO INTERCEPT BATTALION
47. CORPS RADIO/RADAR JAMMING BATTALION
48. CORPS RECONNAISSANCE-DRONE SQUADRON
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COMBINED ARMS MOTOR RIFLE BATTALION



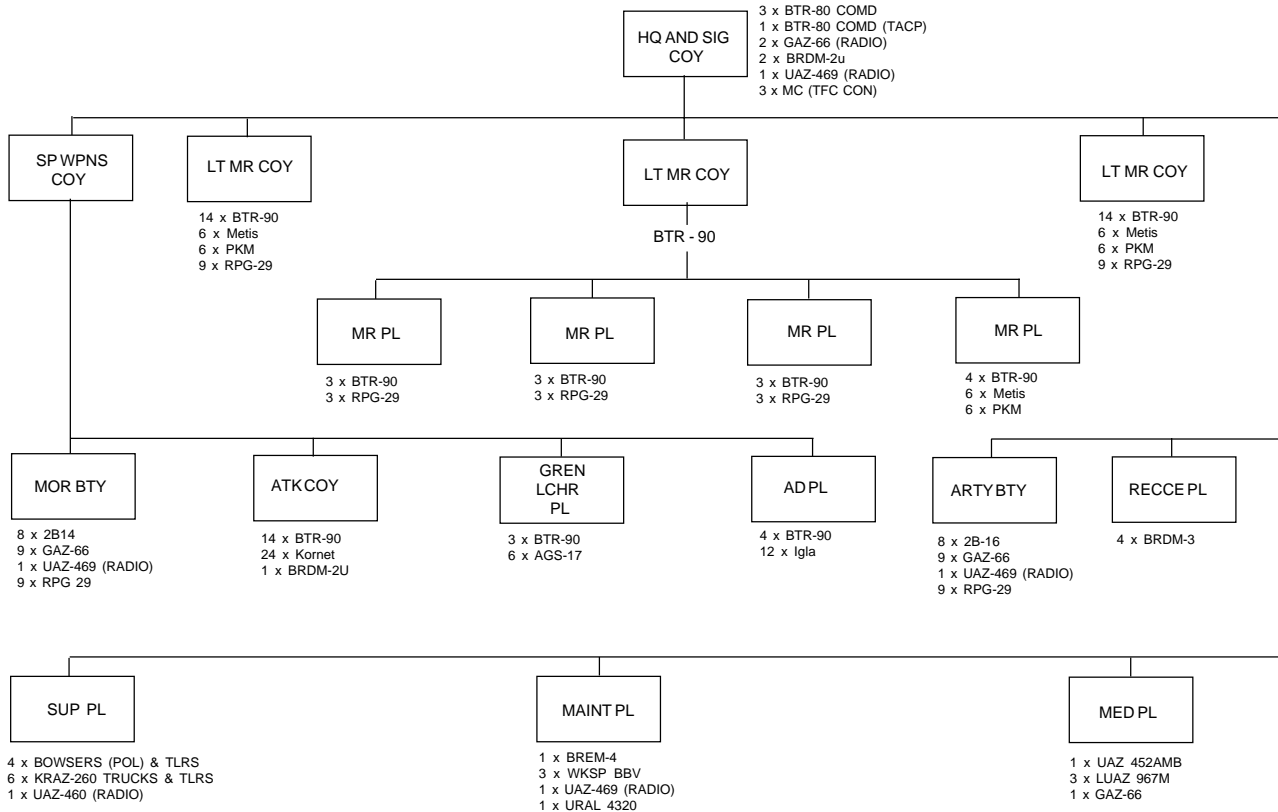
(1) Fire Support Coordination Centre.
 (2) Rear Services Coordination Centre.

COMBINED ARMS TANK BATTALION

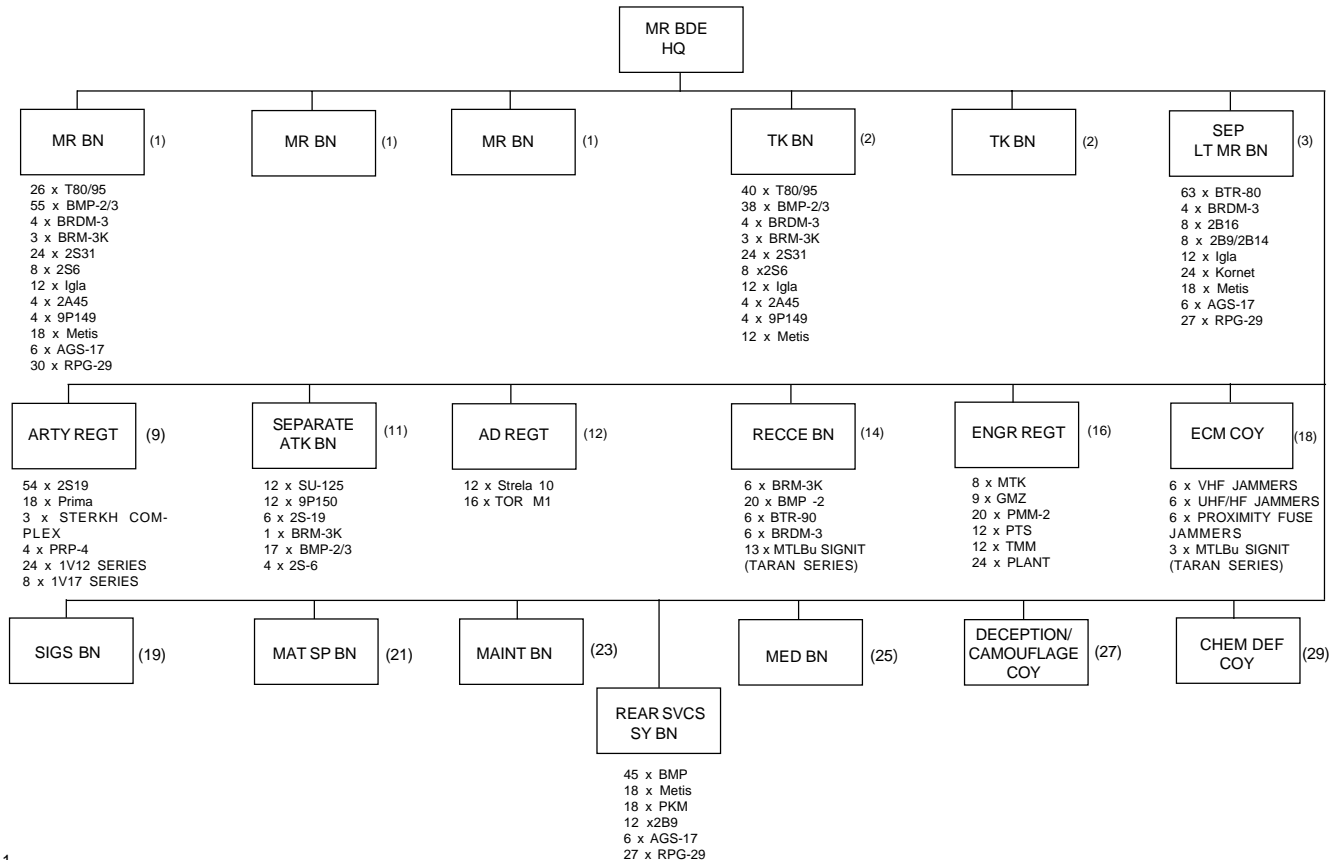


(1) Fire Support Coordination Centre.
 (2) Rear Services Coordination Centre.

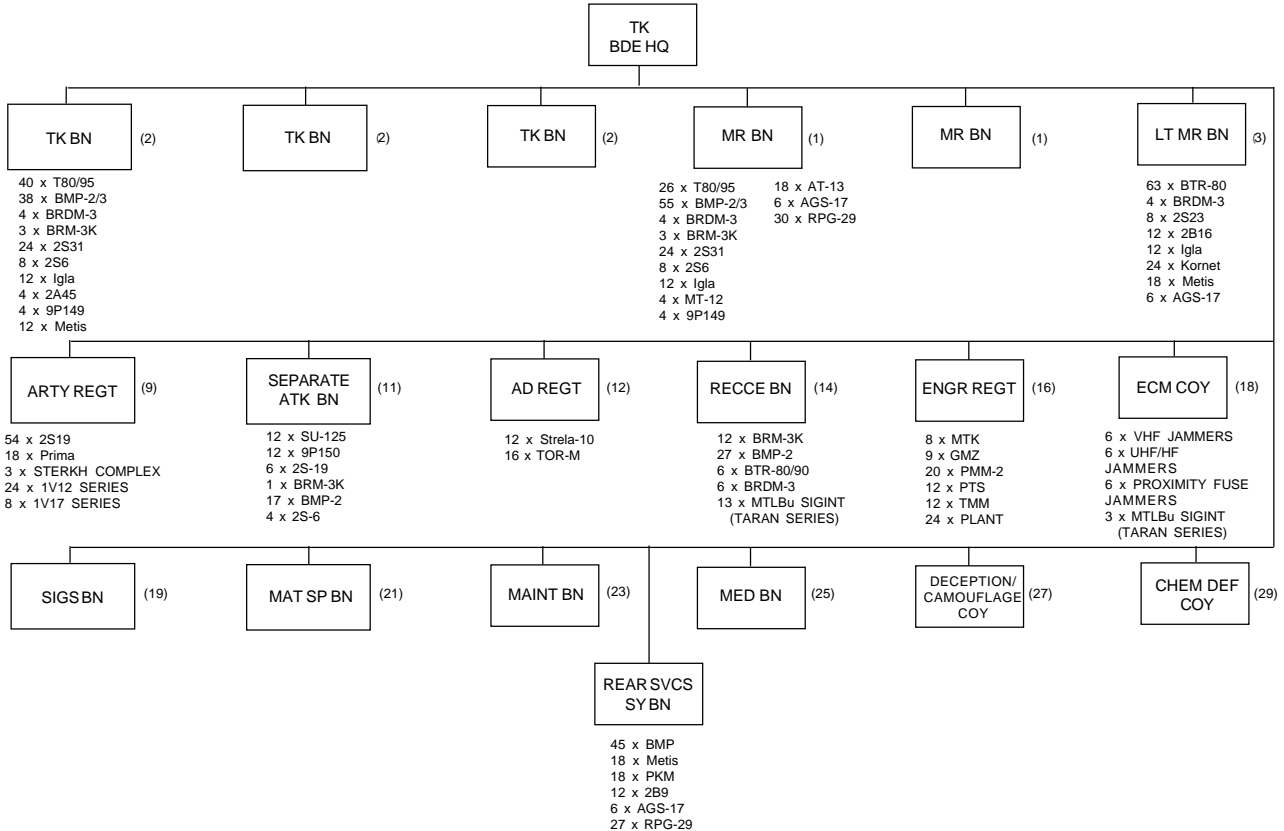
SEPARATE LIGHT MOTOR RIFLE BATTALION



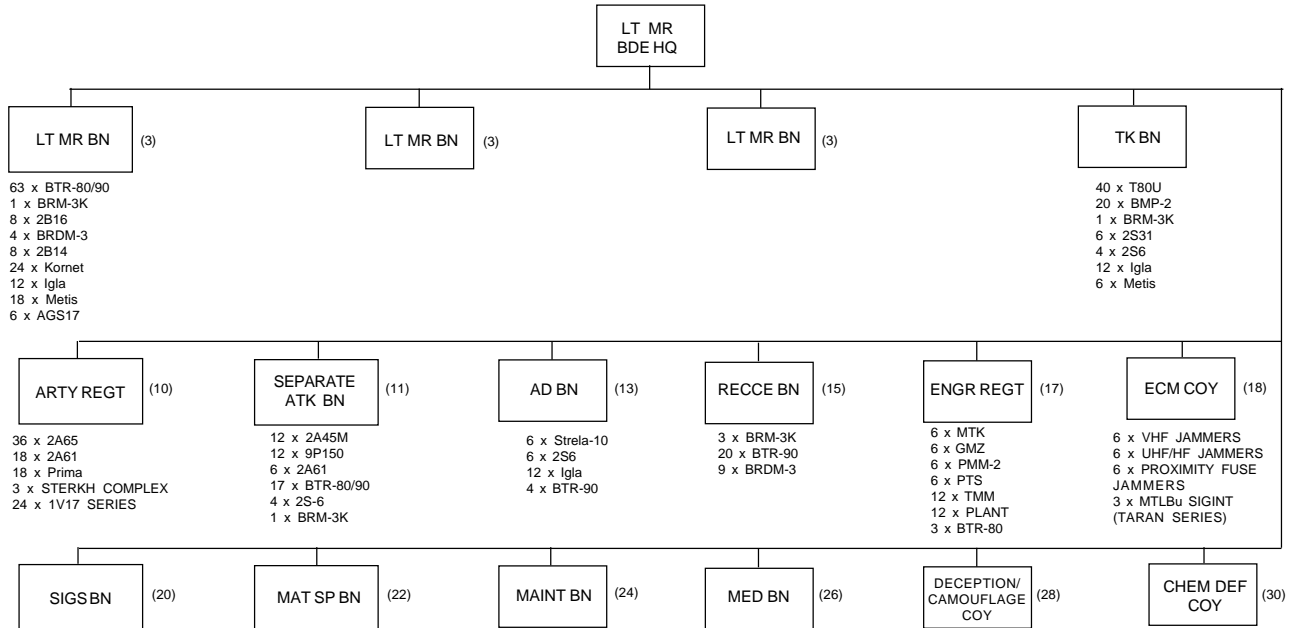
MOTOR RIFLE BRIGADE



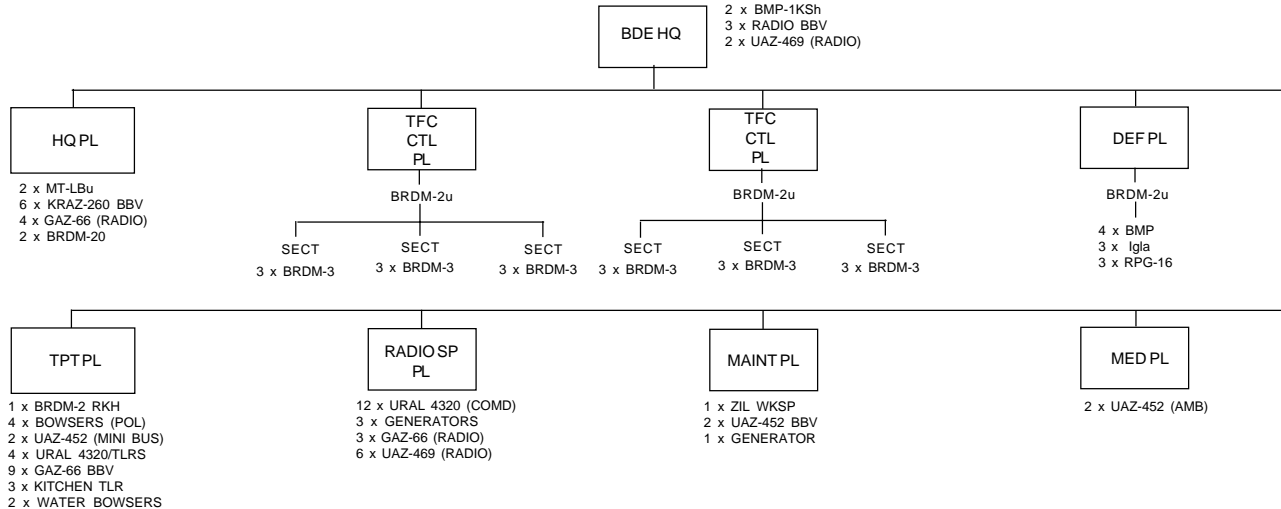
TANK BRIGADE



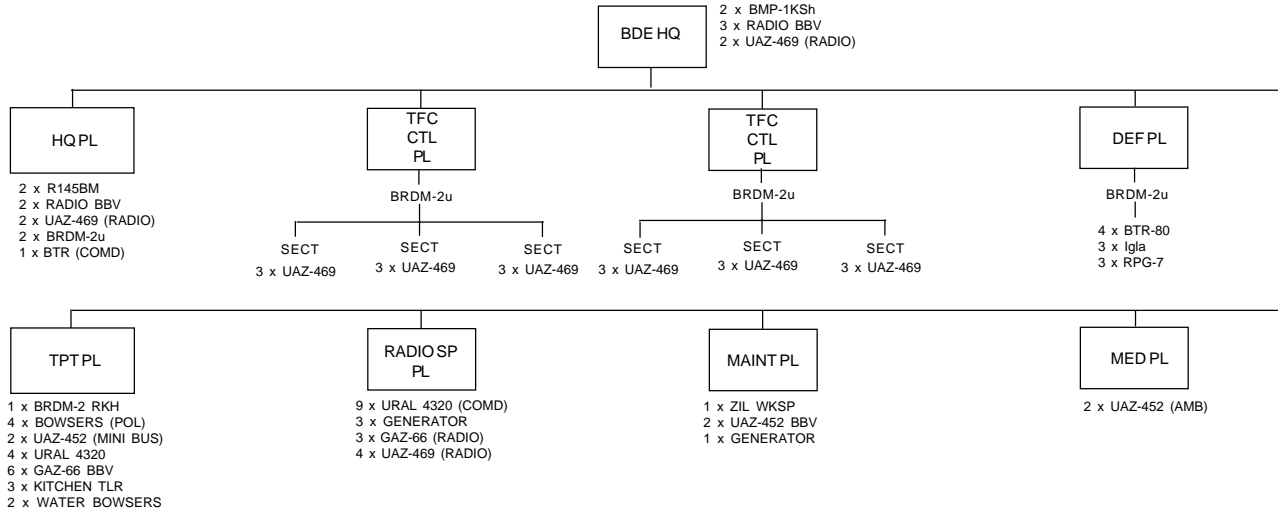
LIGHT MOTOR RIFLE BRIGADE



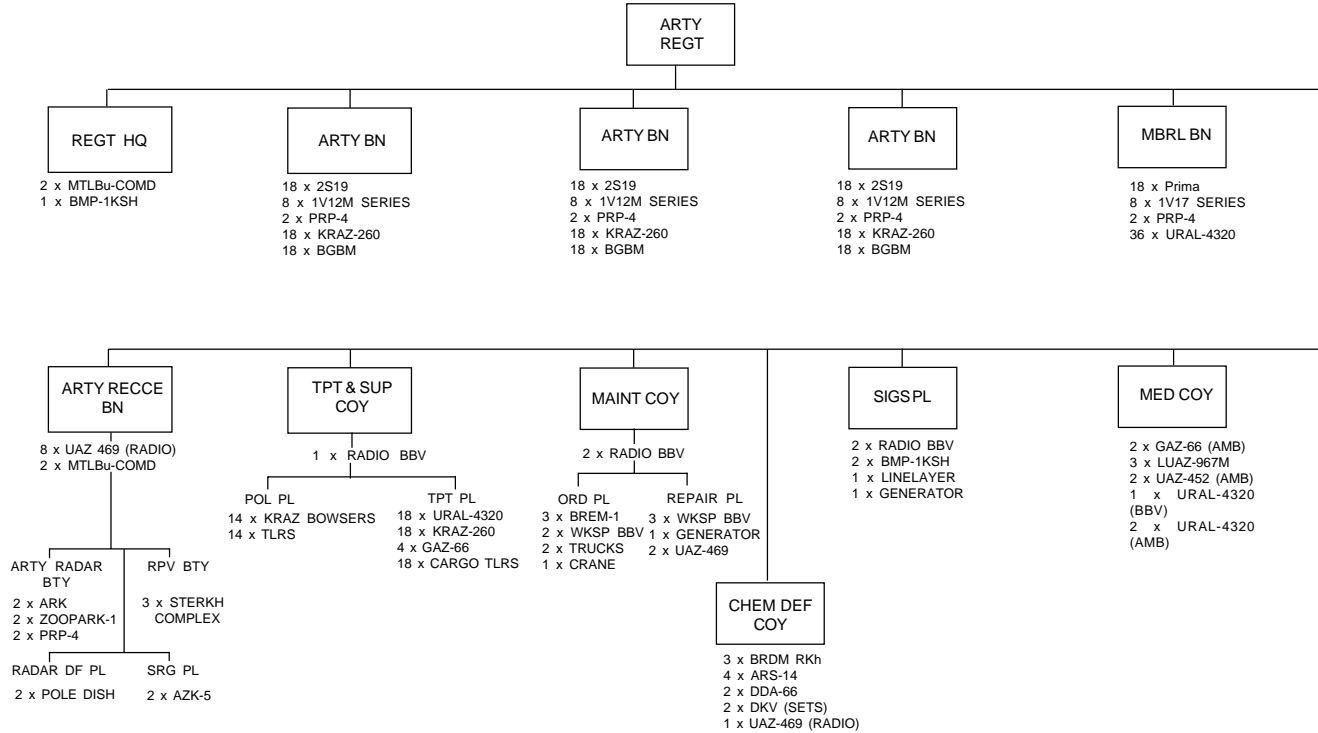
MOTOR RIFLE/TANK BRIGADE HEADQUARTERS



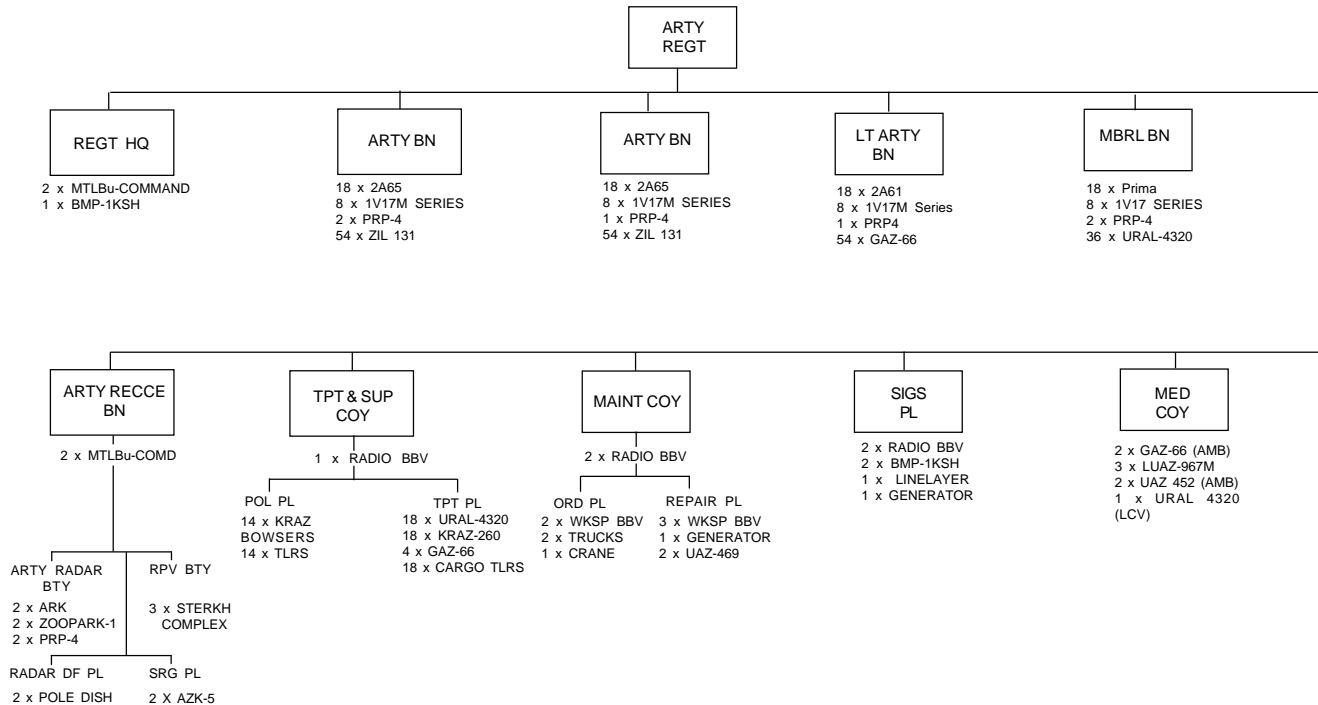
LIGHT MOTOR RIFLE BRIGADE HEADQUARTERS



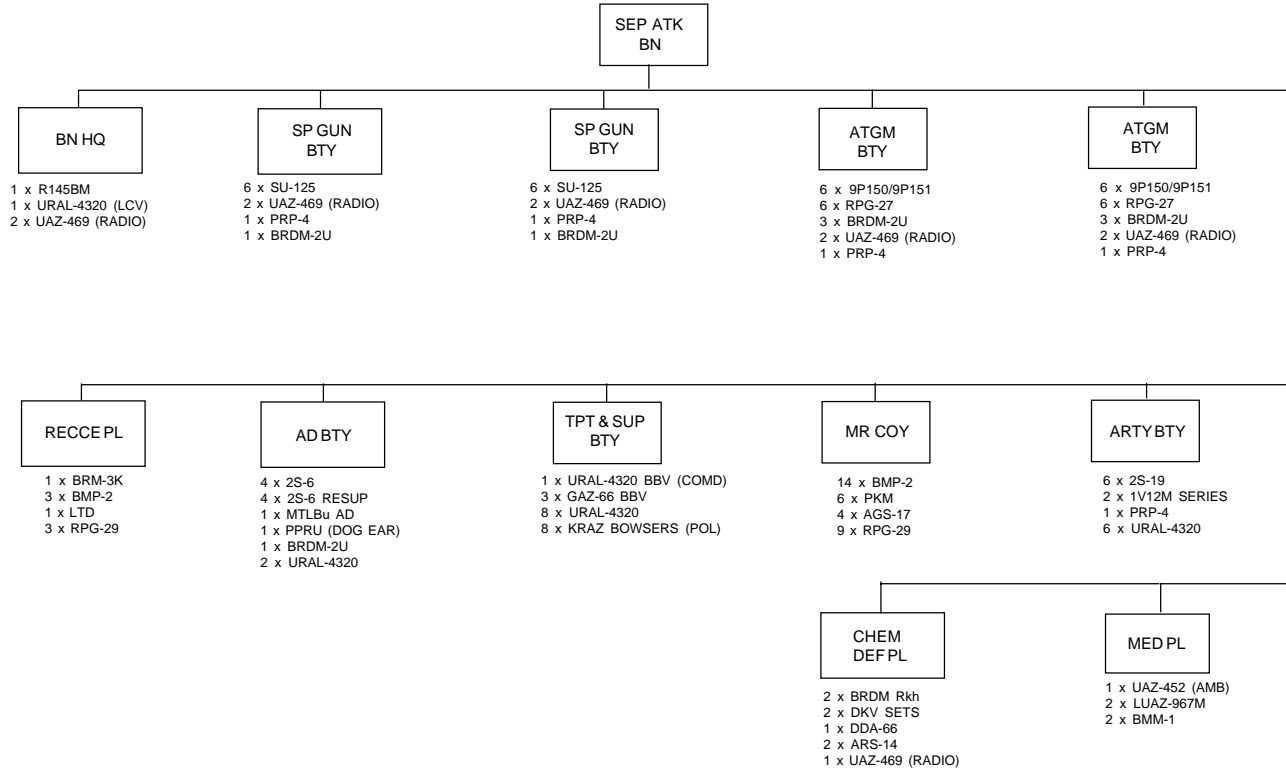
BRIGADE ARTILLERY REGIMENT



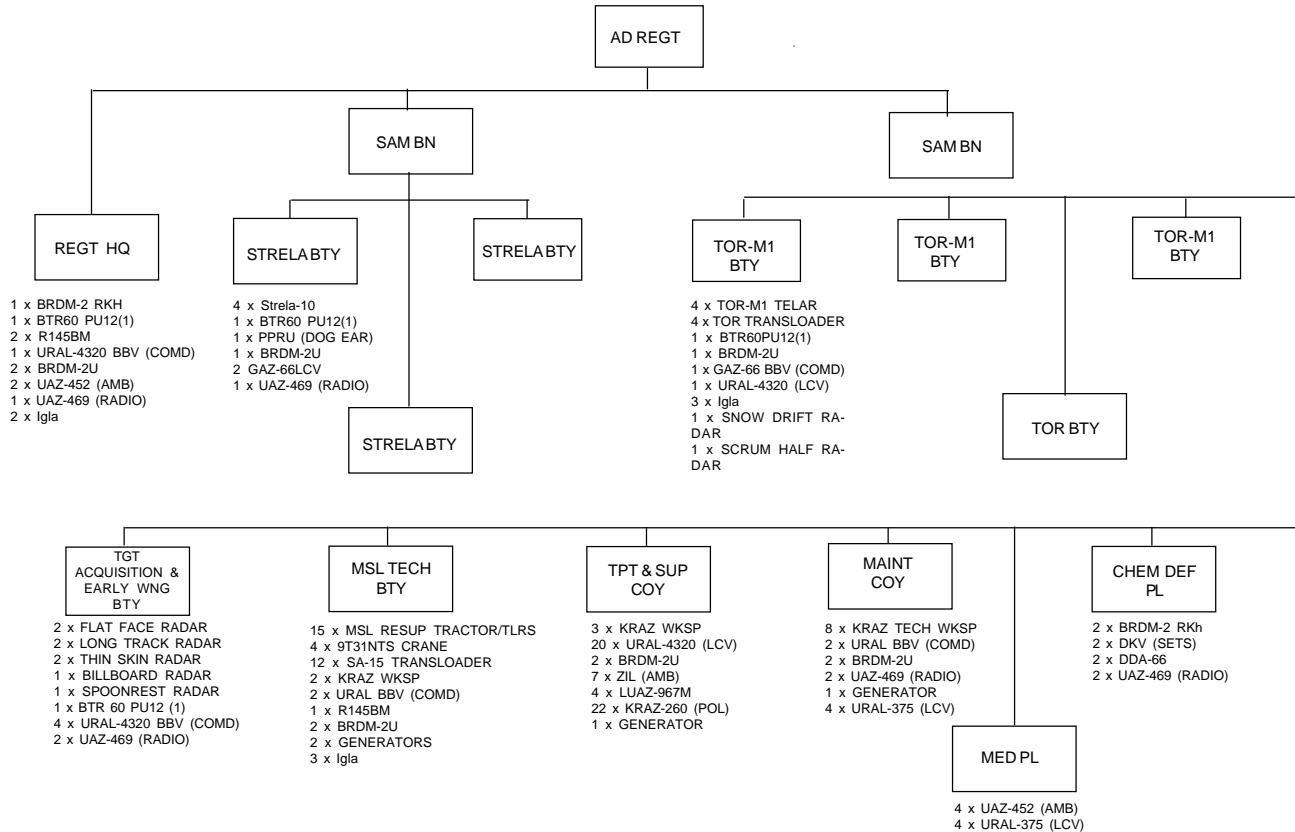
LIGHT MOTOR RIFLE BRIGADE ARTILLERY REGIMENT



BRIGADE SEPARATE ANTI-TANK BATTALION

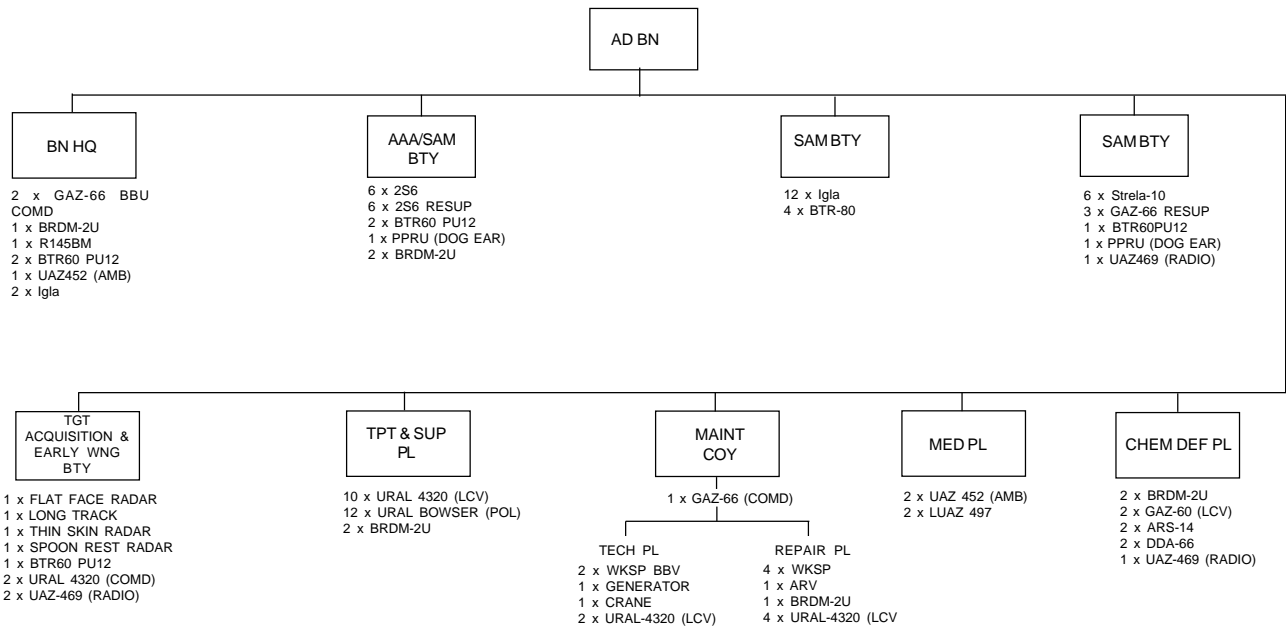


BRIGADE AIR DEFENCE REGIMENT

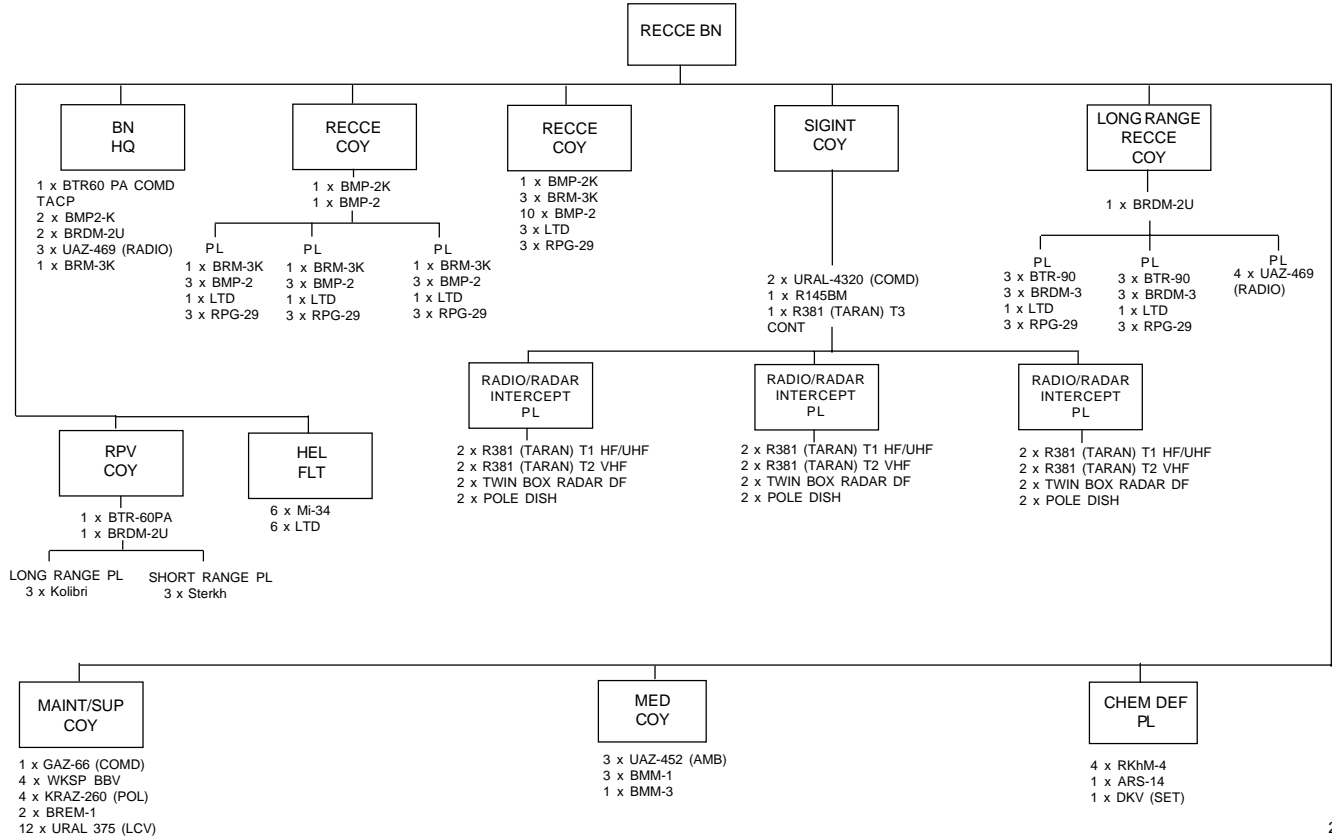


(1) BTR 60 PU12 or MT-LBu AD CTL

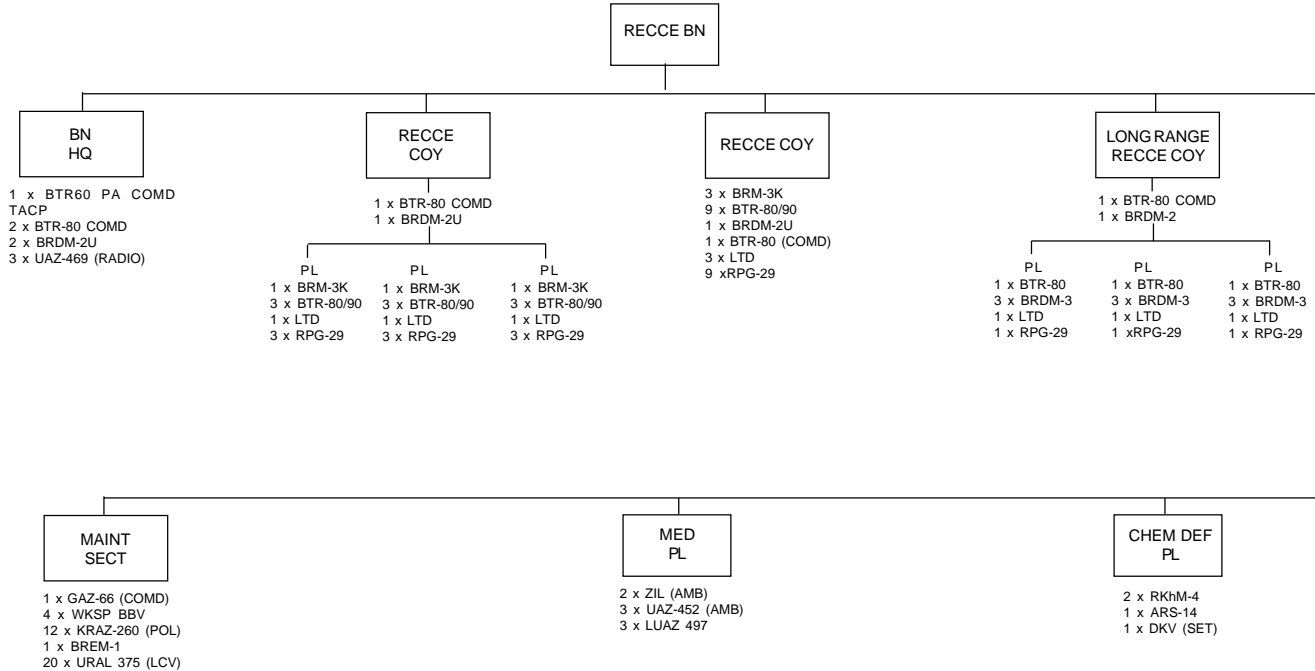
LIGHT MOTOR RIFLE BRIGADE AIR DEFENCE BATTALION



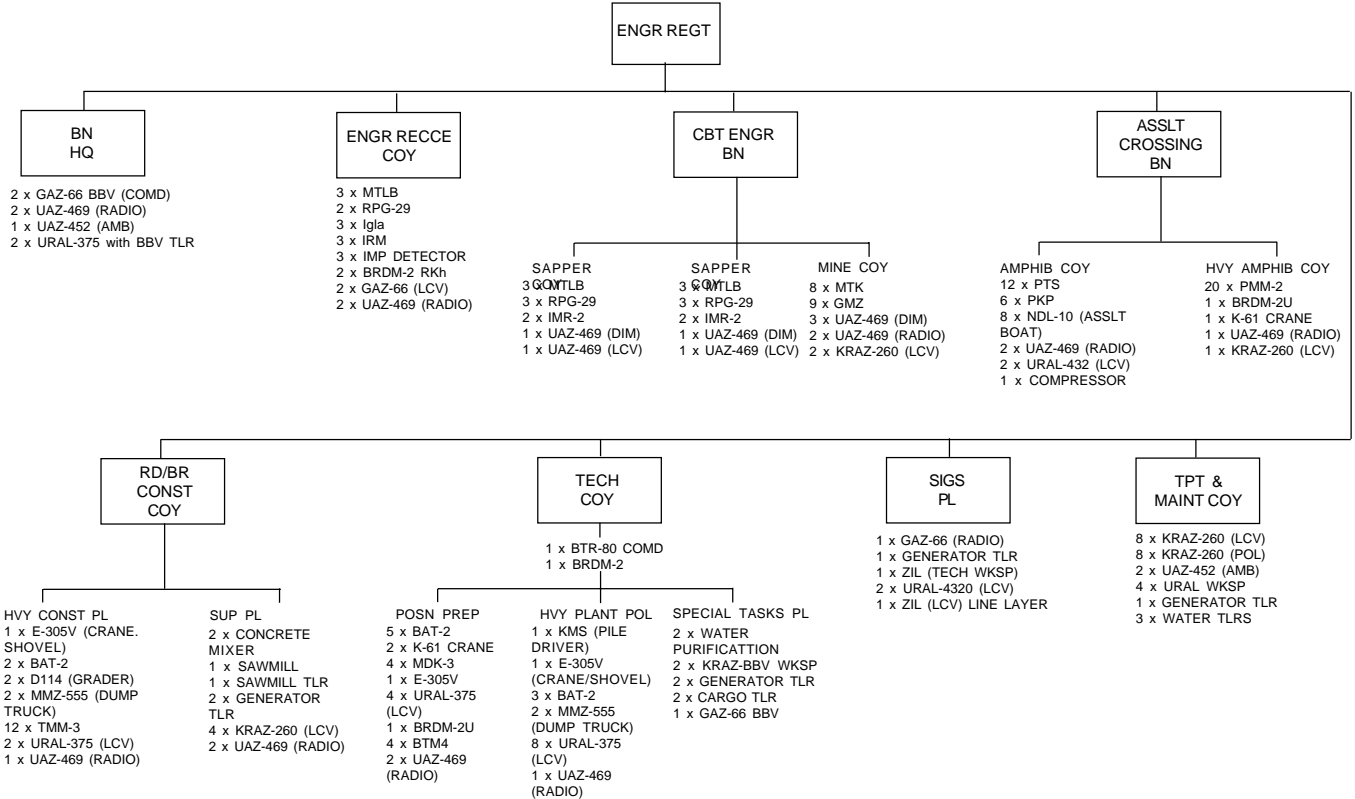
BRIGADE RECONNAISSANCE BATTALION



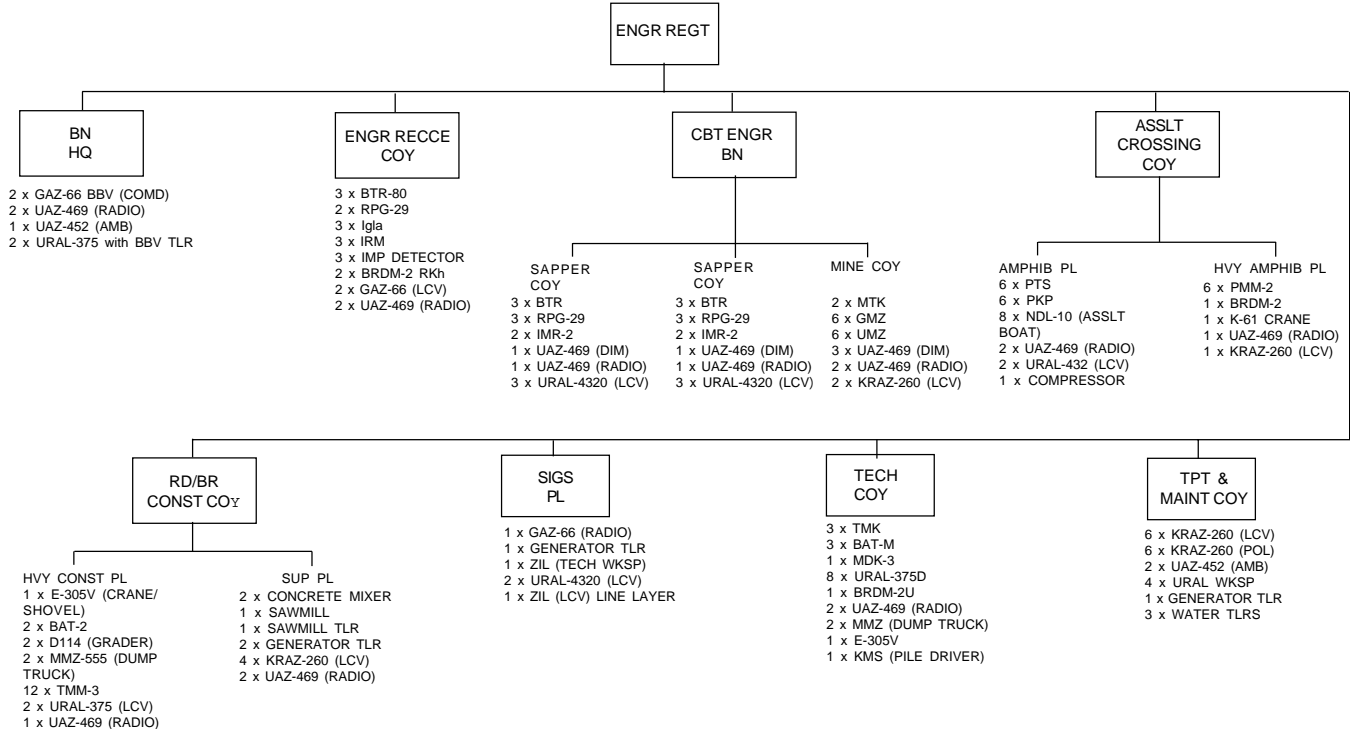
LIGHT MOTOR RIFLE BRIGADE RECONNAISSANCE BATTALION



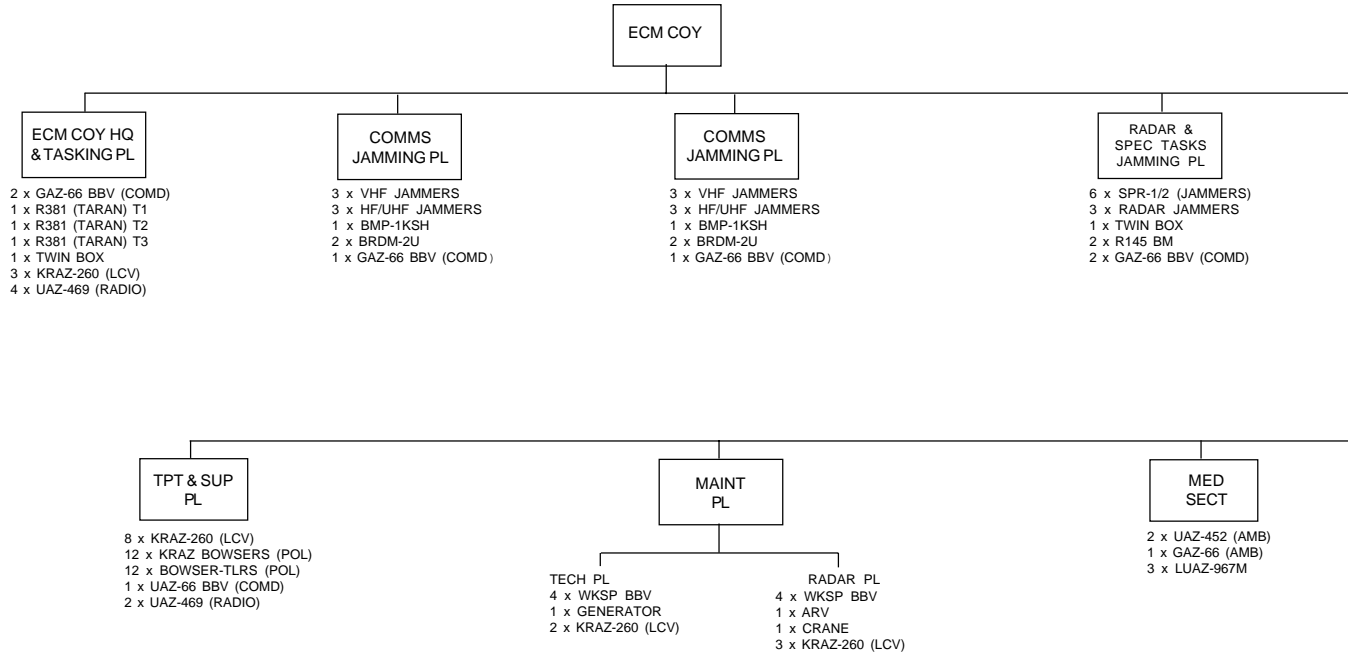
BRIGADE ENGINEER REGIMENT



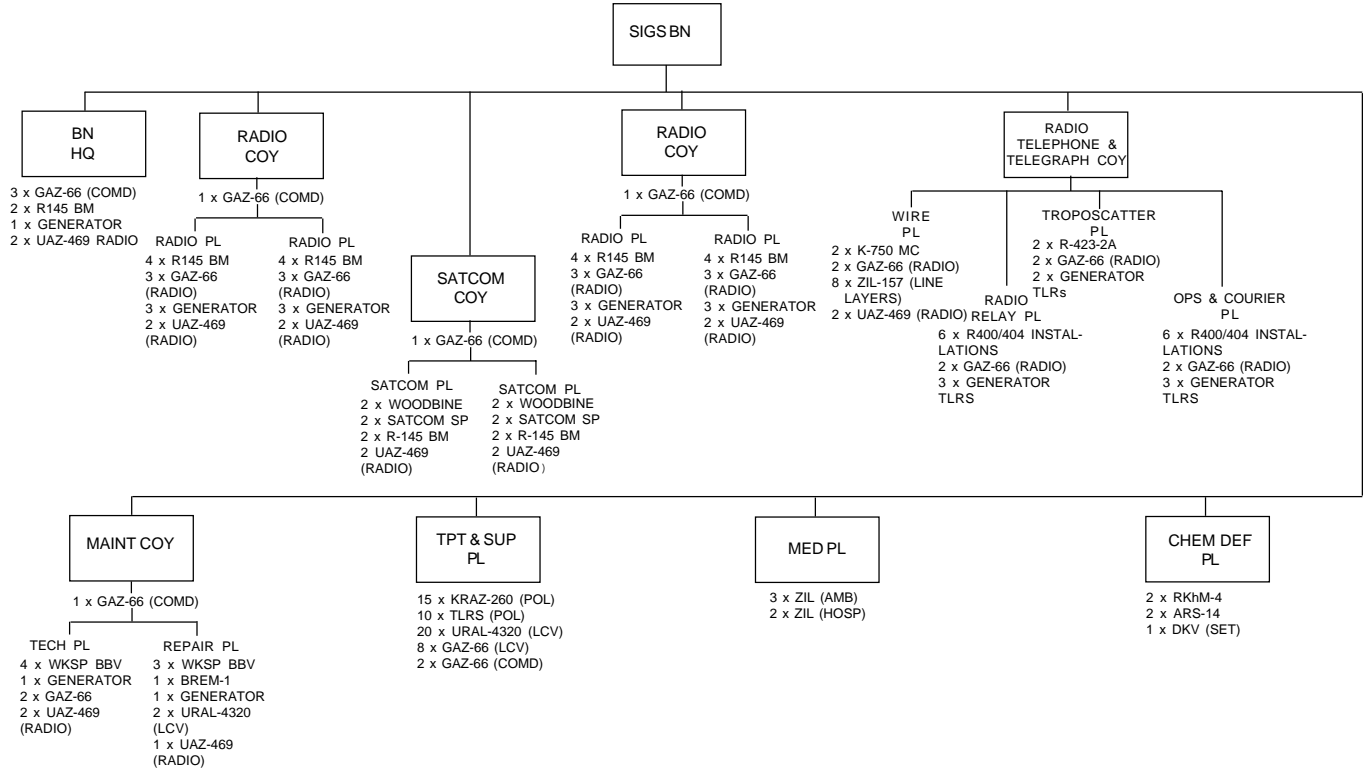
LIGHT MOTOR RIFLE BRIGADE ENGINEER REGIMENT



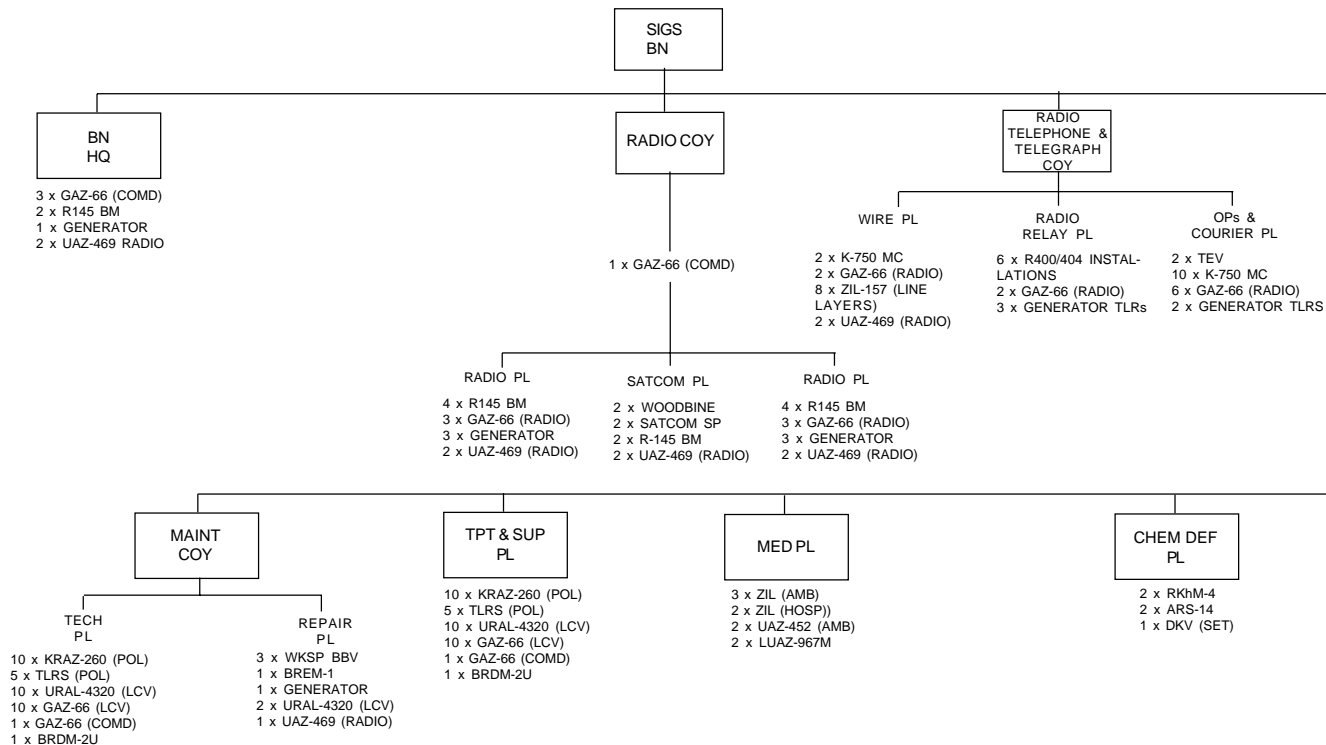
BRIGADE ELECTRONIC COUNTER-MEASURES (ECM) COMPANY



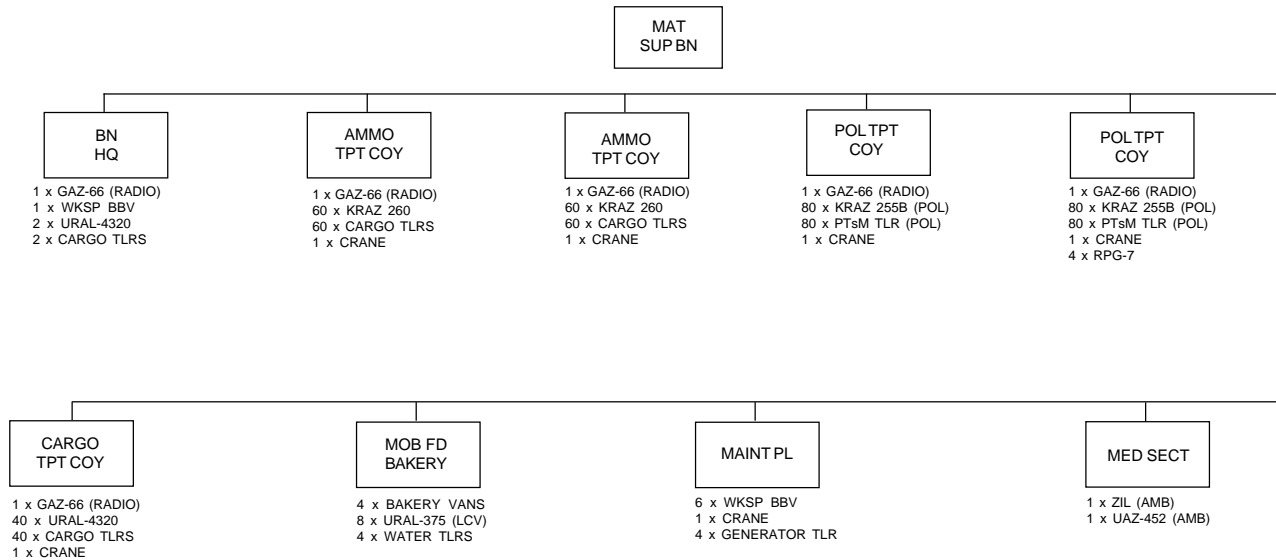
BRIGADE SIGNALS BATTALION



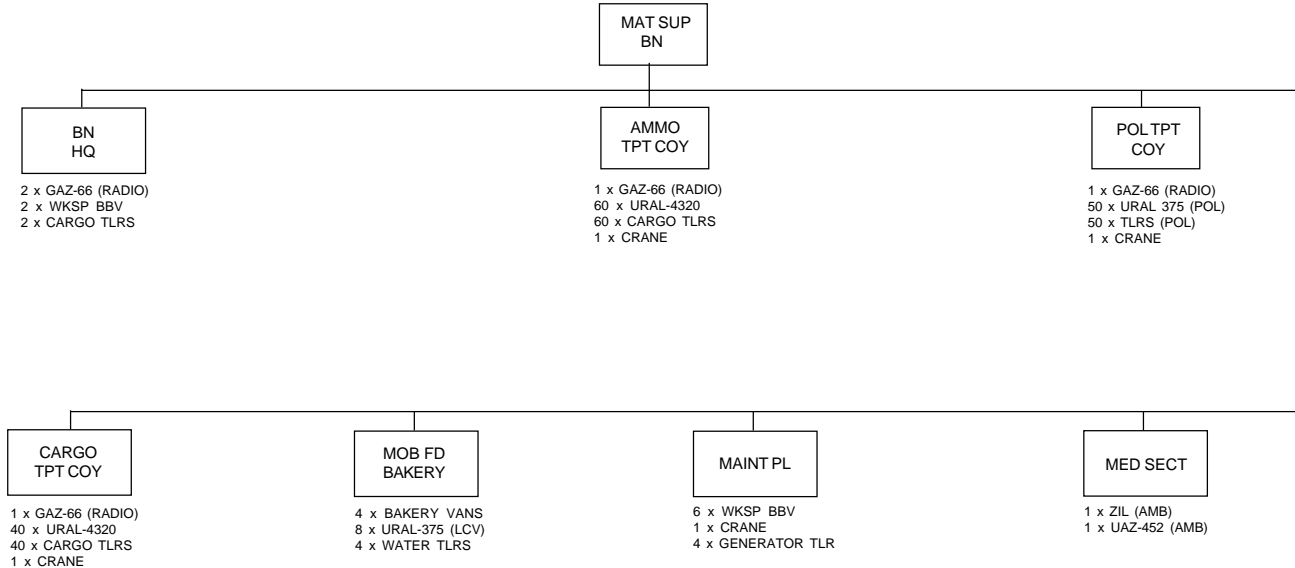
LIGHT MOTOR RIFLE BRIGADE SIGNALS BATTALION



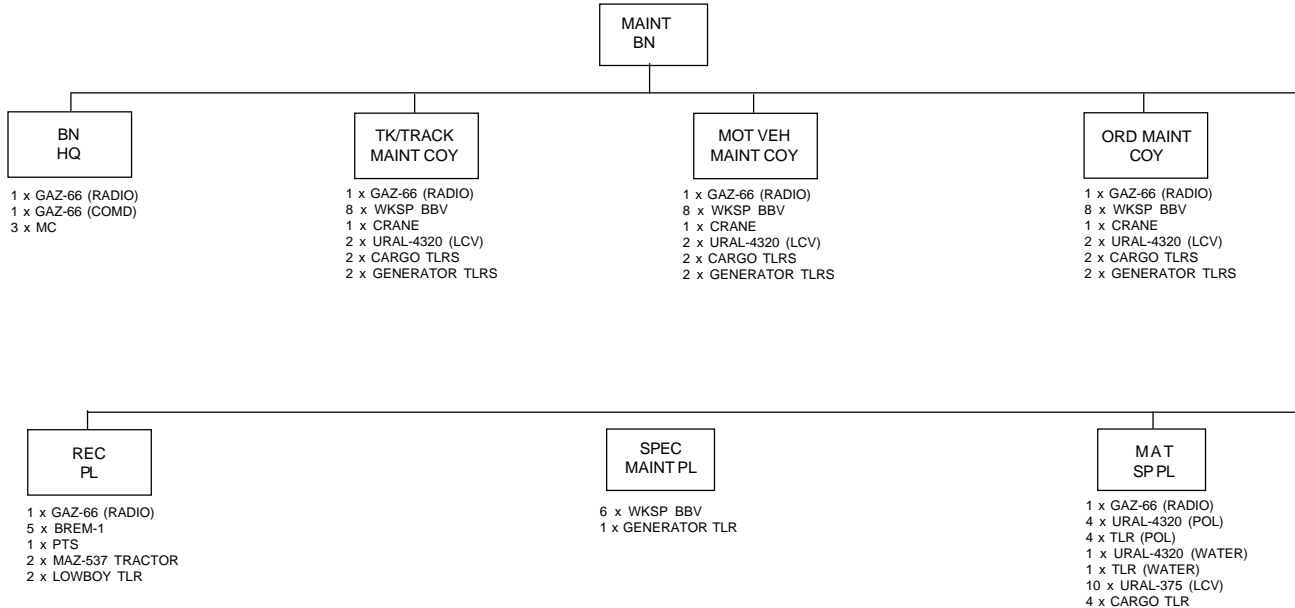
BRIGADE MATERIEL SUPPORT BATTALION



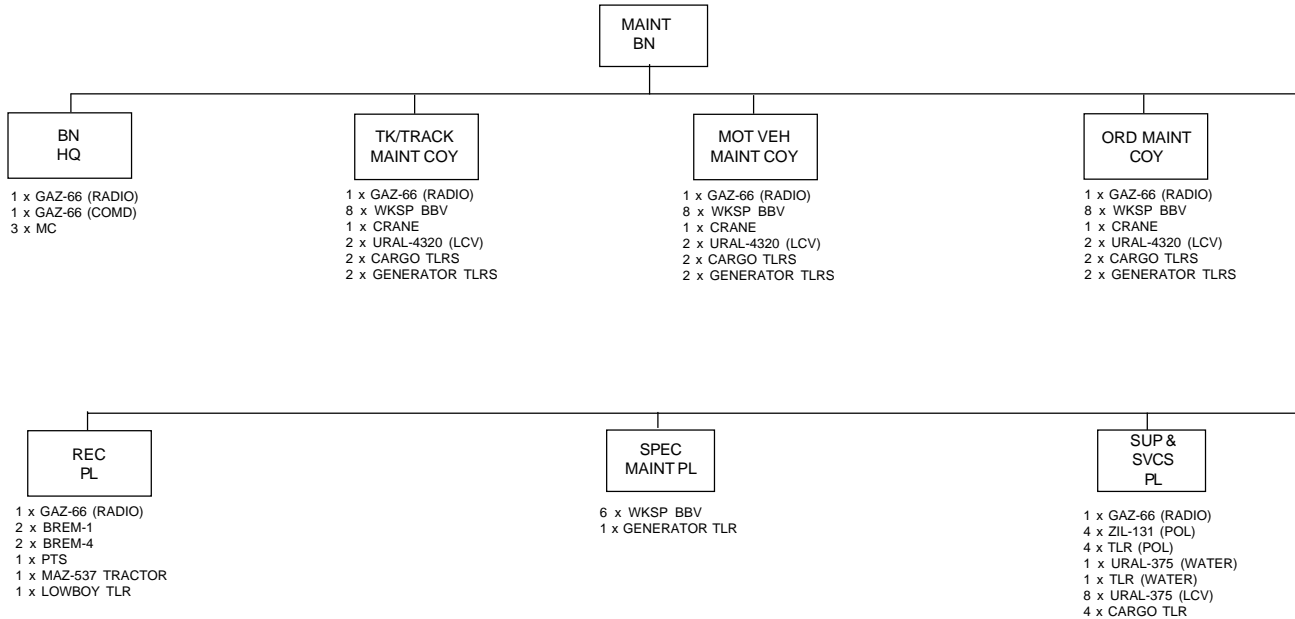
LIGHT MOTOR RIFLE BRIGADE MATERIEL SUPPORT BATTALION



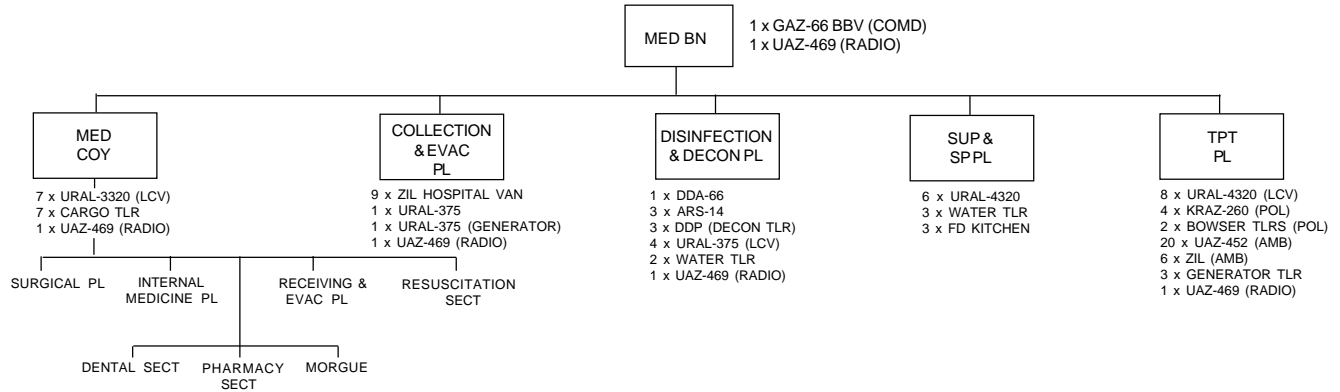
BRIGADE MAINTENANCE BATTALION



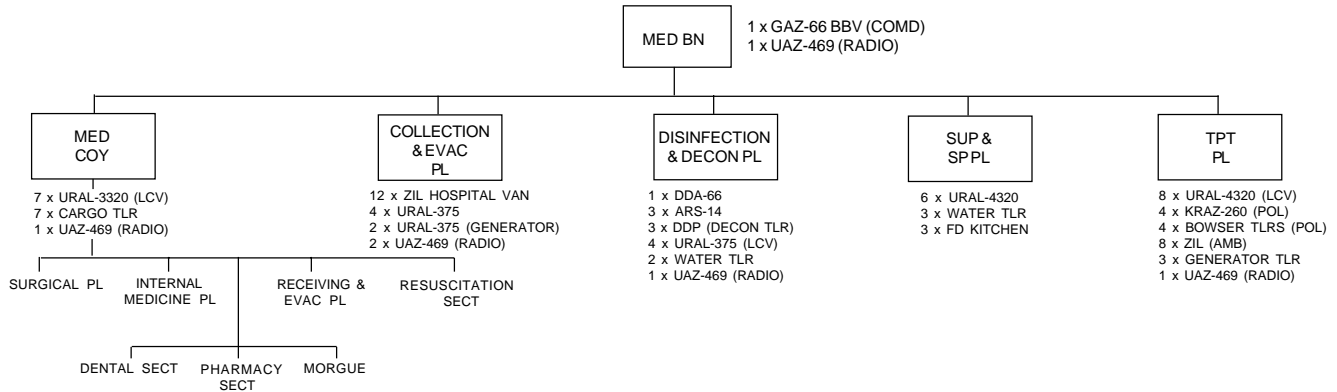
LIGHT MOTOR RIFLE BRIGADE MAINTENANCE BATTALION



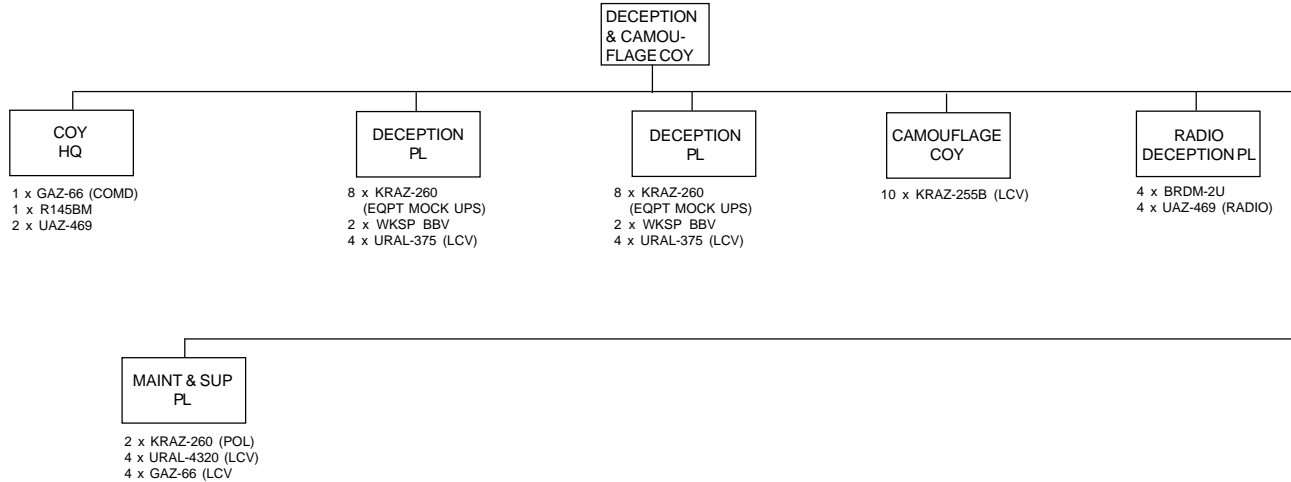
BRIGADE MEDICAL BATTALION



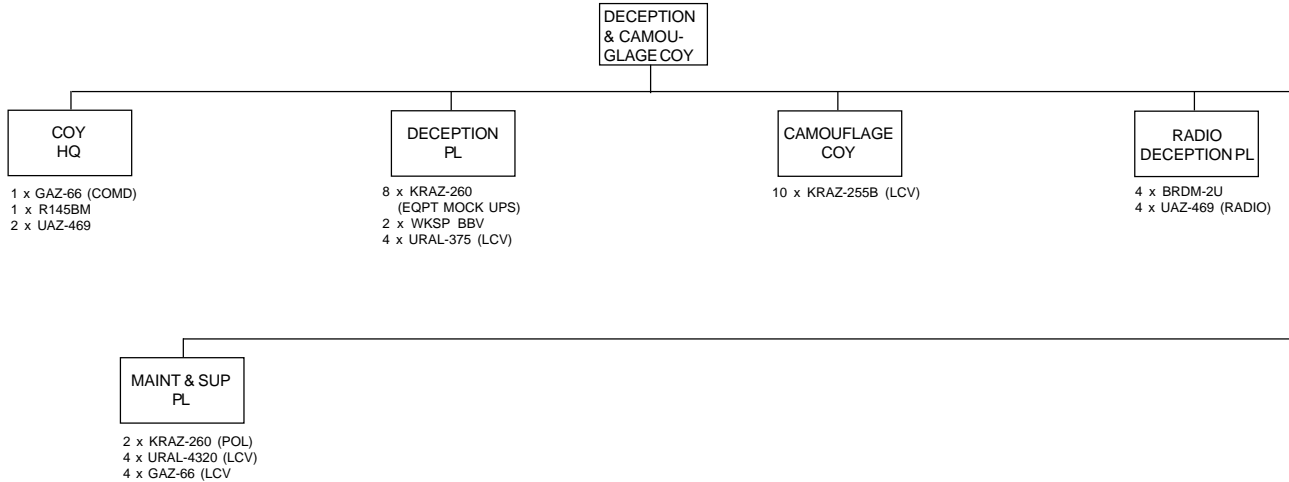
LIGHT MOTOR RIFLE BRIGADE MEDICAL BATTALION



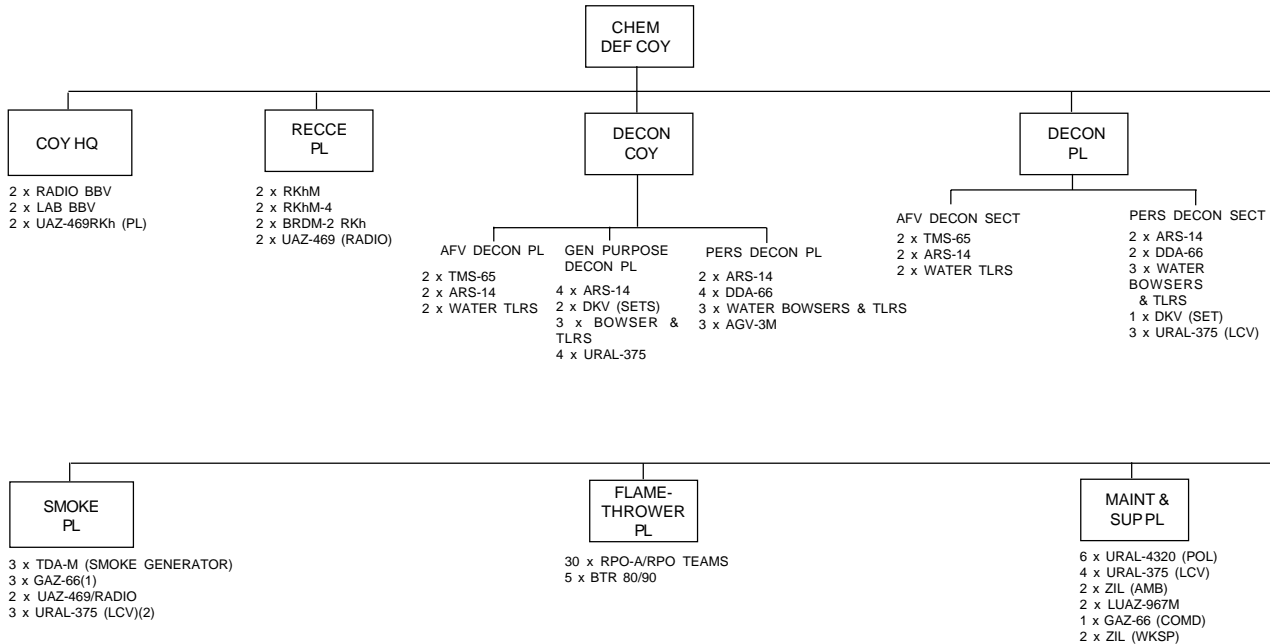
BRIGADE DECEPTION AND CAMOUFLAGE COMPANY



LIGHT MOTOR RIFLE BRIGADE DECEPTION AND CAMOUFLAGE COMPANY

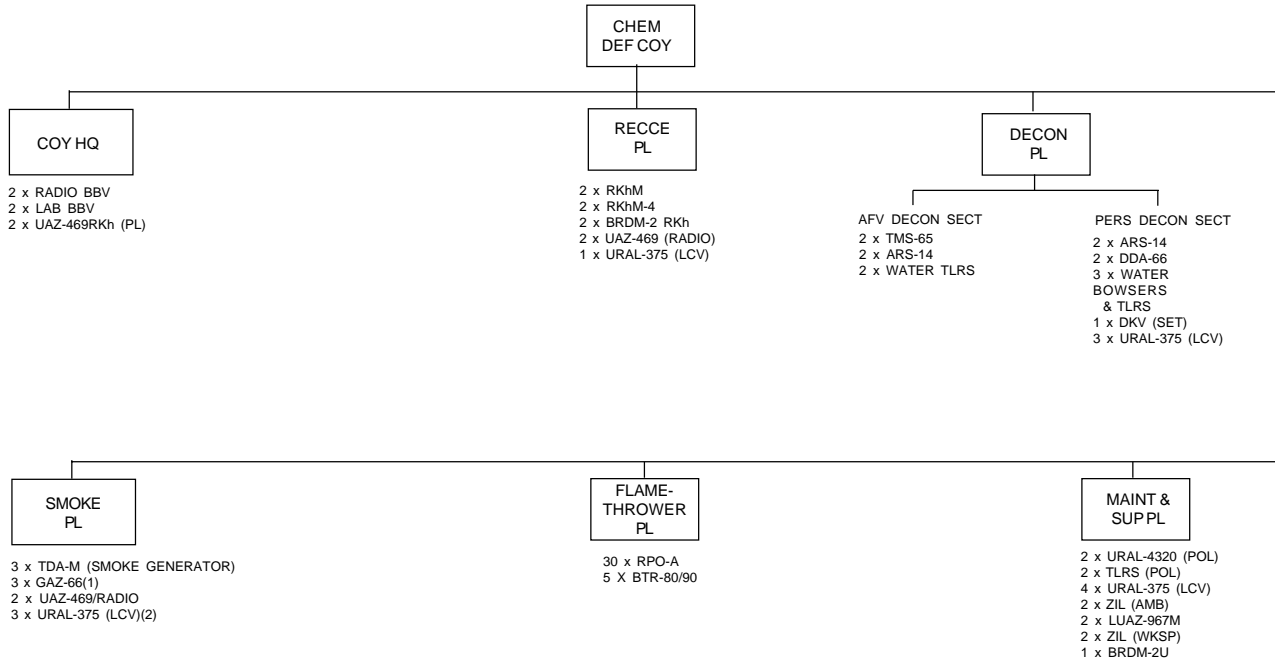


BRIGADE CHEMICAL DEFENCE COMPANY



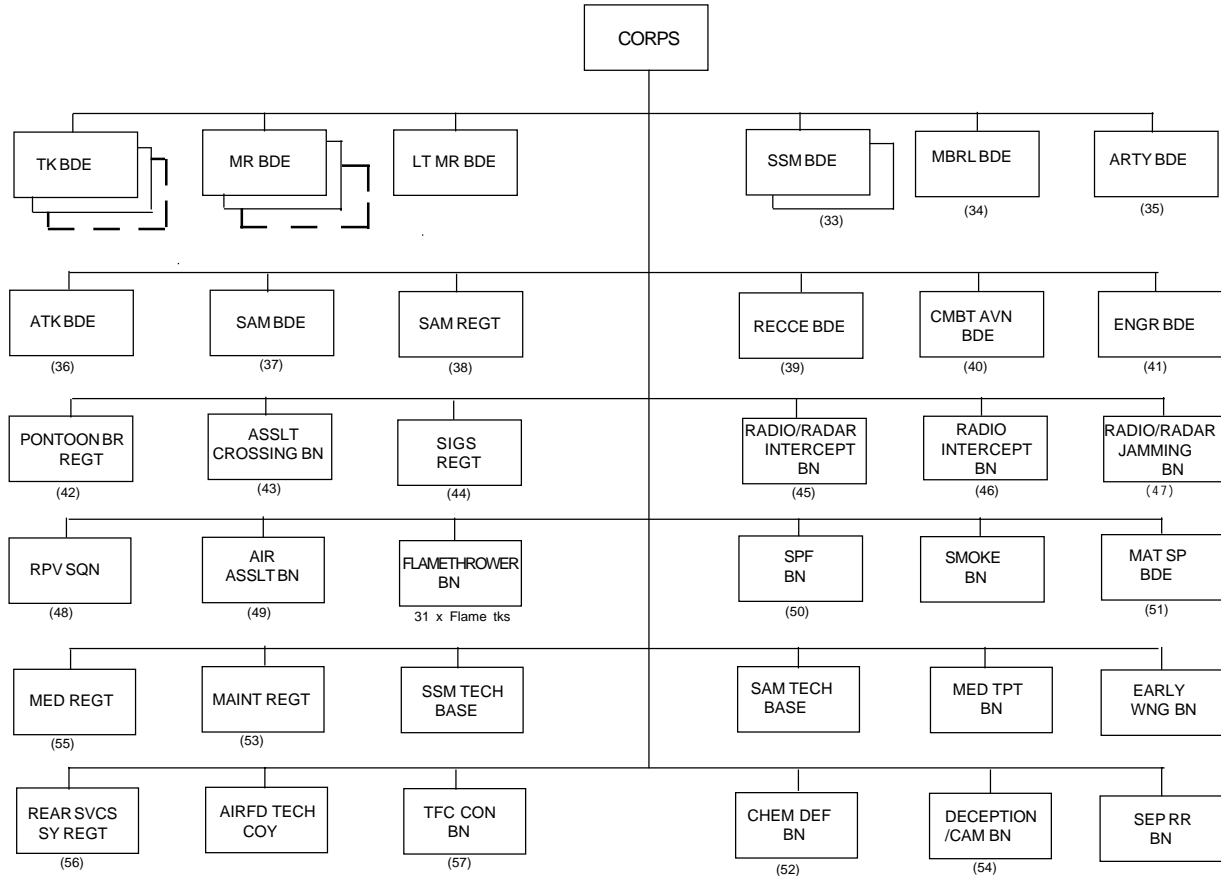
(1) 500 x YAD-11/21 or DM-11 smk pots per track
 (2) 100 X BDSH15 smk pots per track

LIGHT MOTOR RIFLE BRIGADE CHEMICAL DEFENCE COMPANY

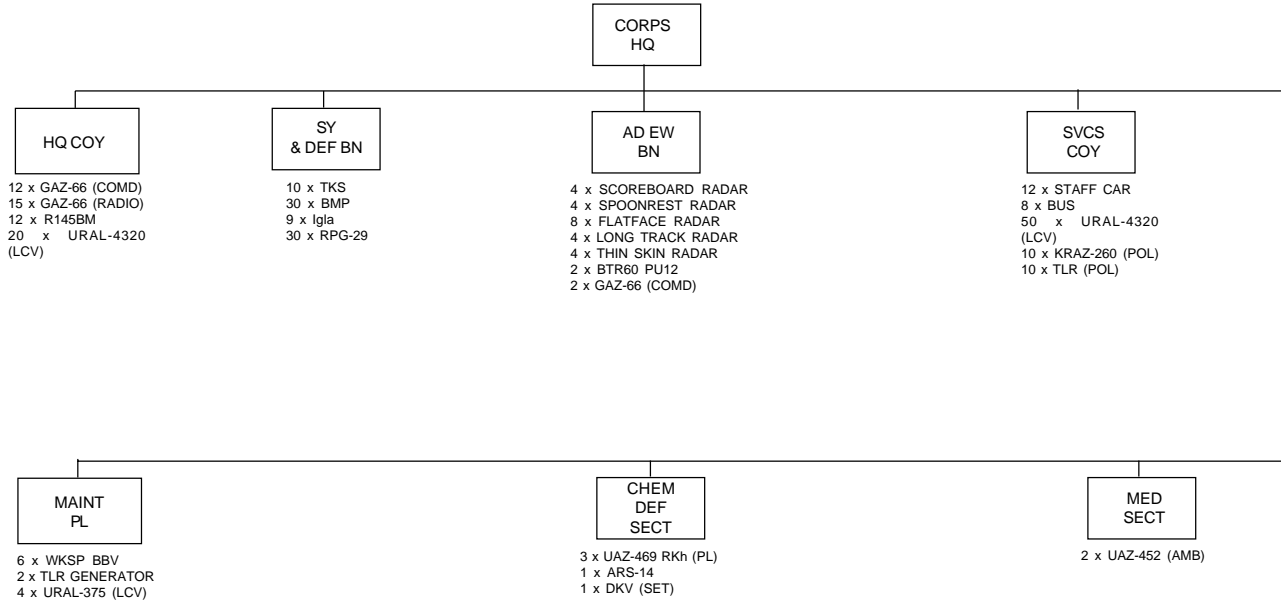


- (1) EACH TRUCK CARRIES UP TO 500 YAD-11, YAD-21 or DM-11 SMOKE POTS
 (2) EACH TRUCK CARRIES UP TO 100 BDSH5 or BDSH15 SMOKE POTS

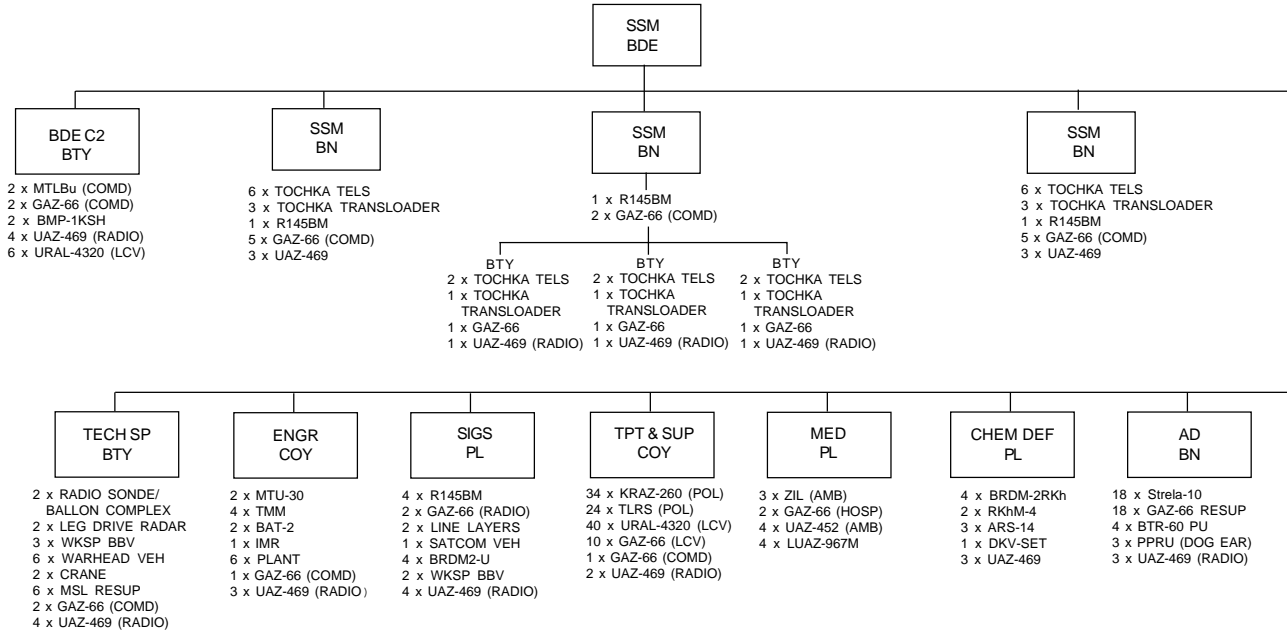
COMBINED ARMS ARMY CORPS



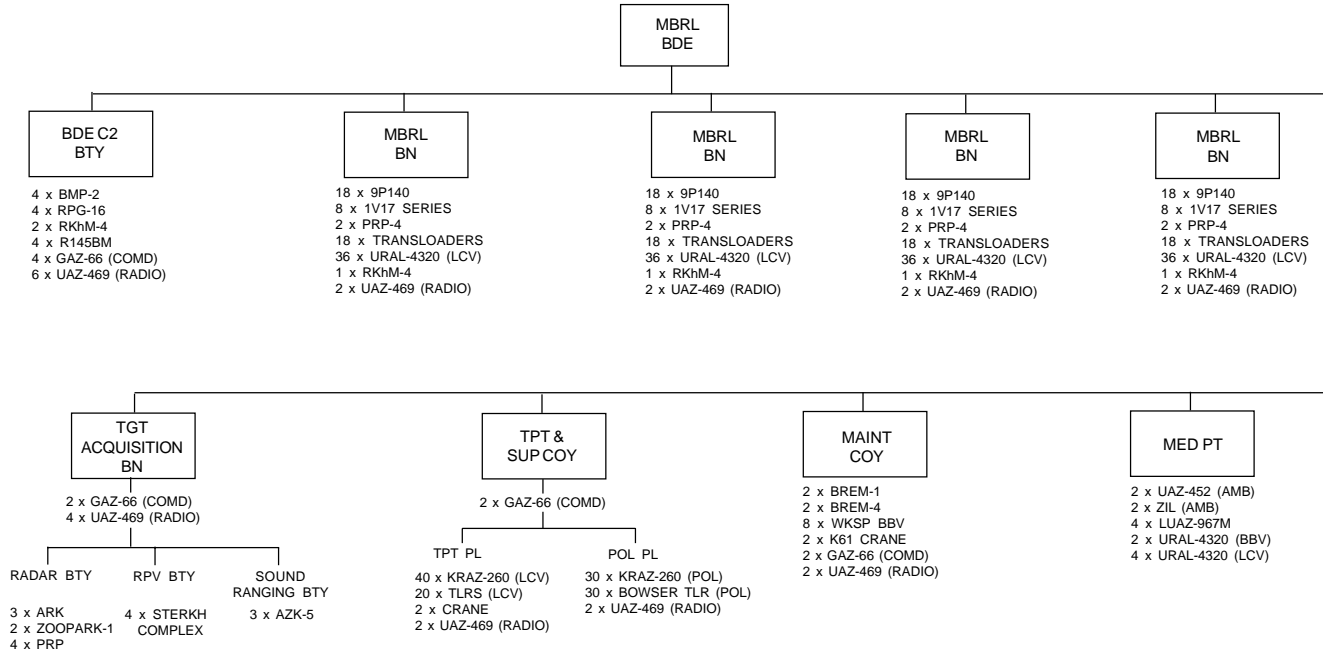
CORPS HEADQUARTERS



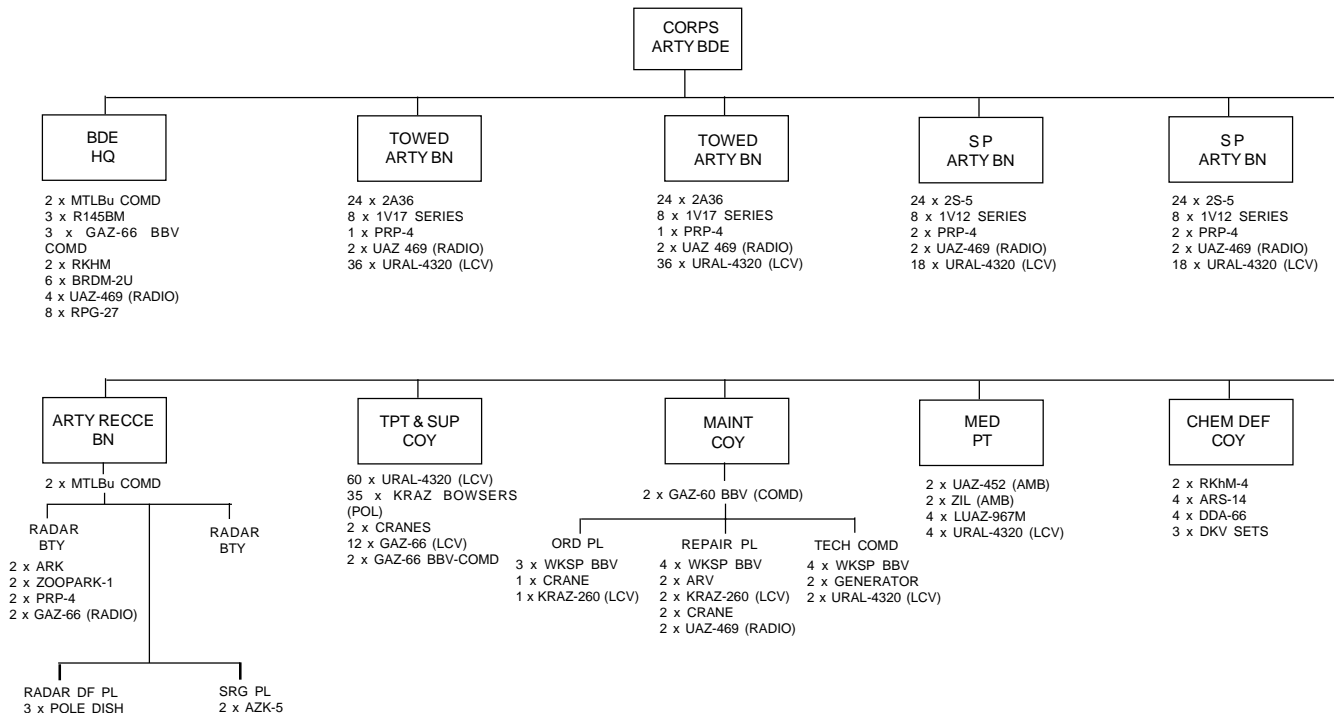
CORPS SURFACE-TO-SURFACE MISSILE BRIGADE



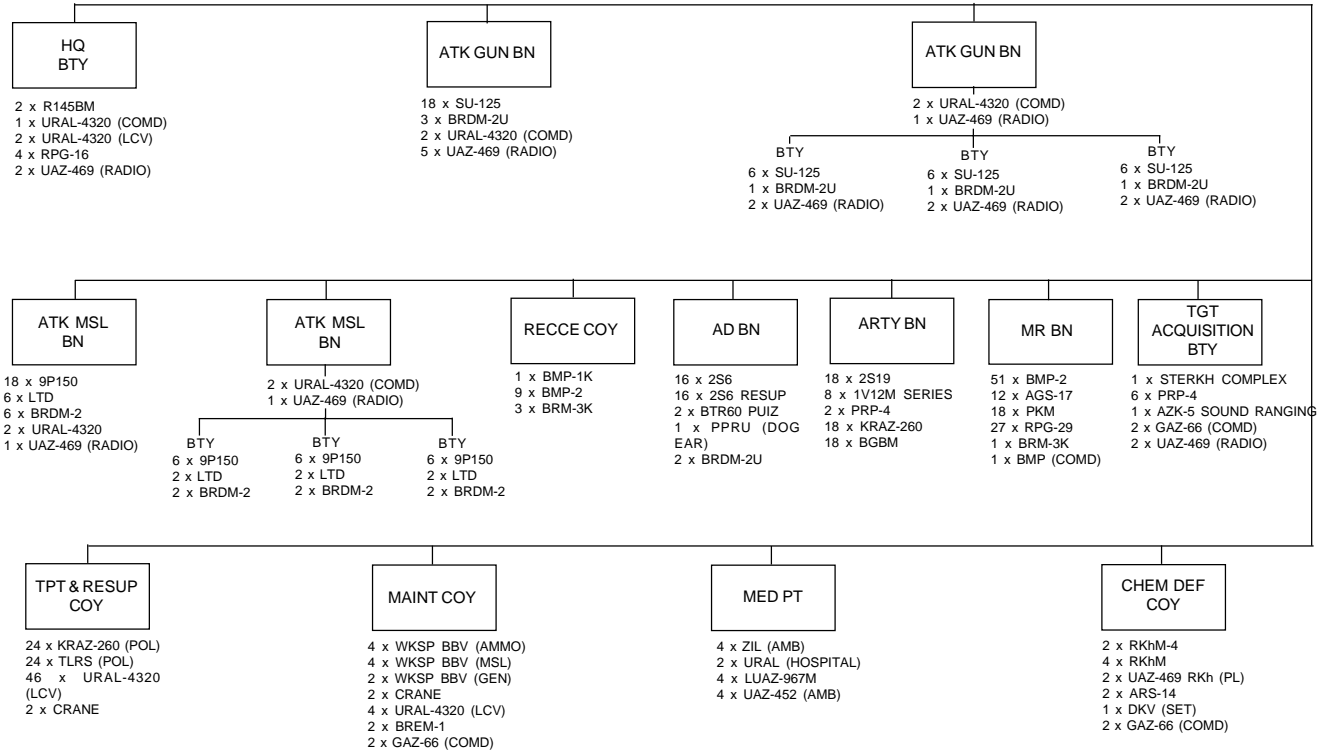
CORPS MULTI-BARRELLED ROCKET LAUNCHER BRIGADE



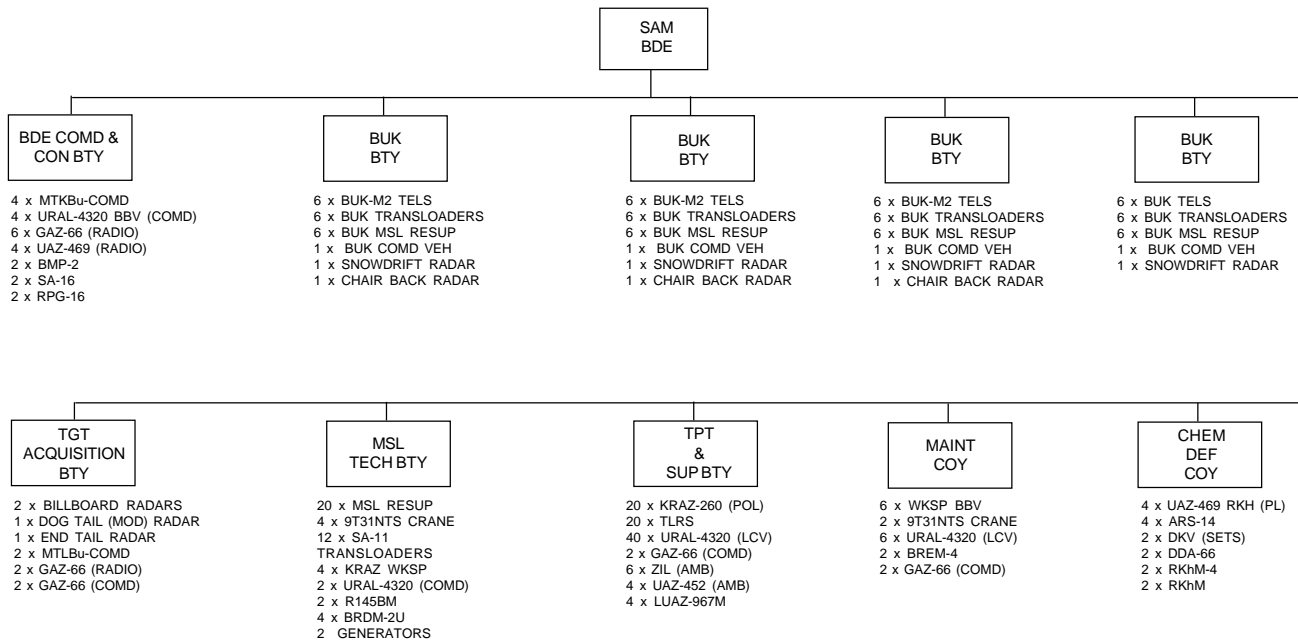
CORPS ARTILLERY BRIGADE



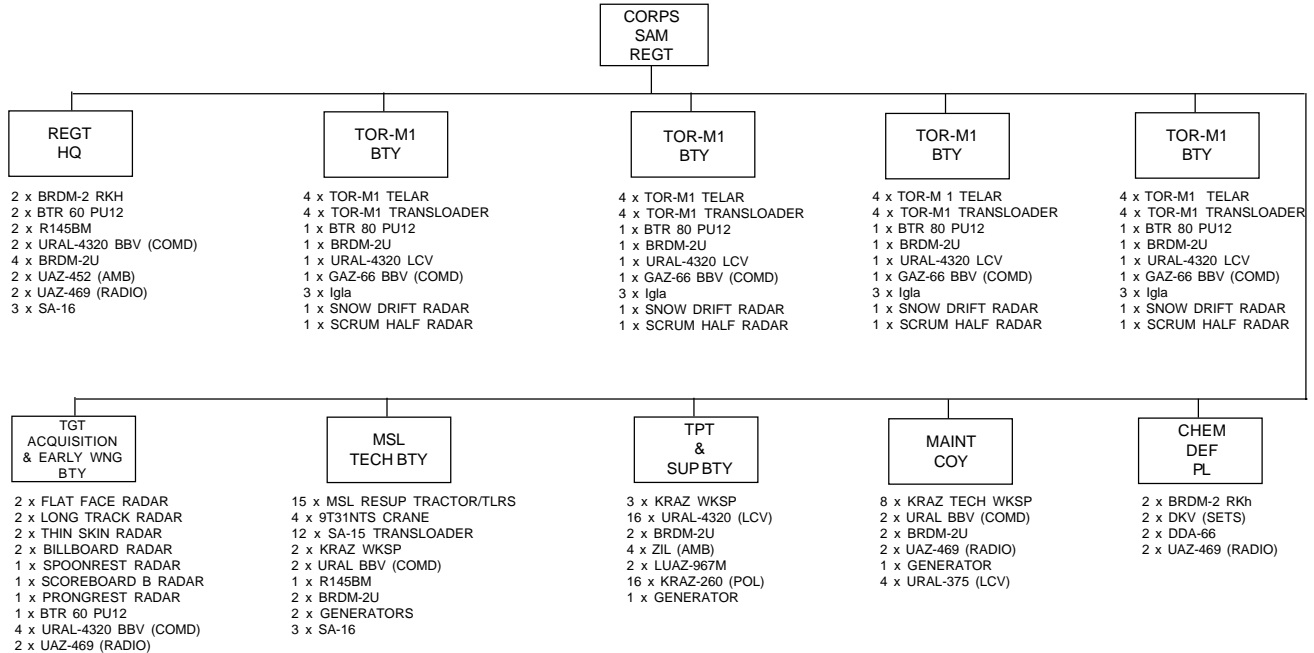
CORPS ANTI-TANK BRIGADE



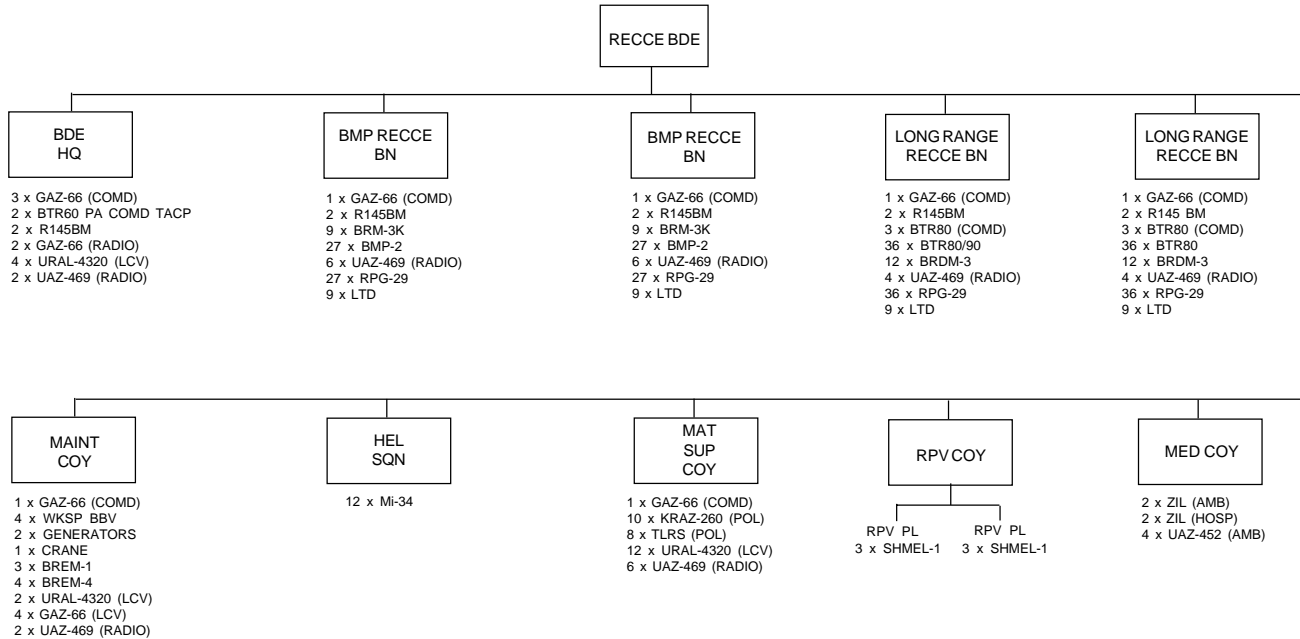
CORPS SURFACE-TO-AIR MISSILE BRIGADE



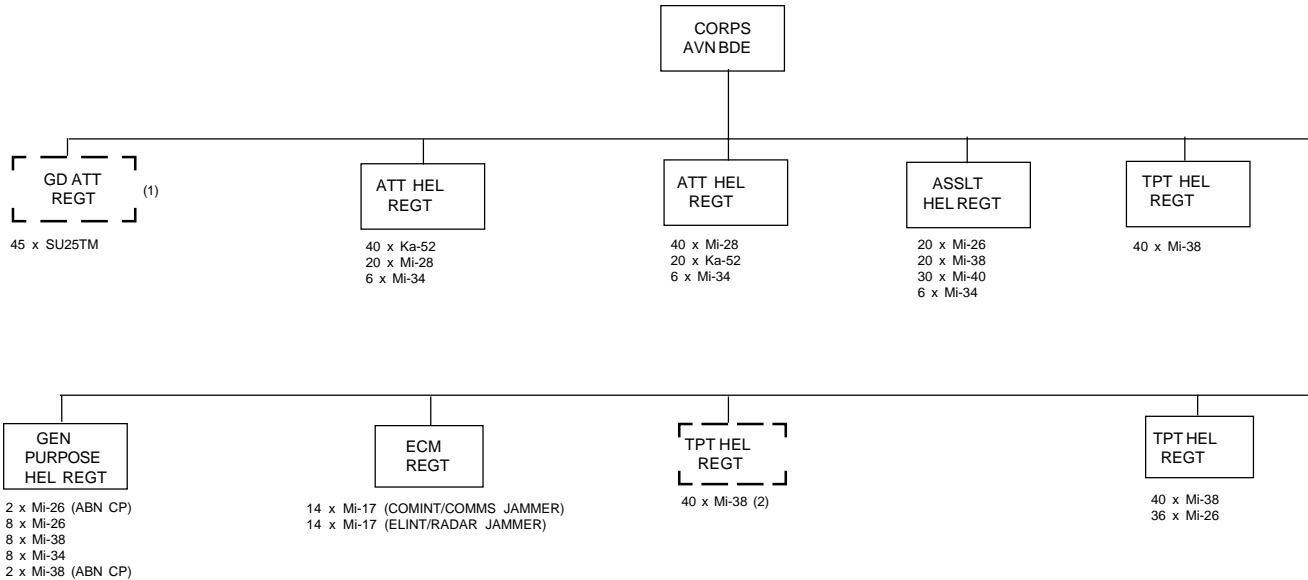
CORPS SURFACE-TO-AIR MISSILE REGIMENT



CORPS RECONNAISSANCE BRIGADE



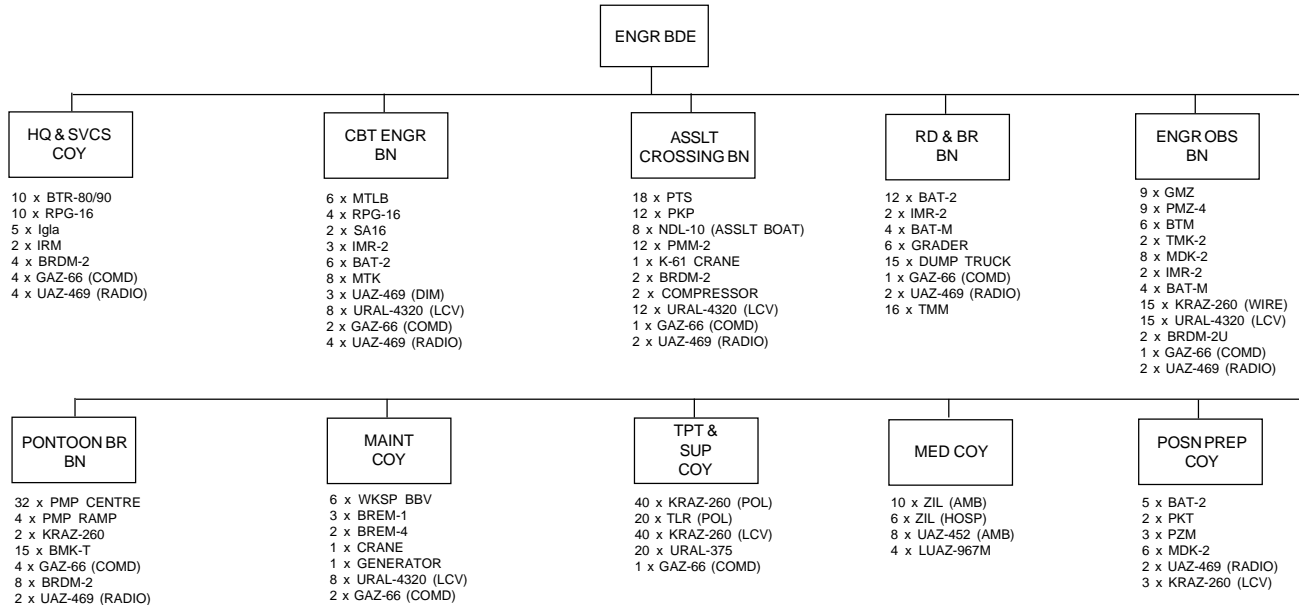
CORPS AVIATION BRIGADE



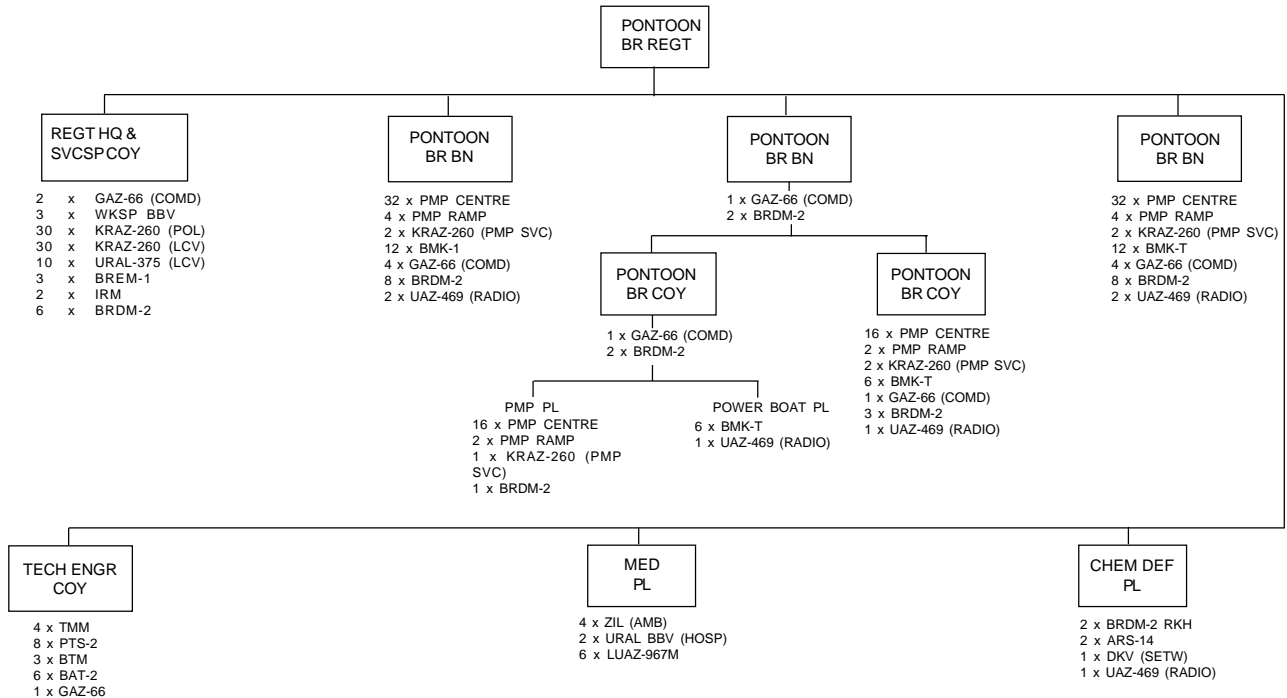
(1) Possible, in direct support from SG

(2) Possible attachment from SG

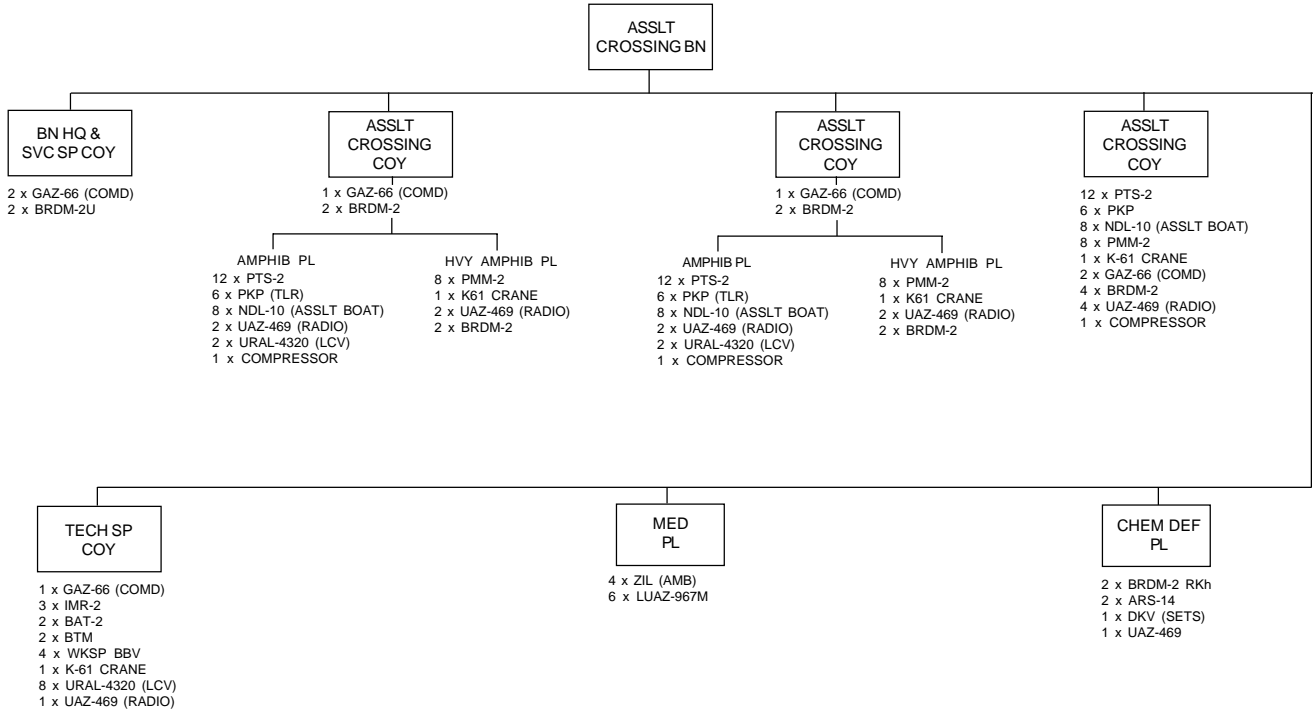
CORPS ENGINEER BRIGADE



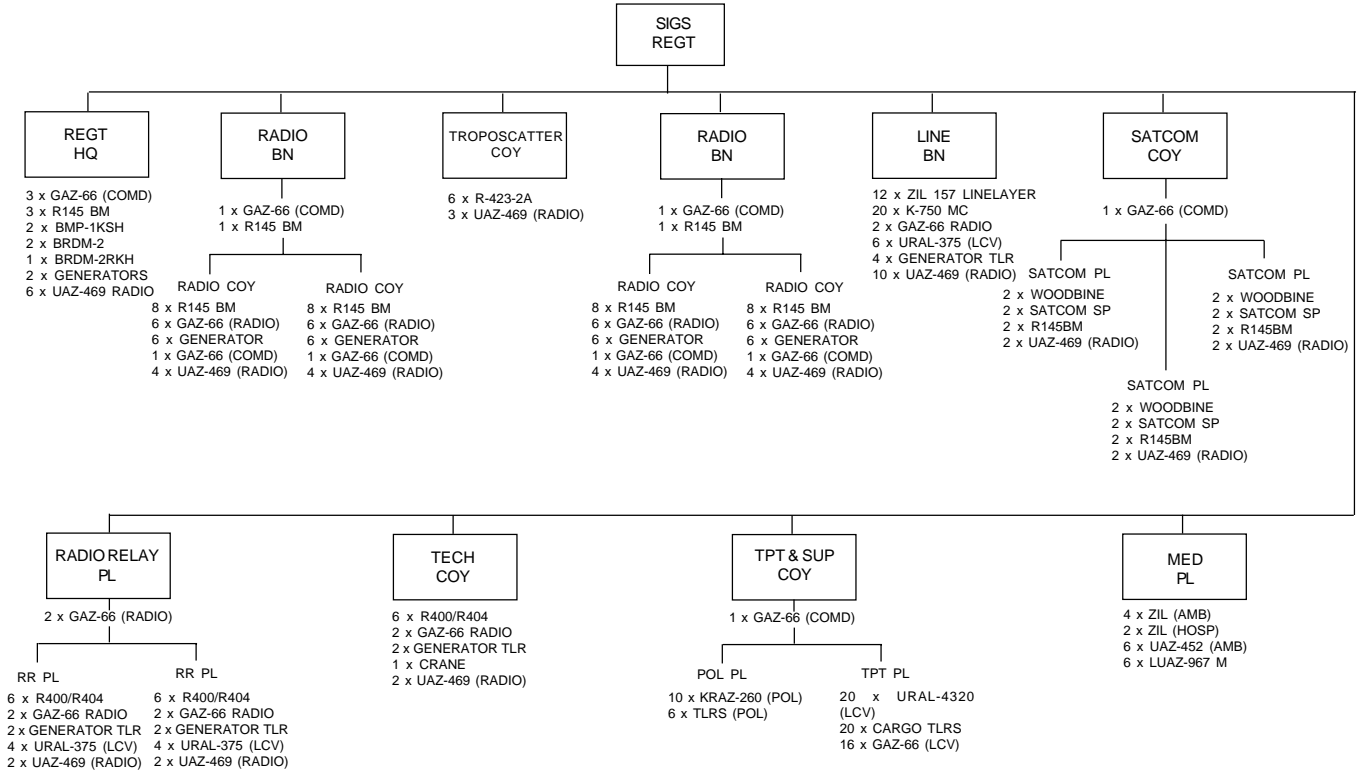
CORPS PONTOON BRIDGING REGIMENT



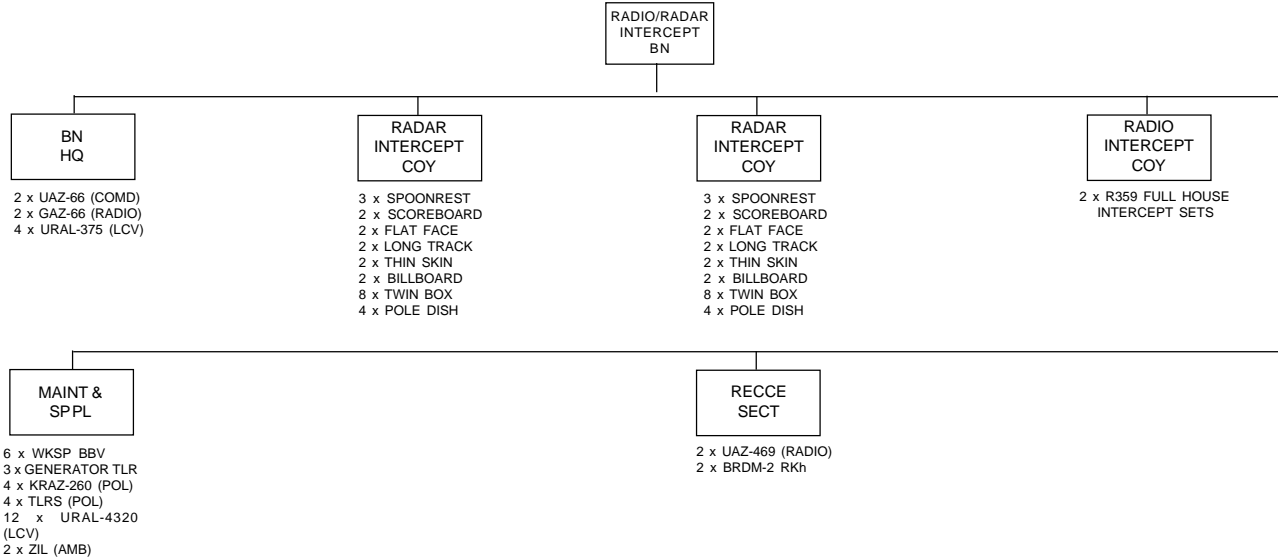
CORPS ASSAULT CROSSING BATTALION



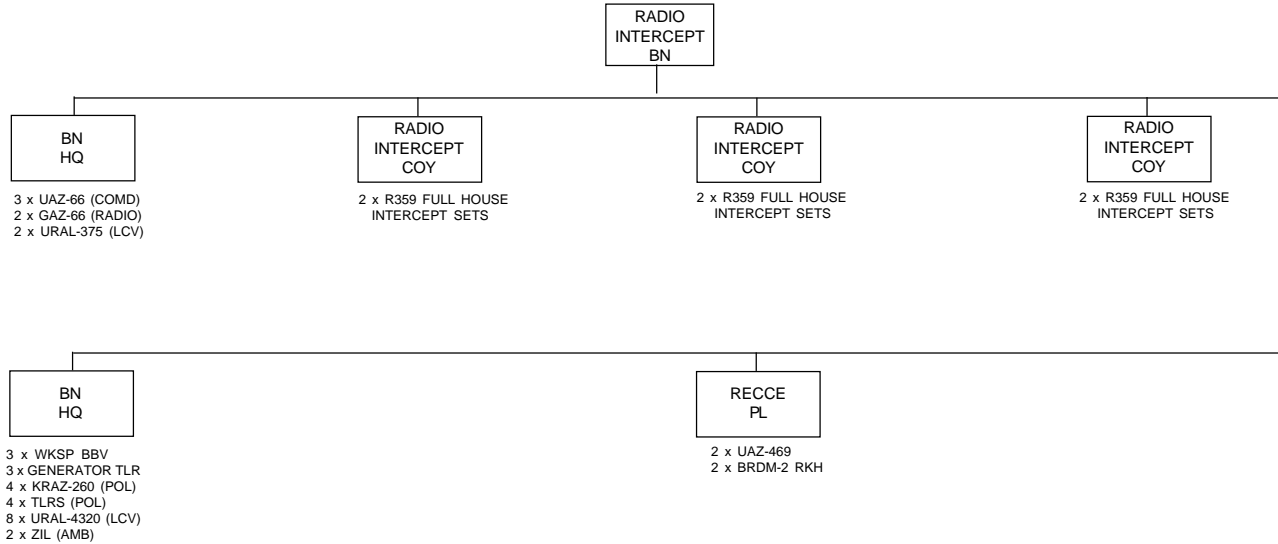
CORPS SIGNALS REGIMENT



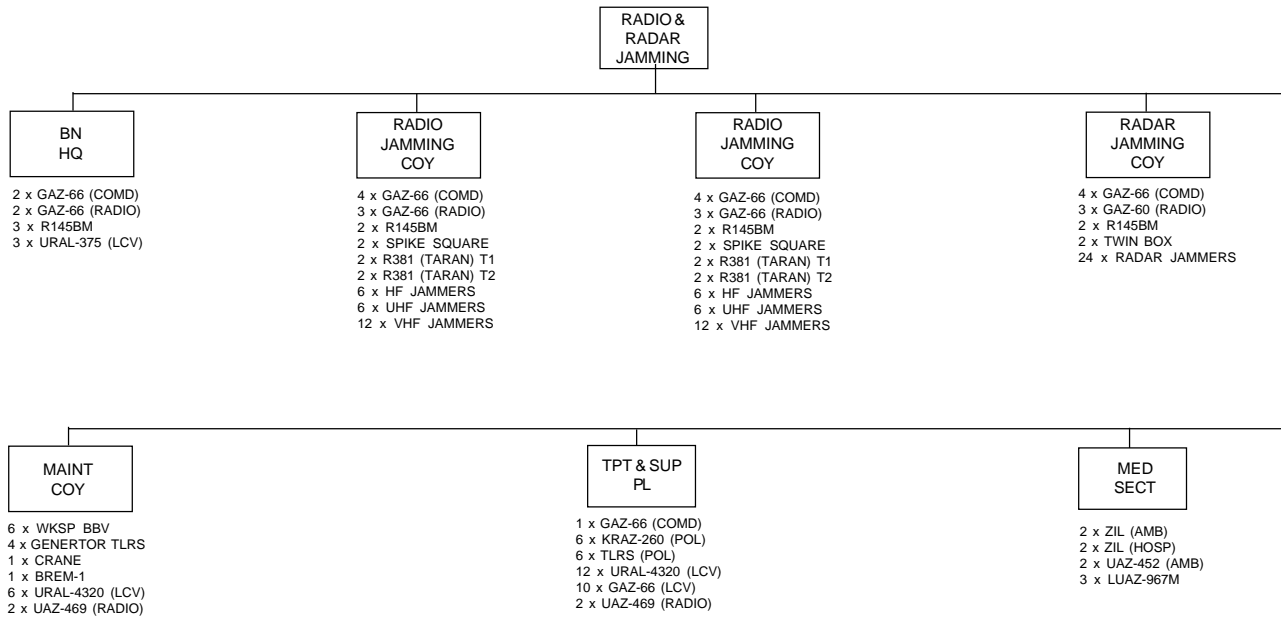
CORPS RADIO/RADAR INTERCEPT BATTALION



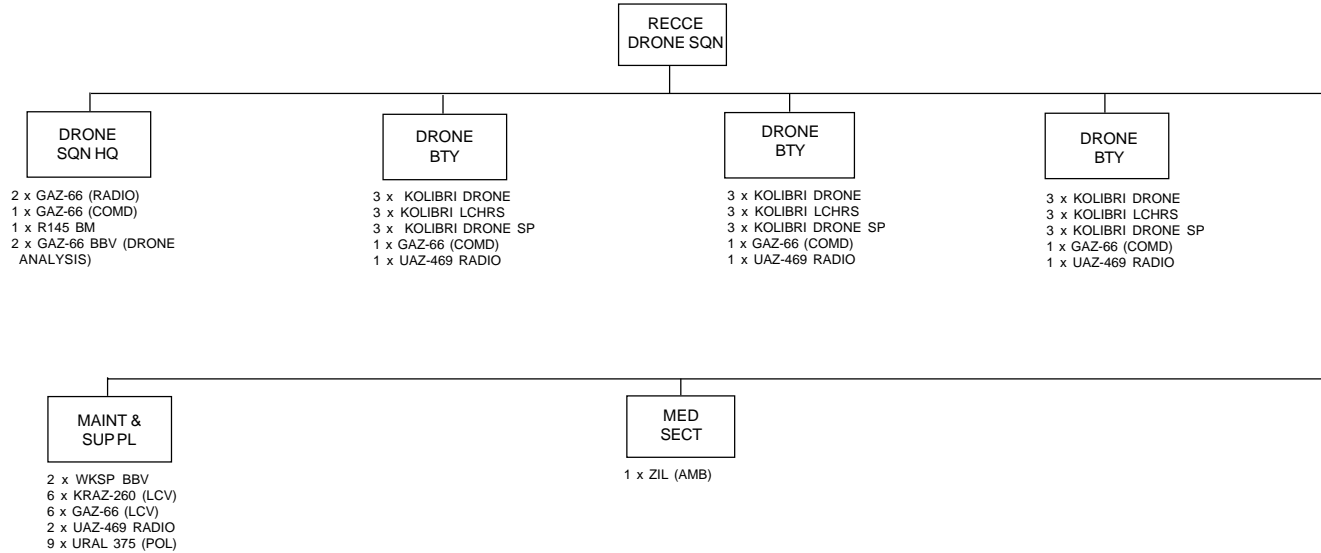
CORPS RADIO INTERCEPT BATTALION



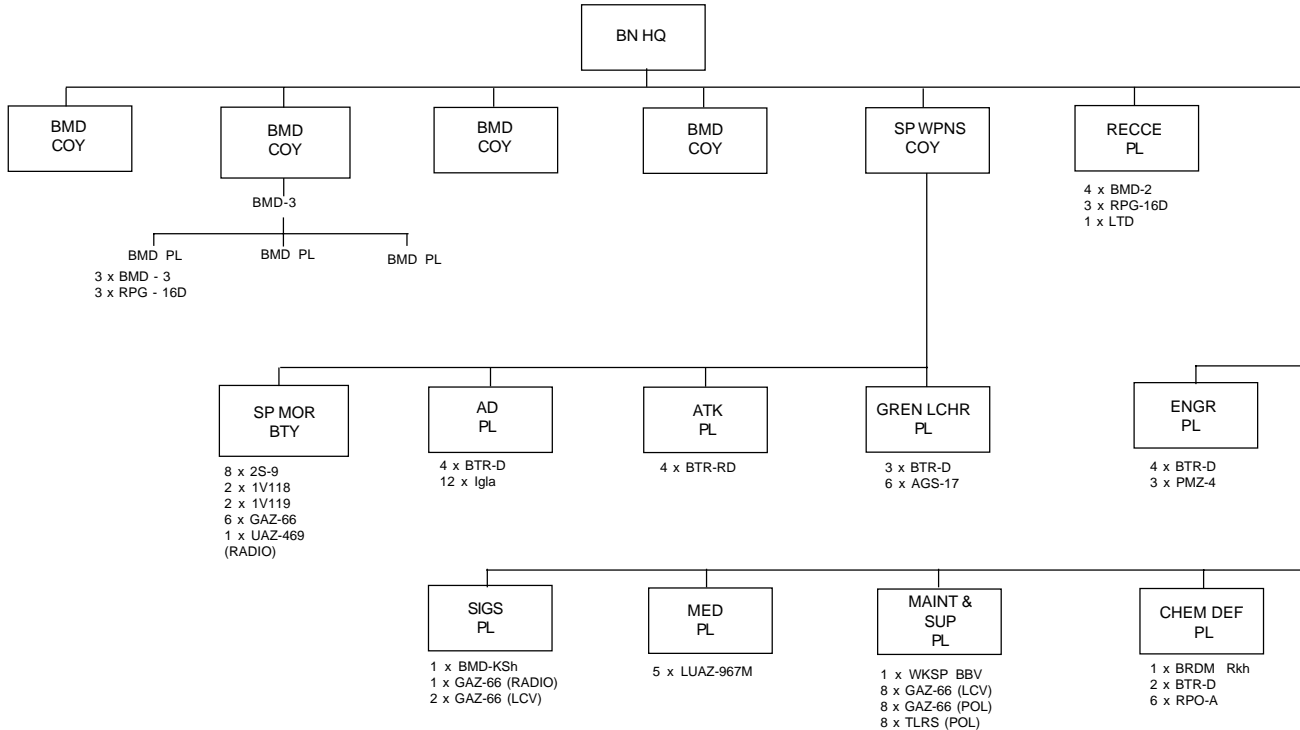
CORPS RADIO/RADAR JAMMING BATTALION



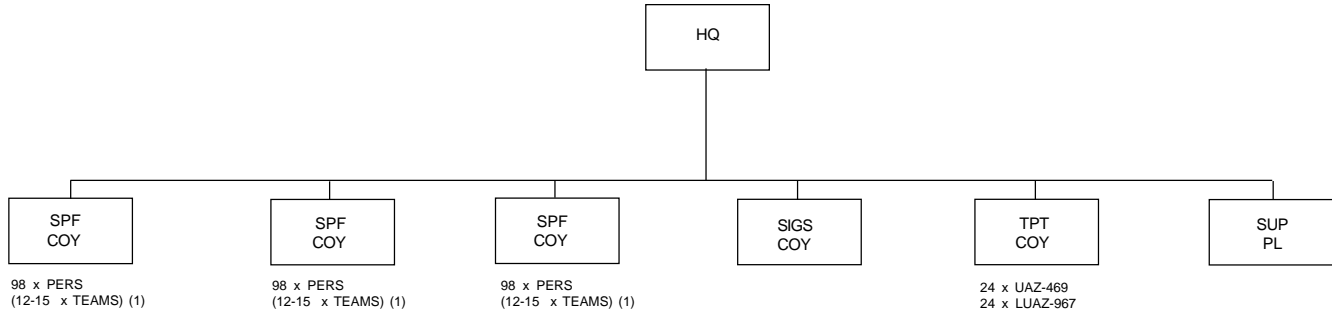
CORPS RECONNAISSANCE-DRONE SQUADRON



CORPS AIR ASSAULT BATTALION

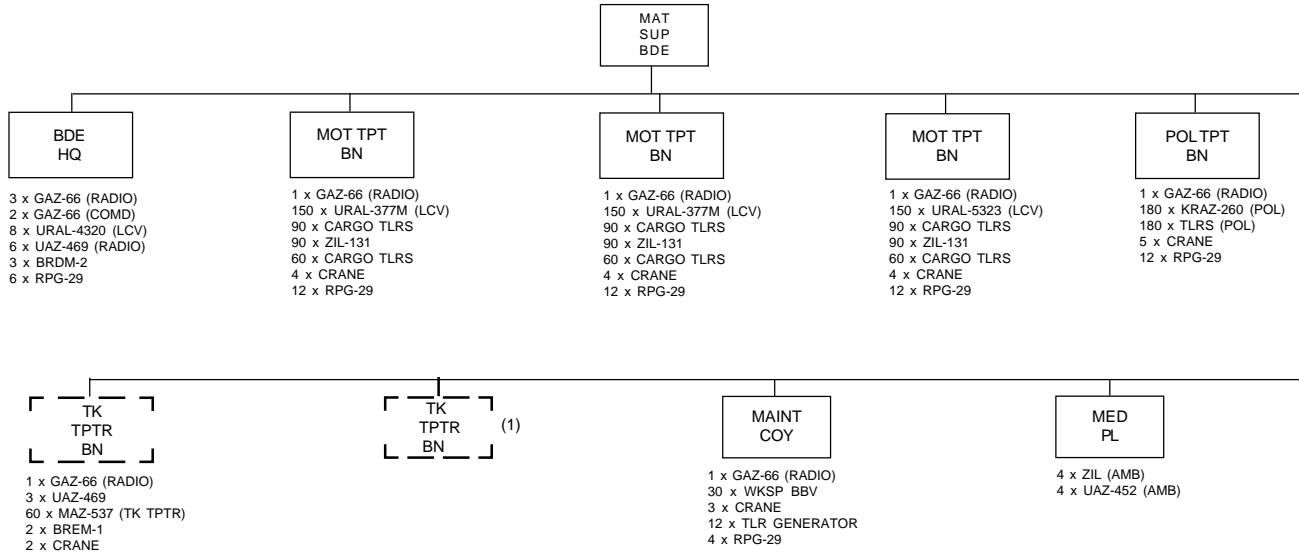


CORPS SPECIAL PURPOSE FORCES BATTALION



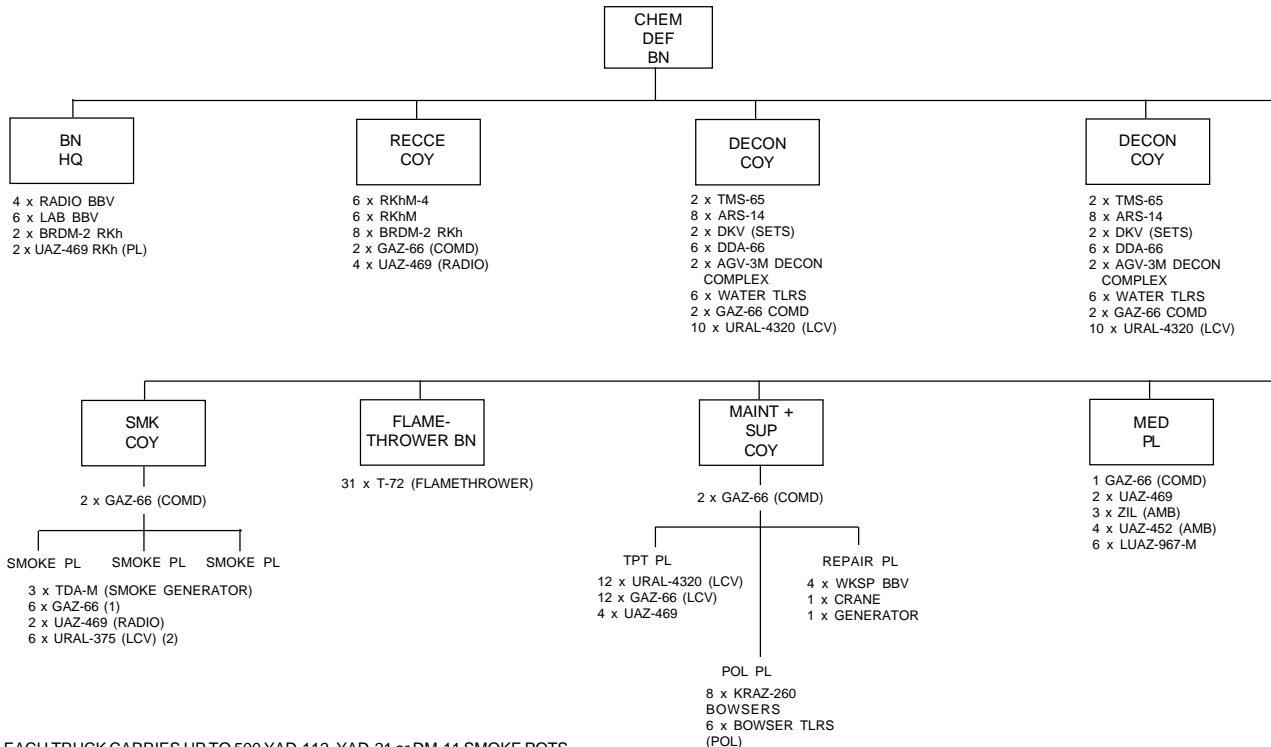
(1) Typical team comprises Comd (Offr), 2 i/c, 1-2 Radio Op, 1-4 Wpns Specialists (Metis, RPG-16D, RP0-A, Igla), 1-3 Dml Specialists, 0-4 Recce Specialists, 1 LTD Specialist; 1-3 Vehicles or 3-7 microlight aircraft.

CORPS MATERIEL SUPPORT BRIGADE



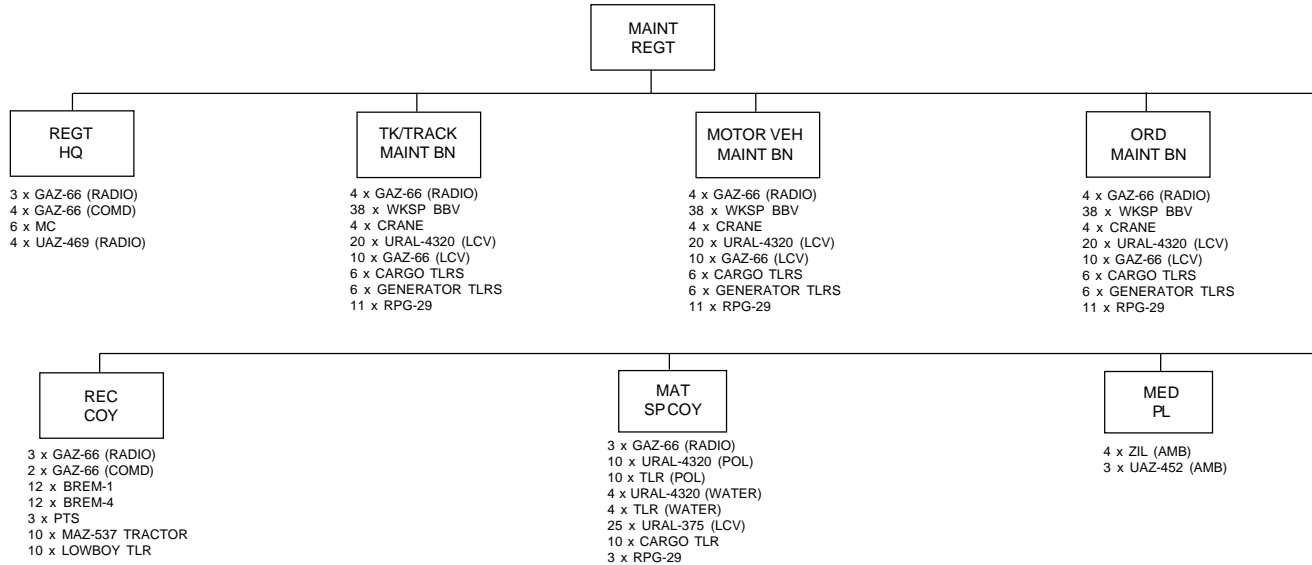
(1) Att from SG as required.

CORPS CHEMICAL DEFENCE BATTALION

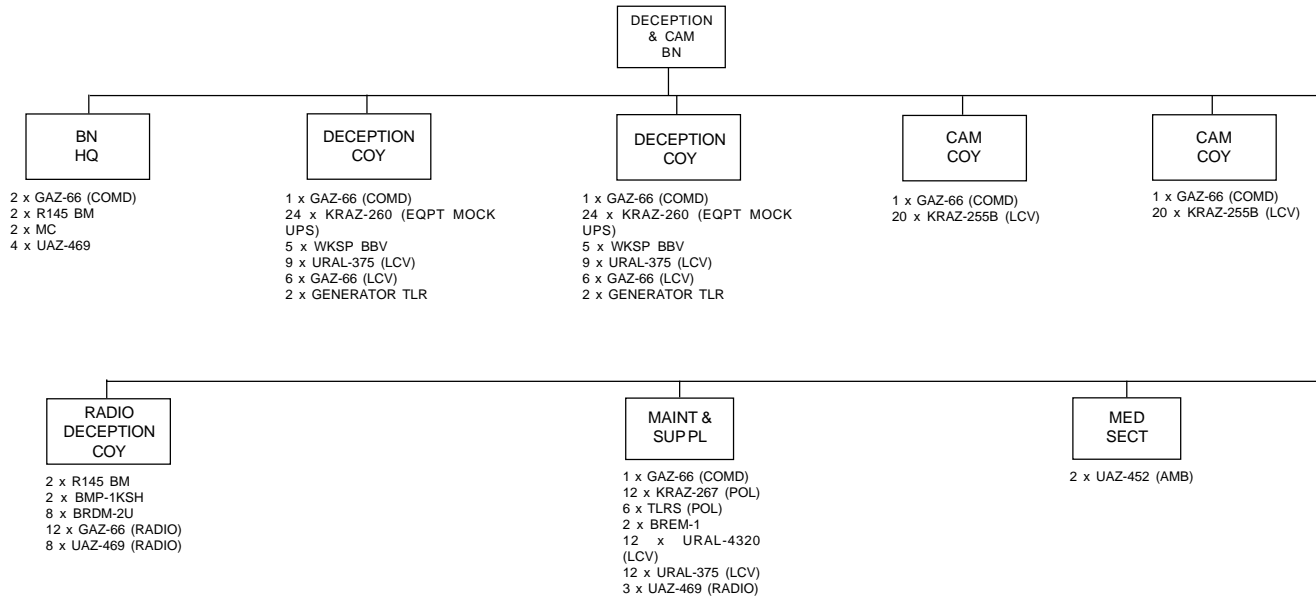


- (1) EACH TRUCK CARRIES UP TO 500 YAD-112, YAD-21 or DM-11 SMOKE POTS
 (2) EACH TRUCK CARRIES UP TO 100 BDSH5 or BDSH15 SMOKE POTS

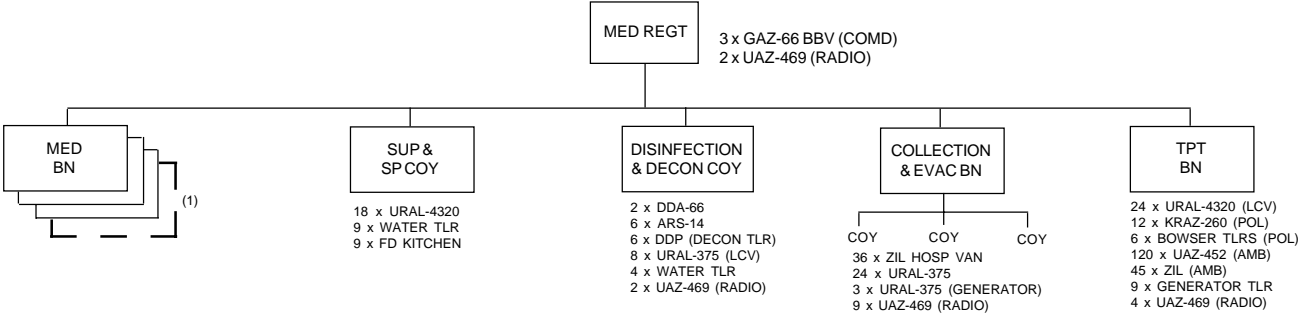
CORPS MAINTENANCE REGIMENT



CORPS DECEPTION AND CAMOUFLAGE BATTALION

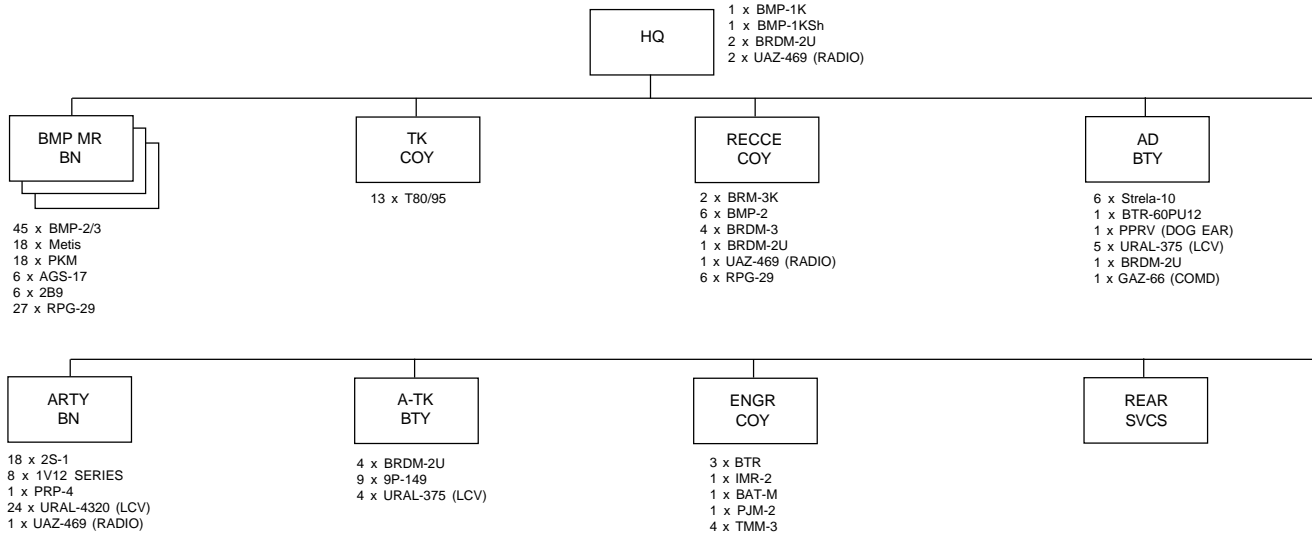


CORPS MEDICAL REGIMENT

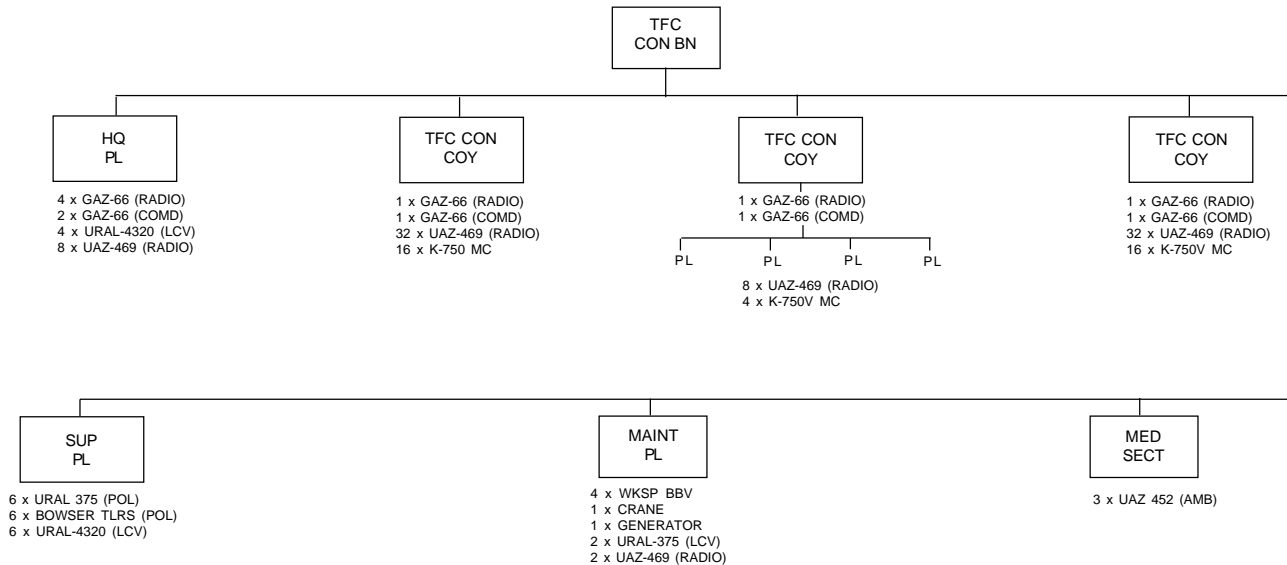


(1) Possible attachment from SG.

CORPS REAR SERVICES SECURITY REGIMENT



CORPS TRAFFIC CONTROL BATTALION



SECTION 3

GENFORCE

STRATEGIC GROUPING

**TABLES OF ORGANIZATION
&
EQUIPMENT**

SECTION 3

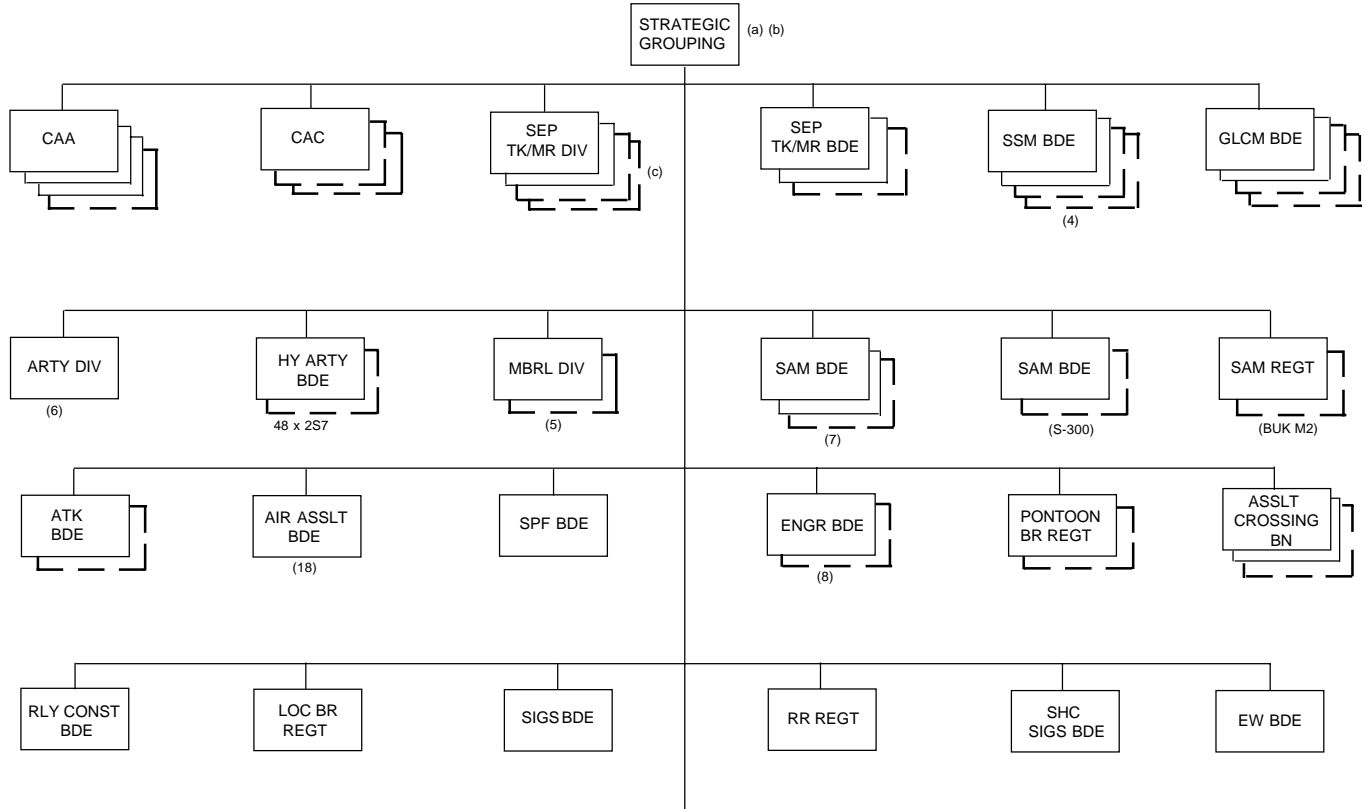
TABLES OF ORGANISATION - STRATEGIC GROUPING

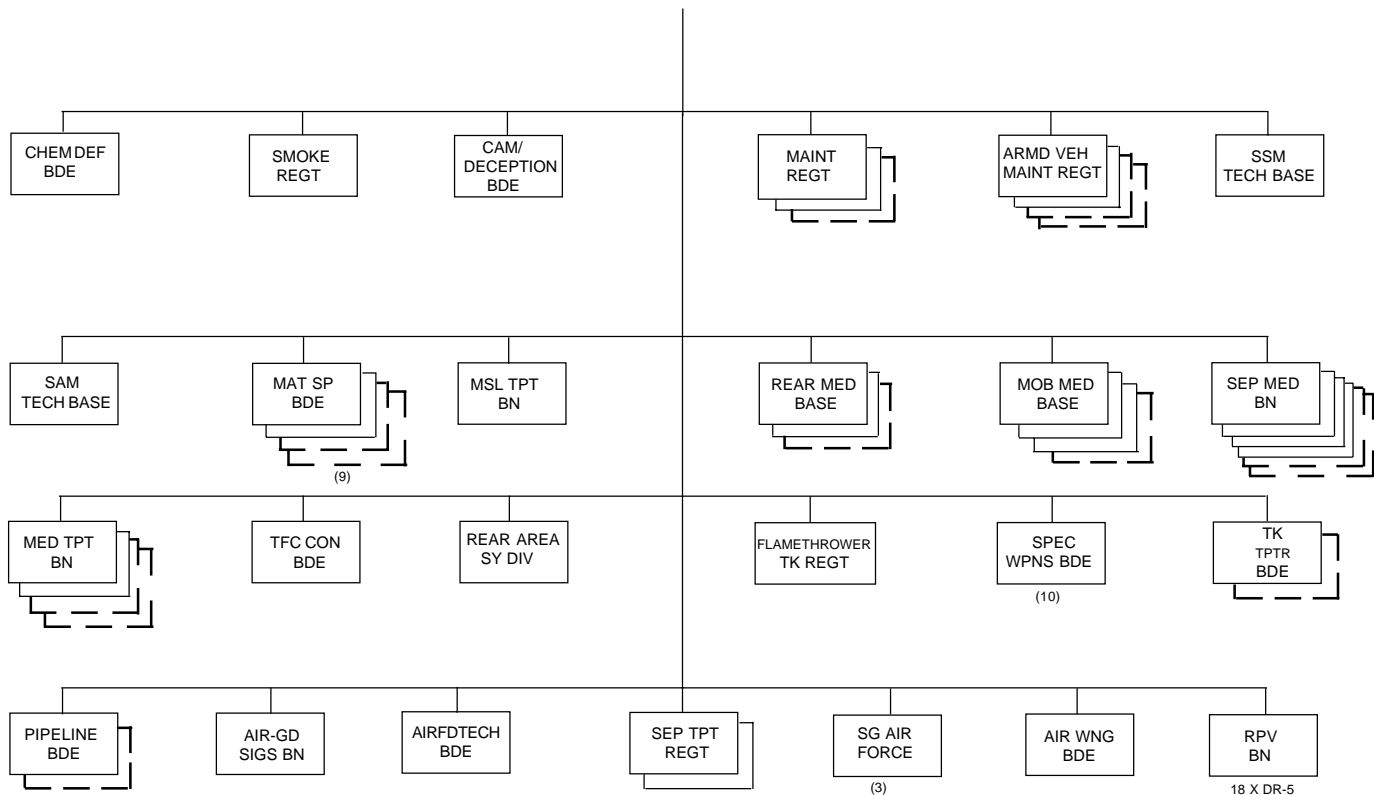
(Examples of formations to be found at Strategic Grouping level; these will be found in varying numbers within a Strategic Grouping)

INDEX

- 01-02. STRATEGIC GROUPING
- 03. STRATEGIC GROUPING AIR FORCE
- 04. STRATEGIC GROUPING SURFACE-TO-SURFACE MISSILE BRIGADE
- 05. STRATEGIC GROUPING ARTILLERY ROCKET LAUNCHER DIVISION
- 06. STRATEGIC GROUPING ARTILLERY DIVISION
- 07. STRATEGIC GROUPING SURFACE-TO-AIR MISSILE BRIGADE
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- 20. MOUNTAIN INFANTRY BATTALION

STRATEGIC GROUPING





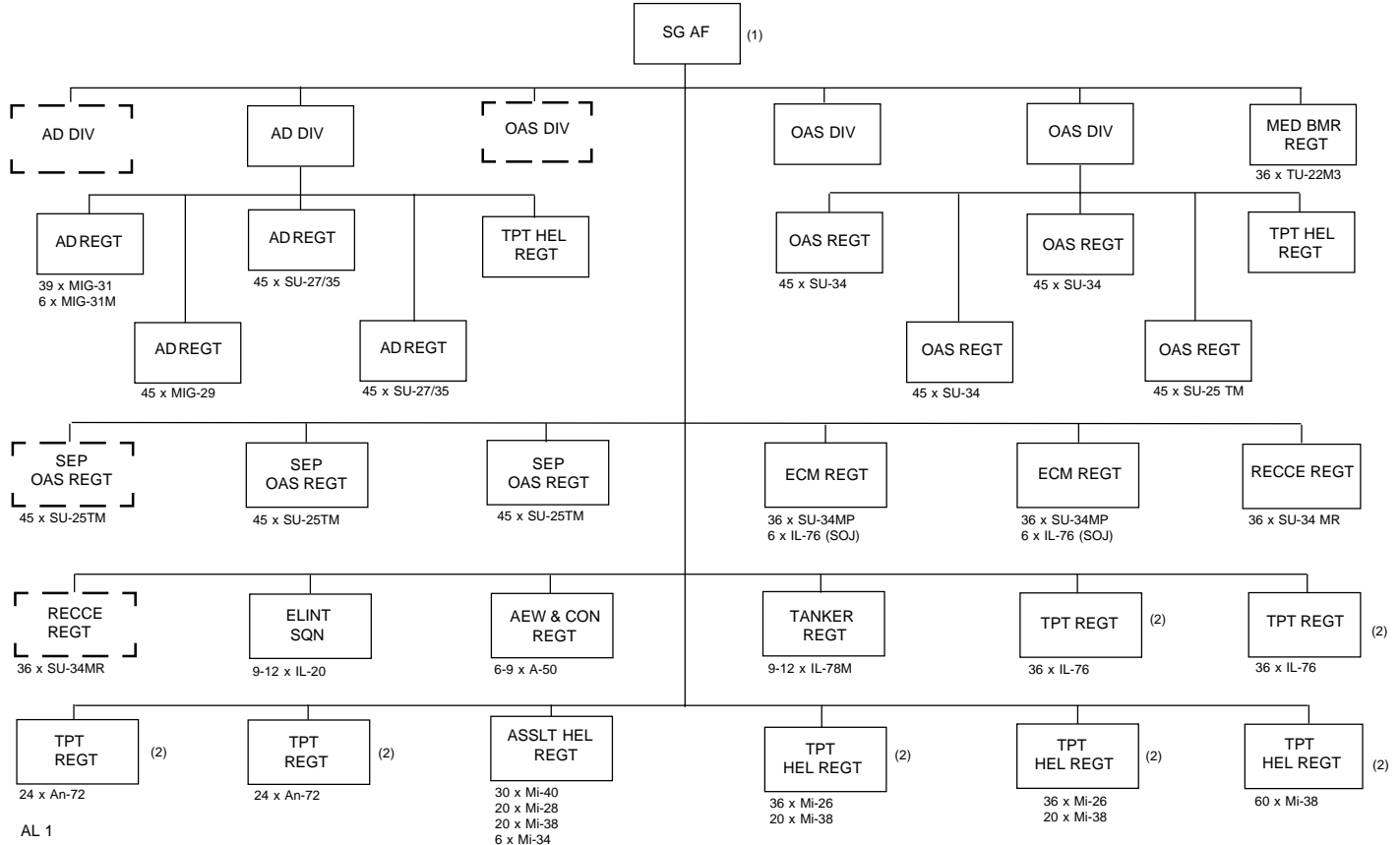
a Strategic Grouping composition depends on the nature of the theatre of military operations, the enemy's strength and the mission.

b Up to 1 x AB Div and/or 1-2 additional air asst bdes could be allocated to SG for specific missions.

c Could include up to 2 x MG-Arty Divs and/or Mtn Bdes, depending on terrain and missions.

AL 1

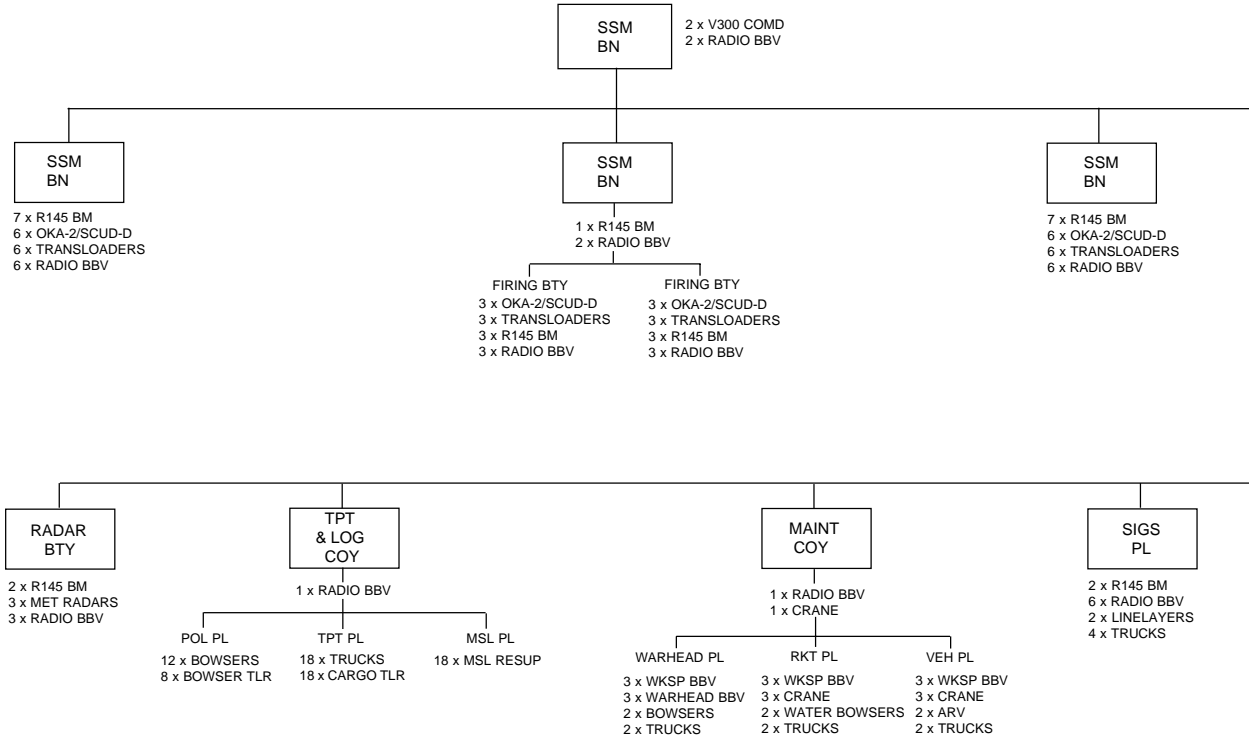
STRATEGIC GROUPING AIR FORCE



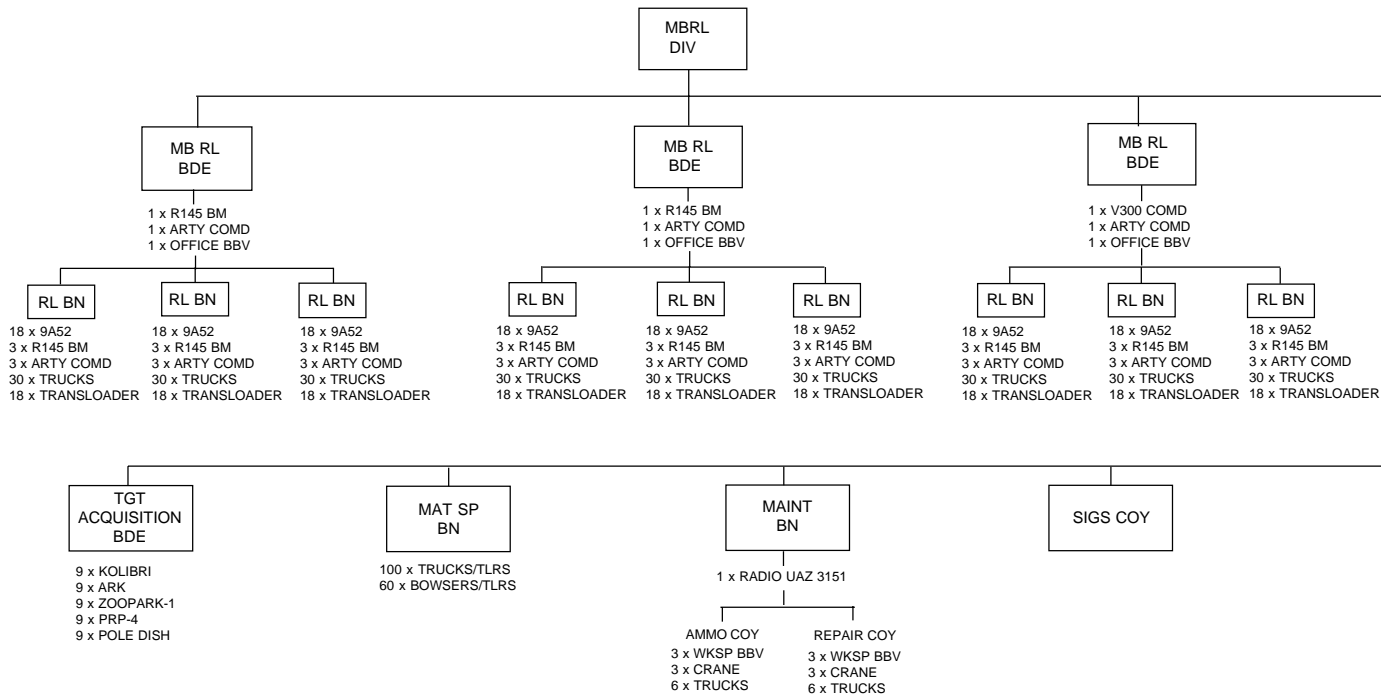
(1) Medium bomber, ECM, recce and transport units and formations of Theatre Air Army will be in support of SG. In addition, heavy bomber and transport assets may be allocated from RSHC for specific missions (eg 1-2 transport divisions for a major airborne operation).

(2) Numbers of transport units vary according to the mission and the nature of the theatre of military operations.

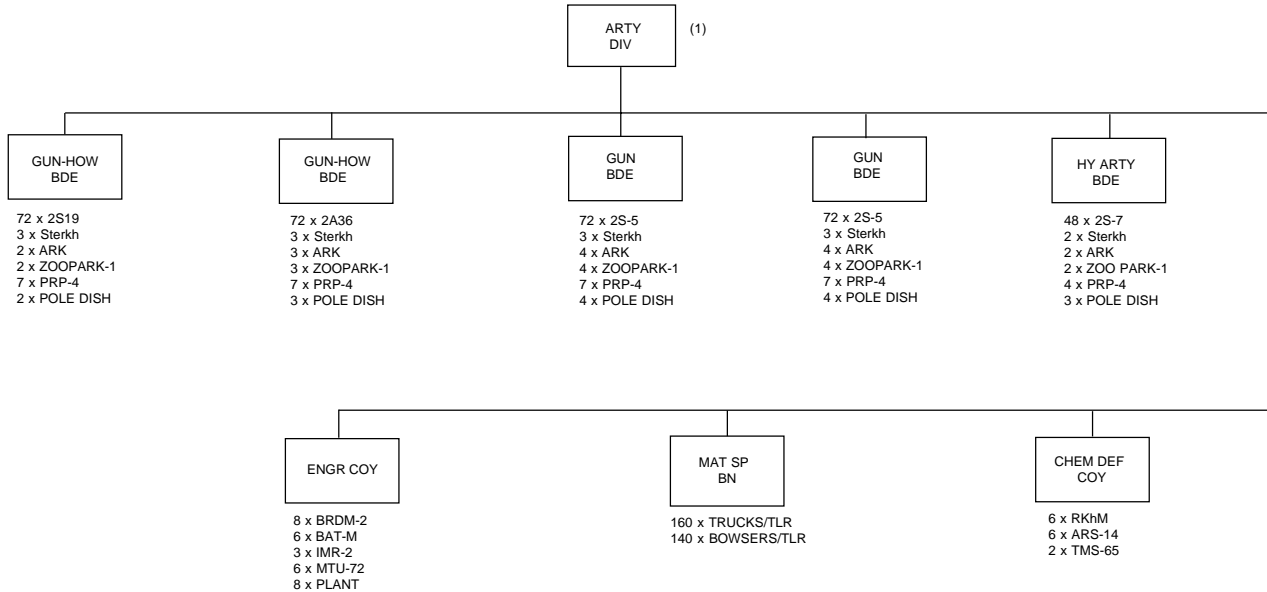
STRATEGIC GROUPING SURFACE-TO-SURFACE MISSILE BRIGADE



STRATEGIC GROUPING ARTILLERY ROCKET LAUNCHER DIVISION

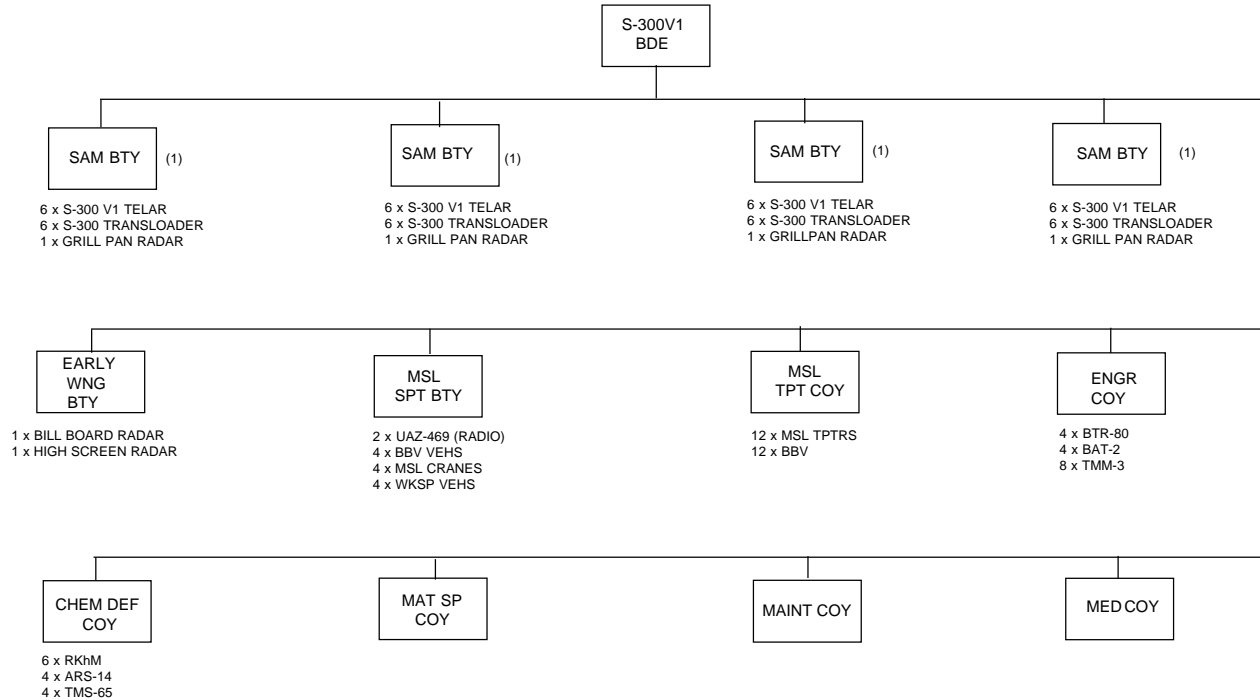


STRATEGIC GROUPING ARTILLERY DIVISION



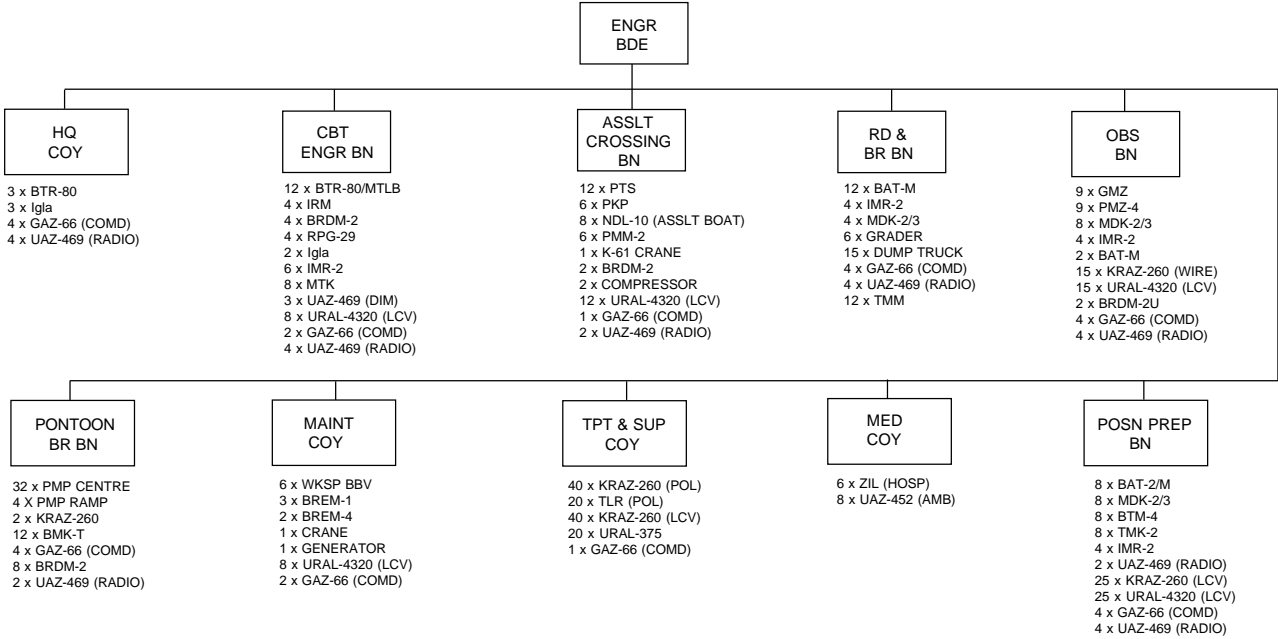
(1) Numbers and types of Brigade vary according to the mission.

STRATEGIC GROUPING SURFACE-TO-AIR MISSILE BRIGADE

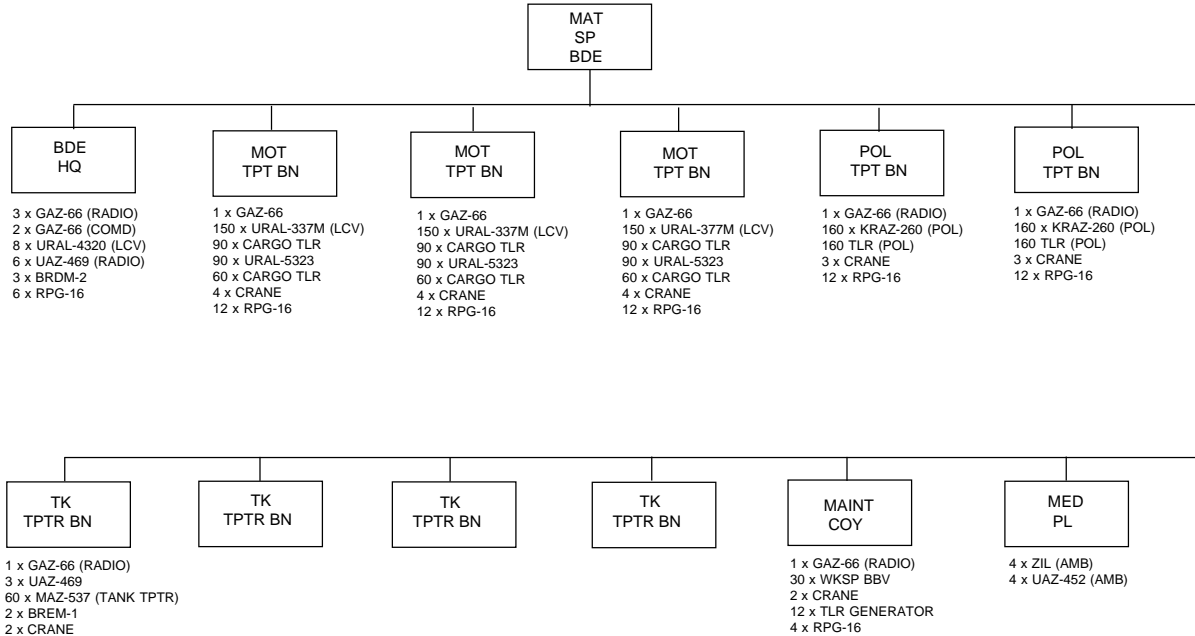


(1) Battery may comprise 4 x dual role SAMs (SA-12a) and 2 x ABM systems (SA-12b) or 6 of one or the other.

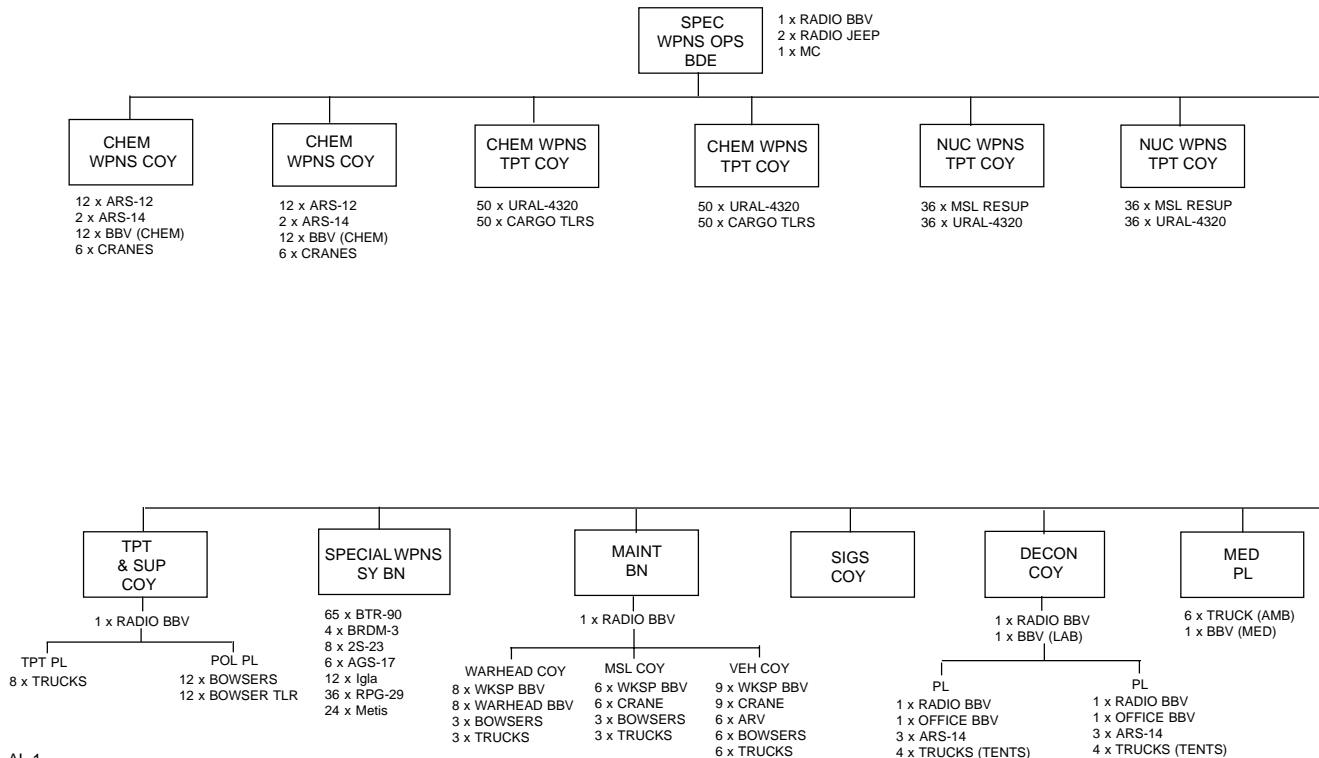
STRATEGIC GROUPING ENGINEER BRIGADE



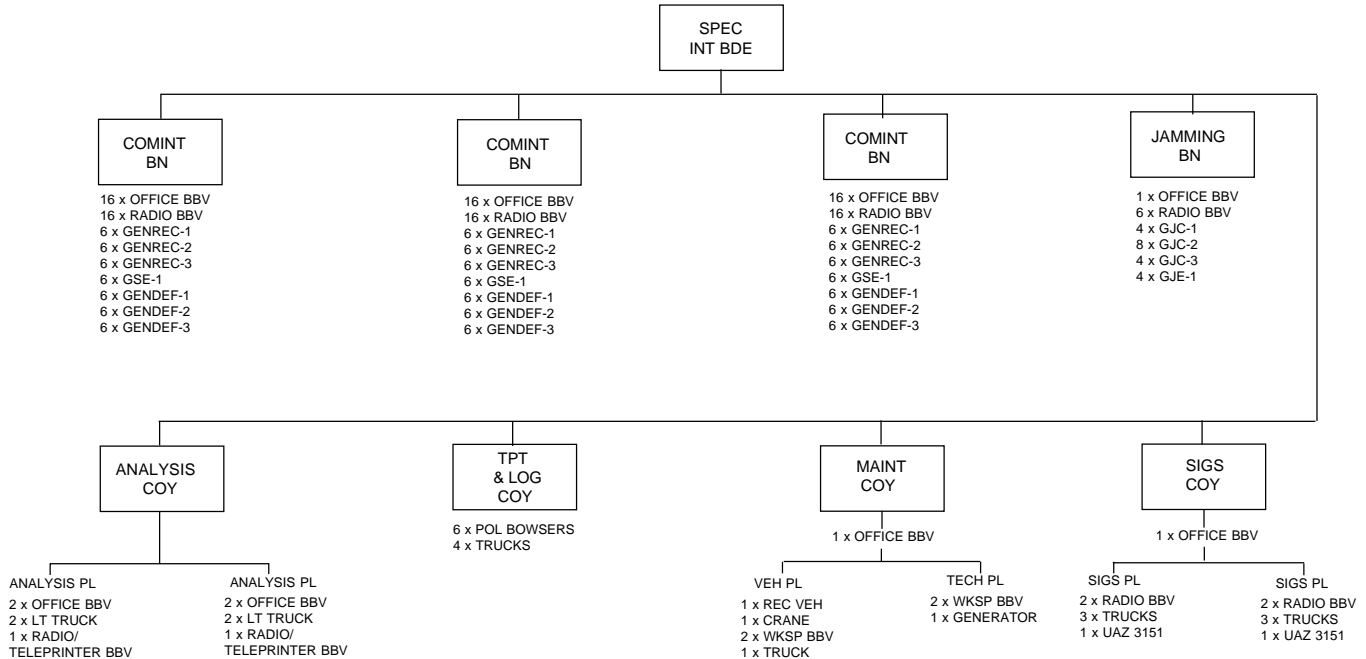
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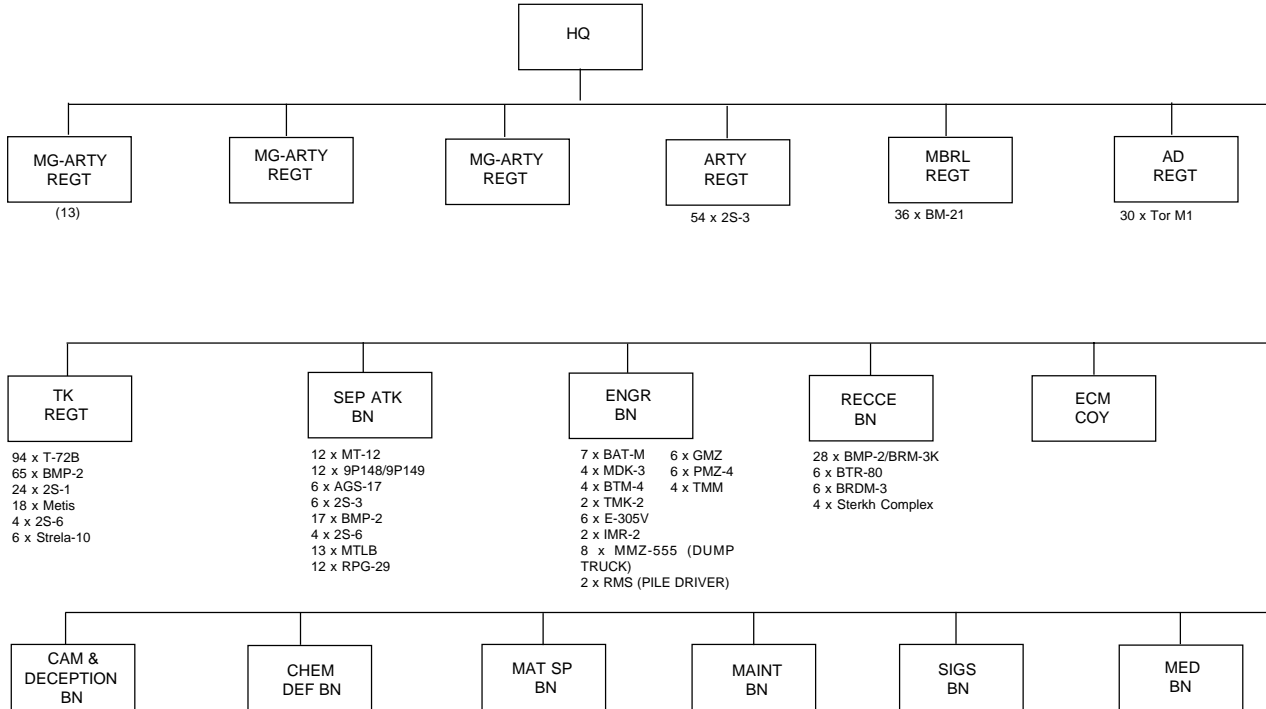
STRATEGIC GROUPING SPECIAL WEAPONS OPERATIONS BRIGADE



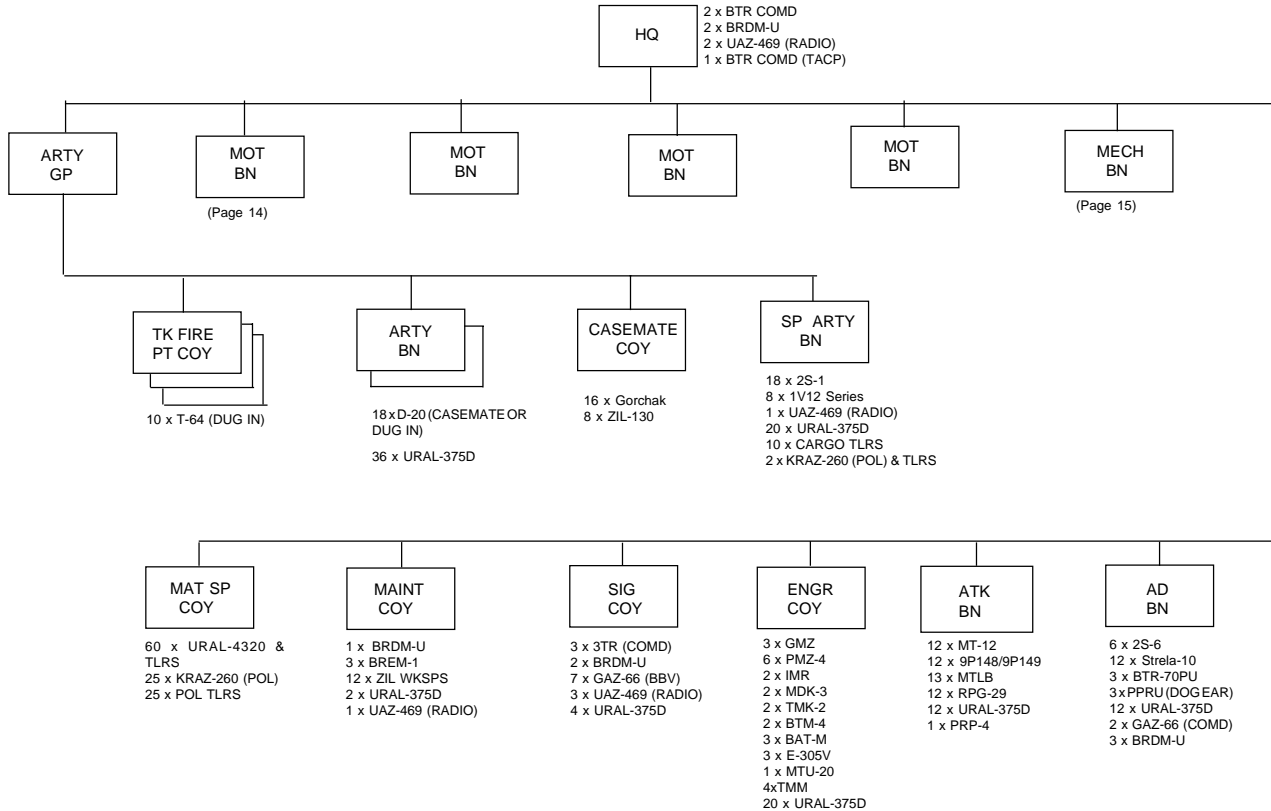
STRATEGIC GROUPING SPECIAL INTELLIGENCE BRIGADE



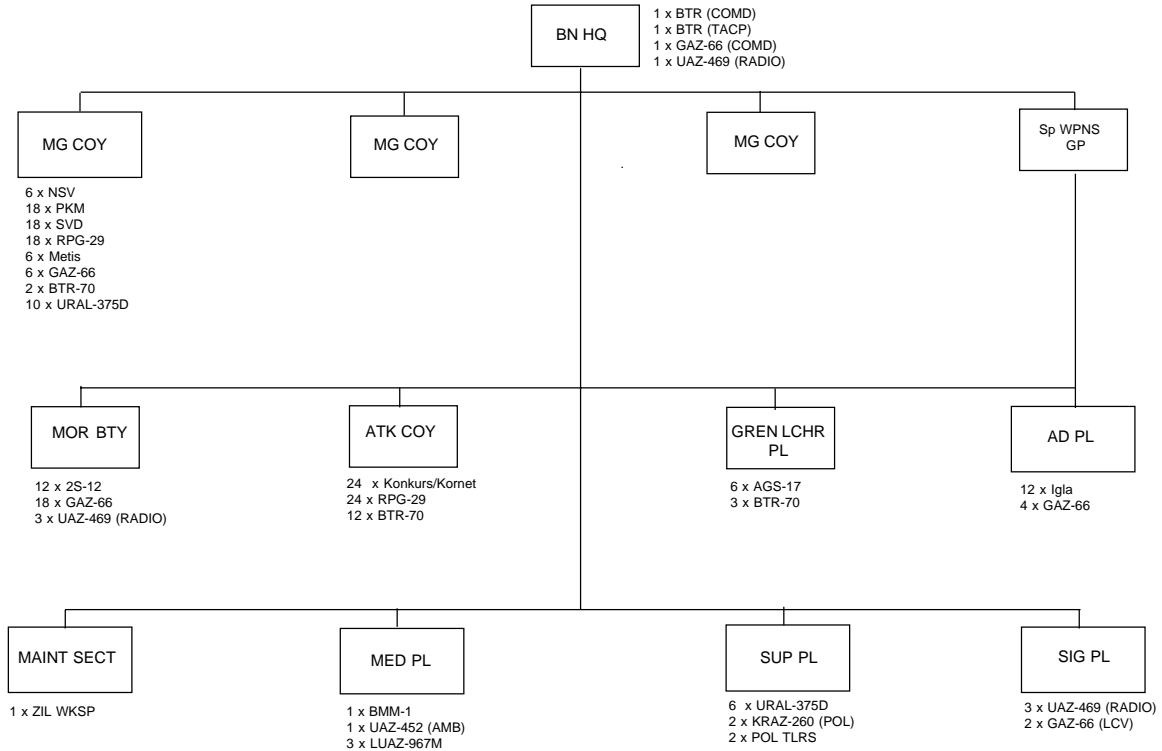
MACHINE-GUN ARTILLERY DIVISION



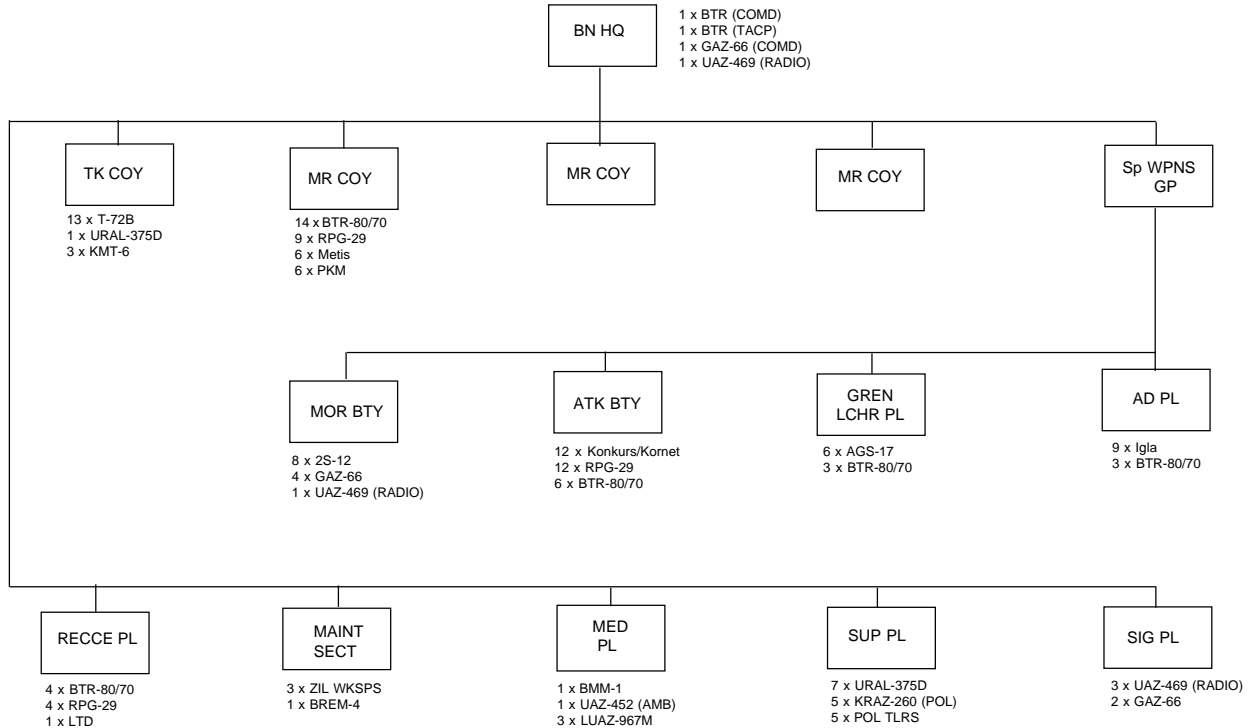
MACHINE GUN - ARTILLERY REGIMENT



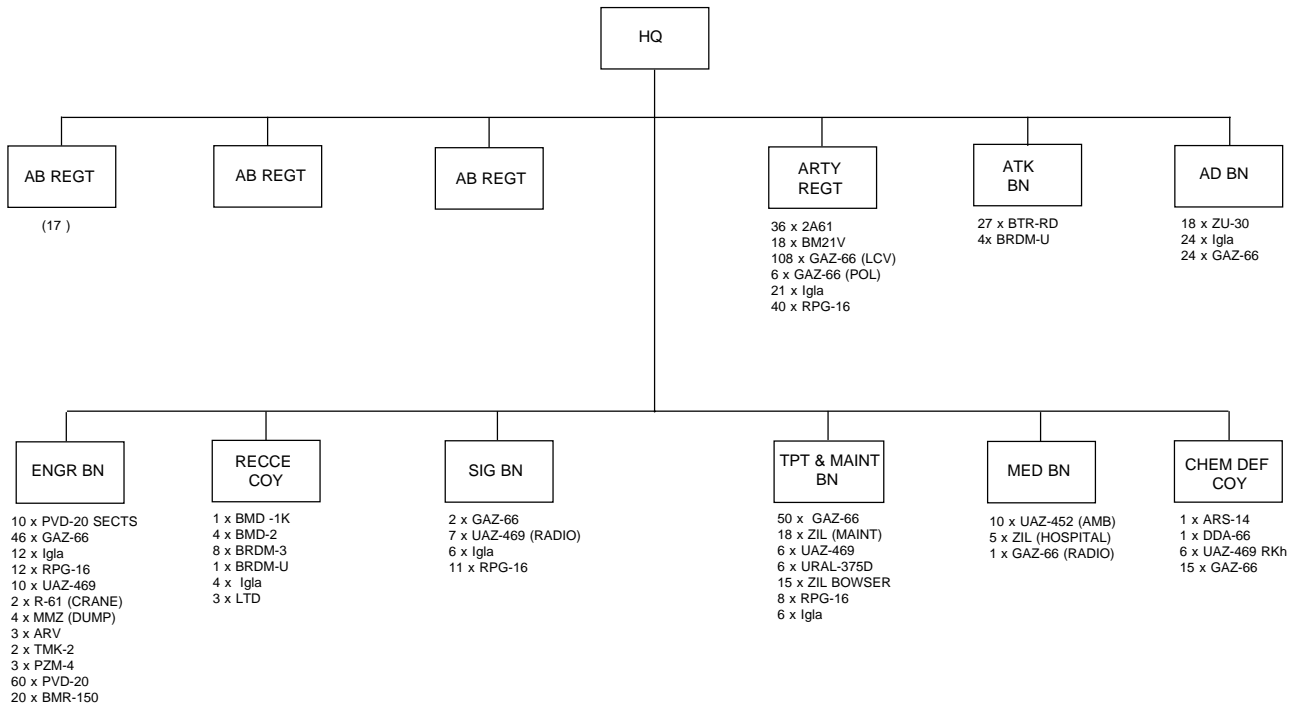
MACHINE GUN - BATTALION (MOTORIZED)



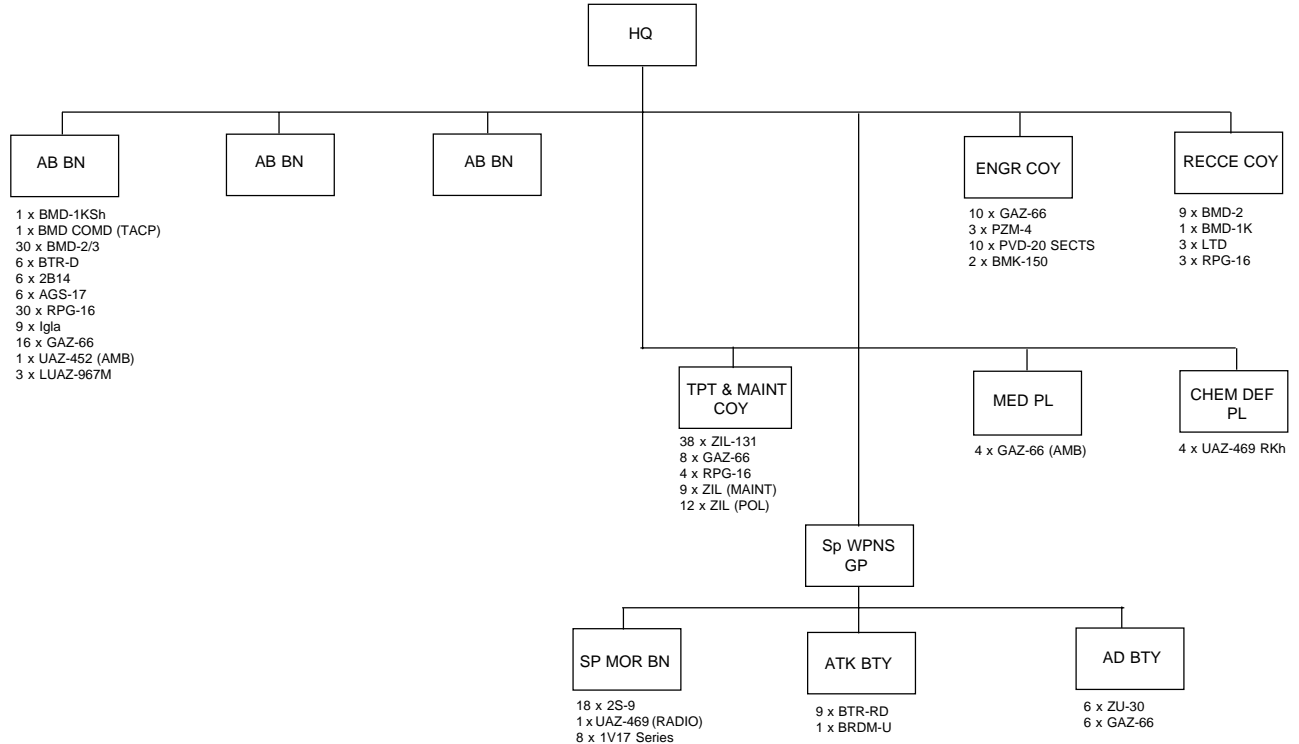
MACHINE GUN - BATTALION (MECHANIZED)



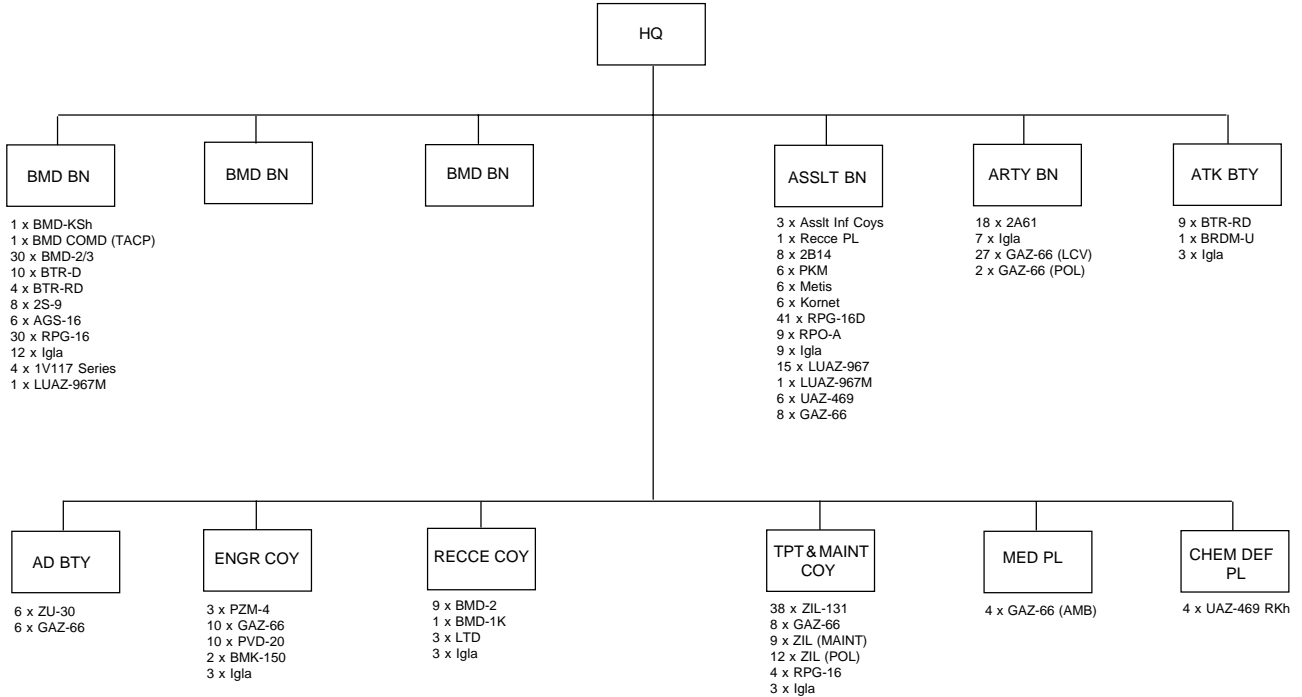
AIRBORNE DIVISION



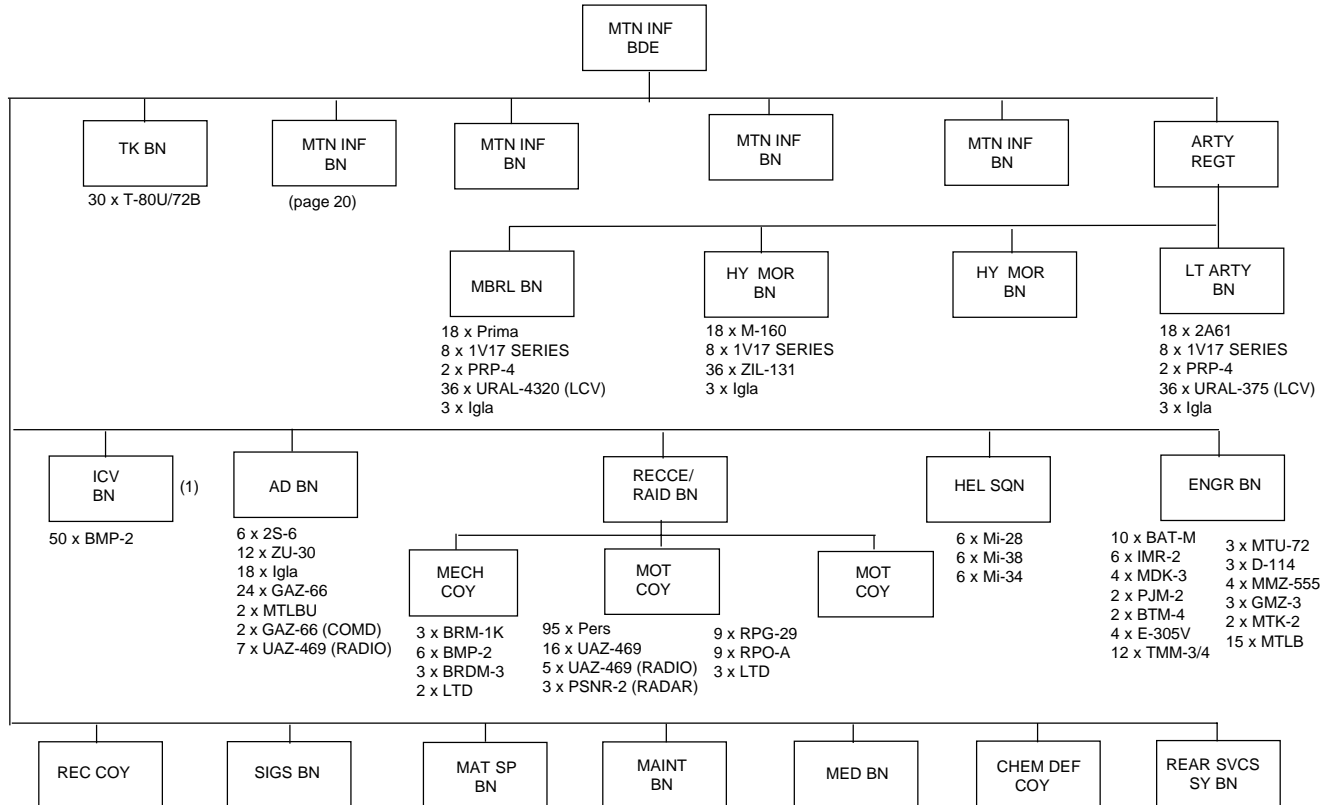
AIRBORNE REGIMENT



AIR ASSAULT BRIGADE

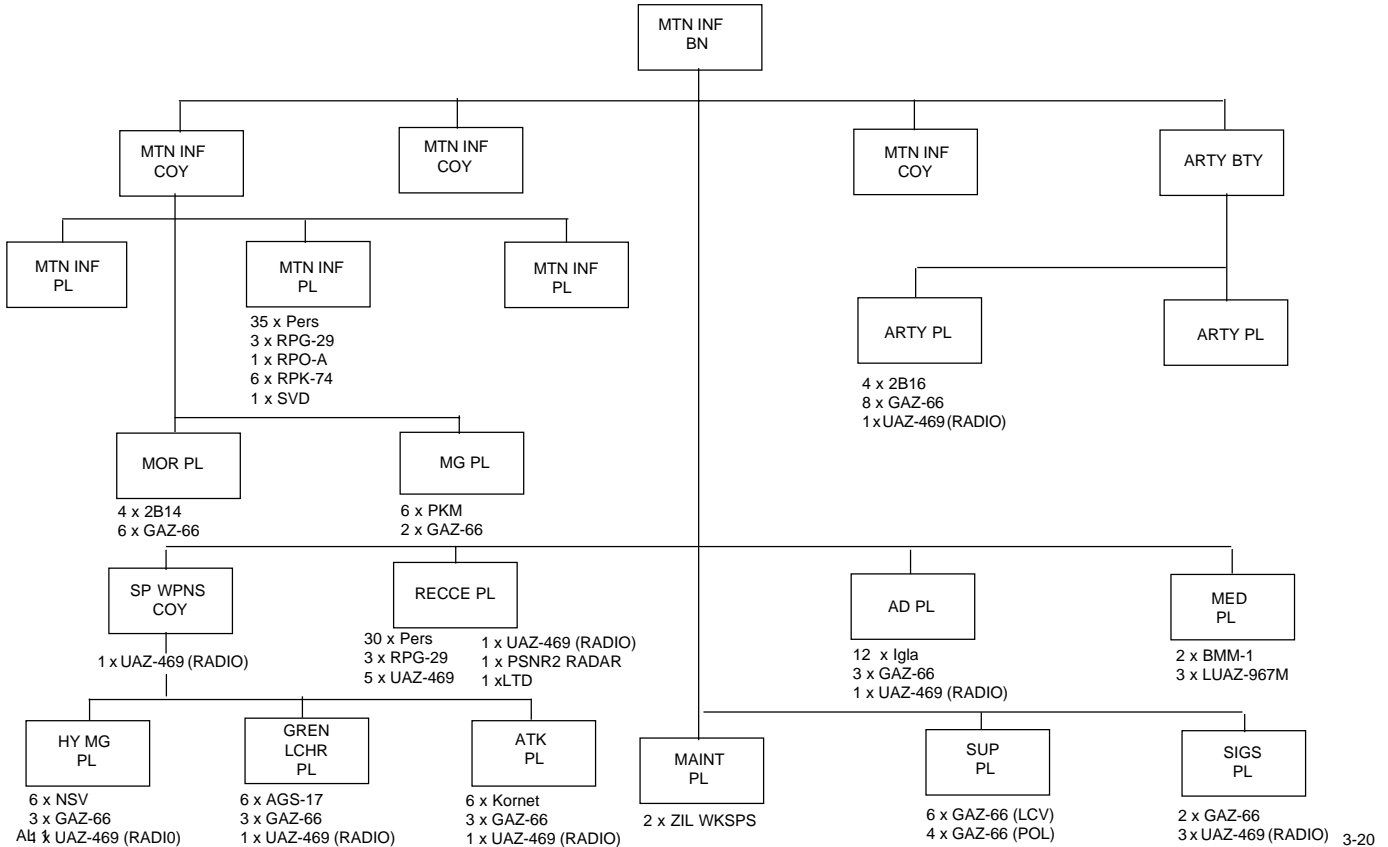


MOUNTAIN INFANTRY BRIGADE



(1) Holding battalion with ICVs and crews, providing mechanization for up to 1 x Mtn Inf Bn on an axis suited to mechanized action. The BMPs are fitted with an AG-17 external mount.
AL 1

MOUNTAIN INFANTRY BATTALION



SECTION 4

GENFORCE

MOBILE FORCES

**EQUIPMENT LISTING
(BY TYPE)**

GENFORCE WEAPONS AND EQUIPMENT CHARACTERISTICS

ORIGIN

Genforce is equipped with material of Russian origin. This is because, by and large, the Russians produce the most effective equipment and weapons to be found outside NATO and the aim of the Genforce package is to present British and allied forces with a most challenging present to near-future enemy for high intensity conflict exercise purposes.

CAPABILITIES

The characteristics of the equipment and weapons given in the following section is drawn from a variety of Russian and Western open sources. Where such sources disagree on an essential element of information or where it is omitted altogether, the author has, having taken advice, made an informed guess. Where recourse to this expedient has proved necessary, an asterisk (*) has been placed by the item's name/designator.

As Genforce is intended to provide a near-future as well as present day enemy, a very few equipments are included that should, doctrinally, be fielded but which are not yet in service. These are marked with a double asterisk (**).

NOMENCLATURE

The Russian designation/name has been used throughout. Where it would be helpful to NATO users, the NATO designation has been added afterwards in brackets, eg S-300 PMU1 (SA-10d).

SECTION 4

GENFORCE: MOBILE FORCES EQUIPMENT LISTING (BY TYPE)

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SURFACE-TO-SURFACE BALLISTIC MISSILES

Technical Characteristics	Oka-2 (SS-26) *	Tochka U (SS-21)
Range (km)	500	20-120
CEO (max range, m)	30	15
Warhead weight (kg)	700	450
Warhead types	Nuc, CW, FAE, conv EMP ICM, HE Frag	Nuc, CW, FAE, conv EMP, ICM, HE Frag
Penetration aids	Warhead manoeuvre and decoys	
Guidance	Inertial, with navsat update and MMW radar terminal homing under 30	Inertial with MMW radar terminal homing under 20
Time into action (min)	BAZ-6909 (8x8)	BAZ5921 (6x6, amph)
TEL and transloader	4 (1 on TEL, 1 on transloader, 2 on resup veh with alternative warheads)	5 (1 on TEL, 2 on transloader, 2 on resup veh, with alternative warheads)
Unit of fire		

Technical Characteristics	R-17 (Scud-D)
Range (km)	300
CEP (max range, m)	50
Warhead weight (kg)	985
Warhead types	Nuc, CW, FAE, ICM, HE-Frag, conv EMP
Penetration aids	-
Guidance	Inertial with digital scene matching under 30
Time into action (min)	MAZ-543P (8x8)
TEL and transloader	4 (1 on TEL, 1 on transloader, 2 on resup veh with alternative warheads)
Unit of fire	

GROUND/AIR LAUNCHED CRUISE MISSILES

Technical Characteristics	Kh-SD*	Kh-101*
Range (m)	300	3000
Cruise altitude (m)	40-110	30-70
Speed	Mach 8	Mach 7
CEP (m)	20	12-20
Warhead weight (kg)	410	400
Warhead types	Nuc, CW, concrete penetrator, ICM dispenser, HE Frag	Nuc, CW, ICM dispenser, HE Frag
Guidance	Inertial with navsat mid-course guidance and TV command guided terminal homing	Inertial with navsat mid-course guidance and electro-optical guided terminal homing head
TEL and transloader	MAZ-543 (8x8)	MAZ-543 (8x8)
Unit of fire (GLCM)	5 (2 on TEL, 1 on transloader, 3 on resup veh)	4 (1 on TEL, 1 on transloader, 2 on resup veh)
Aircraft (ALCM)	TU-22M3 (8xmsls) TU-95MS (14xmsls)	TU-22M3 (4xmsls) TU-95MS (8xmsls)

MULTI-BARRELLED ROCKET LAUNCHERS

Technical Characteristics	9A52 (Smerch)	9P140 (Uragan)	BM-21 (Grad)
Calibre (mm)	300	220	122
Range, min-max (km)	20-70 (100) (a)	8.5-35 (40) (a)	5-20.5 (b)
No of Tubes	12	16	40
Munitions (sub-munitions, SM) (each 72xSM), ARM,	HE Frag, ICM & RDM (each 30xSM), ARM, TGSM (5xSM), FAE, CW, incend	HE Frag, ICM & RDM (12xSM), CW, TGSM, FAE, CW, incend	HE Frag, RDM incend (b)
Beaten zone of one salvo (ha)	67	42	4
Time into/out of action (mins)	3/3	3/3	10/2
Transloader load (rkts)	12	16	-
Reload time (mins)	20	15-20	10-20
Unit of Fire	24	32/48	120
Vehicle	MAZ-543 (8x8)	ZIL-135AM (8x8)	URAL-375D(6x6)
Max speed (road, kph)	60	65	80
Range (road, km)	850	500	550
Weight (loaded, kg)	43,700	20,000	13,700

Technical Characteristics	9A51 (Prima)	BM-21V
Calibre (mm)	122	122
Range, min-max (km)	5-20.5 (36) (a)	5-20
No of Tubes	50	12
Munitions (sub-munitions, SM)	HE Frag, RDM(12xSM), TGSM(2xSM), CW, incend	HE Frag, RDM(12xSM) CW, incend(b)
Beaten zone of one salvo (ha)	19	
Time into/out of action(mins)	5/2	3.5/2
Transloader load (rkts)	50	-
Reload time (mins)	10-20	6-8
Unit of Fire	150	36
Vehicle	URAL 4320 (6x6)	GAZ-66 (4x4)/BMD
Max speed (road kph)	80	85
Range (road, km)	990	575
Weight (loaded, kg)	13,900	6,000

Notes: (a) Estimated range of new rkts.
(b) Can also fire improved Prima rkts.

SELF-PROPELLED ARTILLERY

Technical Characteristics	2S-7M (Pion)	2S-5 (Giatsint)	2S-19 (Msta-S)
Calibre(mm) main armament	203	152	152
Calibre(mm) secondary armament	-	7.62	12.7
Range (km)	37.5 (RAP 47)	28.5 (RAP 40)	24.7 (base bleed 29)
Rate of fire (rpm) max	2.5	5-6	7-8 (burst)
Rate of fire sustained	30-60 per hour	1.5-2 per min	2 per min
Weight of HE round (kg)	110 (RAP 103)	46	43-45
Ammunition types	Nuc, CW, HE frag, concrete piercing, ICM (180xSM), conv EMP RDM(10xATk or 80xAP)	Nuc, CW, HE frag, RDM(9xATk or 36xAP), conv EMP ICM(64xSM), smk, illum	CW, HE frag, Flechette, RDM 10xATk or 40xAP), ICM (70xSM), LGP(a), jammer, smk, illum, HEAT
UF (main armament)	40 (8 in veh)	60 (30 in veh)	80 (50 in veh)
Time into/out of action (min)	5-6/3-5	2-3/2	2/2
Weight (Kg)	47,000	28,200	42,000
Max speed (roads, kph)	50	63(35/25, tracks/cross country)	60(35/25 tracks/cross country)
Range (roads/km)	500	500	500
Amphibious/deep wade	No/No	No/No (fords 1m)	fords 1m, deep wades 5m
Dozer blade	No	No	Yes
Protection	Armoured against shell splinters, small arms fire. DAS routinely fitted.		

Technical Characteristics	2S-3M1 (Akatsiya)	2S-1M (Gvozdika)	2S-31 (Vena)
Calibre(mm) main armament	152	122	120
Calibre(mm) secondary armament	7.62	-	7.62
Range (km)	20 (base bleed 24)	15.3(RAP 22)	13(RAP 17)
Rate of fire rpm) max	5(2-3 for 3 mins)	7-8(2-3 for 6 mins)	8-10
Rate of fire (rph) sustained	60	100	100
Weight of HE round (kg)	43.5	21.7	20.5
Ammunition types	CW, HE Frag, Flechette RDM (8xATk or 34xAP), LGP(a), smk, illum, HEAT, Jammer	CW, HE, Flechette, LGP(b), smk, illum, HEAT	CW, HE frag(c), Flechette, LGP(b), smk, illum, HEAT
UF (main armament)	60 (46 in veh)	80 (40 in veh)	80(50/70 in veh)(d)
Time into/out of action (min)			
Weight (Kg)	27,500	15,700	16,900/19,000(d)
Max speed (kph)	60(35-25 tracks/cross country)	60-70(35/25 tracks/cross country)	70
Range (roads/km)	500	500	500
Amphibious/deep wade	No/No (fords 1m)	5 kph in water	5 kph in water
Dozer blade	No	No	Yes
Protection	Armoured against shell splinters and small arms fire. DAS routinely fitted.		

- Notes:
- (a) Krasnopol, range 18 km, hit probability 0.8-0.9.
 - (b) Kitolev-2/2M, range 12/14 km, hit probability 0.8-0.9.
 - (c) Ammunition as effective as 152mm despite smaller round.
 - (d) BMD-3 chassis/BMP-3 chassis.

SELF-PROPELLED ARTILLERY

Technical Characteristics	2S23 (Nona-SVK)	2S-12 (Sani)	2S-9 (Nona-S)
Calibre(mm) main armament	120	120	120
Calibre(mm) secondary armament	7.62	-	-
Range(km)	8.8(RAP 12.8)	7.1	8.8(RAP 12.8)
Rate of fire(rpm)max	8-10	15	6-8
Rate of fire(rph)sustained	6-8		
Weight of HE round (kg)	20.5	16	20.5
Ammunition types	HE, HEAT, illum, smk, LGP(a)	HE, HEAT, illum, smk LGP(b)	HE, HEAT, illum, smk, LGP(a)
UF(main armament)	50(30 in veh)	80 (48 in veh)	50 (25 in veh)
Time into/out of action(min)			0.5/0.5
Weight(kg)	14,500	11,900	8,700
Max speed (roads, kph)	80	62	60
Range (roads, km)	500	500	500
Amphibious	Yes	Yes	Yes
Protection	Armoured against shell splinters, small arms fire. DAS routinely fitted.		

- Notes: (a) Kitolev -2/Kitolev-2M, range 12/14 km, hit probability 0.8-0.9.
 (b) Gran: range 7.8 km, hit probability 0.8-0.9.

TOWED ARTILLERY

Technical Characteristics	2A36 (Giatsint B)	2A65 (Msta-B)	2A61
Calibre (mm)	152	152	152
Range	27(RAP 40)	24.7(base bleed 29)	15.9(base bleed 19)
Rate of fire(rpm) max	5-6(burst), then 3-4	7-8(burst) then 5-6	6-8
Rate of fire sustained	1 per min	2 per min	2 per min
Weight of HE round(kg)	46	43-45	43-45
Ammunition types	Nuc, CW, HE Frag, Flechette, ICM (40xSM), RDM (34xSM), LGP(a), jammer, smk, HEAT, illum, conv EMP	CW, HE Frag, Flechette, ICM (42x SM), RDM (36xSM), LGP(a), jammer, smk, illum, HEAT	CW, HE Frag, Flechette, ICM (42xSM), RDM (36xSM), LGP(a), jammer, smk, illum, HEAT
UF	50	60-100	60
Towing veh	Kraz 260 (6x6)	KRAZ 260 (6x6)	ZIL-131, MT-LB
Towing speed(road, kph)	60	80(road),60(tracks), 20-25(cross country)	80
Weight (Kg)	9,760	7,000	4,300

Technical Characteristics	2B-16 (Nona K)	D-20
Calibre (mm)	120	152
Range	8.7(how), 7.1(mor), 13(RAP)	20 (base bleed 24)
Rate of fire(rpm) max	8-10	5
Rate of fire(rpm) sustained	6-8	65 (one hour)
Weight of HE round(kg)	20.5(how), 16(mor)	44
Ammunition types	How: HE-Frag, cargo, RAP, LGP(b) Mor: HE-Frag, smk, incend, illum	CW, HE-Frag, RDM (8xATk or 34xAP), LGP (a), smk, illum, HEAT, jammer
UF	80	60
Towing veh	GAZ-66 (4x4)	URAL-375D, KRAZ-260
Towing speed(road kph)	80	80 (road), 60 (tracks)
Weight (Kg)	1,200	5,700

Notes: (a) Krasnopol: range 18 km, hit probability 0.9.
(b) Kitolev-2/2M, range 12/14 km.

MORTARS

Technical Characteristics	2B14 (Podnos)	2B9 (Vasilek)
Calibre(mm)	82	82
Range(m)	125-4300	80-4720
Rate of fire(rpm, max)	24-30	100(at automatic)
Ammunition types	HE, smk, illum, incend	HE, smk, illum, incend, HEAT
Bomb weight (Kg)	3.1	3.1
Unit of fire	120	300(4 rd clips)
Weight of weapon(Kg)	42	632
Vehicle/prime mover	Manpack or mounted in veh	GAZ-66 (4x4) (a)

Technical Characteristics	2B11	M-160 (MT-13)
Calibre(mm)	120	160
Range(m)	480-7100	750-8000
Rate of fire(rpm, max)	15	3
Ammunition types	LGP(b), HE, smk, illum, incend	HE, smk, illum, incend
Bomb weight (Kg)	16	40.8
Unit of fire	80	
Weight of weapon(Kg)	210 (297 in travel mode)	1300 (1470 in travel mode)
Vehicle/prime mover	GAZ-66(a)	

- Note: (a) Towed or portee.
 (b) Gran: range 7.5 km, hit probability 0.9.

TOWED ANTI-TANK GUNS

Technical Characteristics	MT-12	2A45M (Sprut B)
Calibre(mm)	100	125
Range (km, max indirect)	8.2 (HE)	12.2(HE)
Range (m, max direct, effective)	1000(HEAT),2000(APDS), 4000 (ATGM)	1000(HEAT),2100(APDS),4-5000(ATGM)
Rate of fire (max, rpm)	6 (aimed)	6-8
Ammunition types	HE, HEAT, ATGM(a) APFSDS	HE, HEAT, ATGM(b), APFSDS
UF	80 (HEAT:APDS = 3:5)	60 (6x rds on APU)
Towing veh	MTLB	URAL-4320, MTLB
Towing speed (road kph)	70	80
Auxiliary propulsion unit (APU)	No	Yes
Speed, dirt track (APU, kph)	-	10-14
Time into/out of action (min)	1/2	1½-2/2-2½
Weight	3100	6500(6800 with APU)

Notes: (a) Bastion (AT-10). See ATGM section.
(b) Refleks (AT-11). See ATGM section.

SELF-PROPELLED ANTI-TANK GUN

Technical Characteristics	SU-125**
Calibre (mm) main armament secondary armament	125(a) 1x30, 1x7.62(b)
Ammunition types main armament cannon	APFSDS, HEAT, HE Frag, Refleks ATGM AP, HE
Basic load	40 shells, 6xATGM, 500x30mm
Rate of fire (rpm)	6-8
Max effective range (m) gun	2000(+)
Max effective range (m) ATGM	5000
Combat weight (kg)	39000
Power to weight ratio (hp/t)	30
Ground Pressure (kg/cm ²)	0.7
Max road/cross country speed (kph)	90/50
Road range (km)	500
Amphibious	Yes, with collapsible screen
Protection	Indirect protection is given by very low (turretless) silhouette. With weight of turret eliminated, very thick, composite ceramic armour is provided for the hull. Third generation ERA and forward firing smoke discharges are fitted together with active and passive DAS.

Notes: (a) Fixed gun, hull mounted.
(b) In semi-retractable cupola. Cannon has anti-helicopter capability out to 4km.

MEDIUM TANKS

Technical Characteristics	T-80B	T-80U	T-72B(a)
Calibre(mm)main armament	125	125	125
Calibre(mm)secondary armament	1x12.7AA, 1x7.62 coax	1x12.7AA, 1x7.62 coax	1x12.7AA, 1x7.62 coax
Ammunition types	APFSDS, HEAT, HE-Frag, Refleks ATGM(b), Flechette	APFSDS, HEAT, HE-Frag, Refleks ATGM(b), Flechette	APFSDS, HEAT, HE-Frag, Kobra ATGM
Basic load	33xshells, 6xATGM 500x12.7, 1250x7.62	39xshells, 6xATGM 450x12.7, 1250x7.62	39xshells, 6xATGM 300x12.7, 2000x7.62
Rate of fire, gun(rpm)	6-8	6-8	6-8
Max effective range(m) gun	2000(+)	2000(+)	2000(+)
Max effective range(m)ATGM	5000	5000	5000
Combat weight (kg)	42,500	46,000	45,000
Power to weight ratio(hp/t)	25.9	27.2	18.9
Ground pressure(kg/cm ²)	0.86	0.93	0.9
Max road/cross country speed(kph)	70/40	70/40	60/45
Road range(km) with/without aux tanks	335/500	335/500	480/650
Fording(m) with/without preparation	1.8/5	1.2/6	1.8/5
Protection	Indirect protection is given by the low silhouette of 2.2m. T-72 has an early laminated armour and T-80 has a new generation composite ceramic armour. Thickness is much the same as on modern western tanks (but without the same weight penalty as GENFORCE tanks are smaller). All tanks carry third generation ERA, have forward firing smoke dischargers and a self entrenching blade. All carry the Shtora passive protection system which detects an enemy IR or laser painting of the vehicle and counters it. All can also be fitted with either the Drozhd, Gordeniya or Arena active DAS which detect and destroy incoming missiles or anti-tank rockets.		

- Notes: (a) T-72 is now found exclusively in reserve divisions.
(b) Details of ATGM can be found in the ATGM section.

Technical Characteristics	T-95**
Calibre (mm) main armament	135
Calibre (mm) secondary armament	1x30 coax, 1x7.62 coax
Ammunition types	APFSDS, HEAT, HE FRAG, Ataka ATGM (gun): AP, HE (Cannon) 40xshells, 6xATGM, 500x30mm, 1250x7.62mm
Rate of fire, gun (rpm)	6-8
Max effective range (m) gun	2500
ATGM	8000
Cannon	2000
Combat weight (kg)	45500
Power to weight rates (hp/t)	28
Ground pressure (kg/cm ²)	0.86
Max road/cross country speed (kph)	70/40
Road range (km) with/without aux tanks	450/550
Fording with/without preparation	1.5/5
Protection	With the 3 man crew in the hull and a compact, unmanned turret, the tank has a very low silhouette. Armour protection is probably greater than in T-80U and passive and active DAS are fitted.

TRACKED INFANTRY COMBAT VEHICLES AND ARMoured PERSONNEL CARRIERS

Technical Characteristics	BMP-3	BMP-2	MT-LB(c)
Calibre(mm) main armament	100 gun, coax 30 cannon	30	7.62
Calibre(mm) secondary armament	1x7.62 coax, 2x7.62 bow	1x30(GL), 1x7.62(coax)	
Ammunition types	HE Frag(100 mm), Basnya ATGM(a), AP and HE(30mm)	AP, HE(cannon), HE(GL), Konkurs ATGM(a)	
Basic load	40x100mm, 8xATGM, 500x30mm, 6000x7.62mm	500xcannon, 350x grenades 4xATGM, 2000x7.62	2,500
Rate of fire (rpm)	8x10xHE frag, 330x30mm	250-500(cannon), 350 (GL)	
Max effective range(m)	4000(Gun), 2000(Cannon)(b), 4000(ATGM)	2000(cannon) (b), 1700(GL), 4000(ATGM)	1,000
Crew and passengers	3 + 7(d)	3 + 7(d)	
Combat weight(kg)	18,700	14,500	2 + 10
Power to weight ratio(hp/t)	26.7	20.7	11,900
Ground pressure(kg/cm ²)	0.6	0.64	20.2
Max road speed(kph)	70	65	0.46
Road range(km)	600	600	62
Amphibious	Yes, up to 10 kph	Yes, up to 7 kph	
Dozer/entrenching blade	Yes		Yes, up to 4.5 kph
Protection	Against small arms fire and shell splinters. Forward firing smoke grenade dischargers fitted. DAS now fitted on many BMPs.		

- Notes:
- (a) Details of ATGM can be found in ATGM section
 - (b) Ranges against light AFVs, double against personnel. High elevation of weapon also makes cannon useable against helicopters out to 4 km.
 - (c) Used as APC in arctic and to an extent in desert conditions. Main employment is as prime mover and base vehicle for other systems, especially 9P149 anti-tank system.
 - (d) Vehicle commander is section commander and normally dismounts with the infantry.

Technical Characteristics	BMD-3(a)	BMD-2(a)	BTR-D(a) (c)
Calibre(mm)main armament	30	30	2x7.62(bow)
Calibre(mm)secondary armament	1x30(GL) 1x7.62(coax), 1x5.45(bow)	1x7.62(coax), 1x7.62(bow)	
Ammunition types	AP and HE(cannon); HE(GL), Basnya ATGM	AP and HE(cannon), Konkurs ATGM	
Basic load	300xcannon, 200xgrenades, 4xATGM, 2000x7.62	300xcannon, 2980x7.62, 4xATGM	4000
Rate of fire (rpm)	250-500(cannon), 350(GL)	250-500(cannon), 350(GL)	
Max effective range(m)	2000(cannon) (b), 1700(GL)	2000(cannon) (b), 1700(GL)	1000
Max effective range(m, ATGM)	4000	4000	
Crew and passengers	3 + 7	2 + 5	1 + 12
Combat weight (kg)	13,200	8000	8000
Power to weight ratio(hp/t)	34	30	30
Ground pressure(kg/cm ²)	0.49	0.5	0.5
Max road speed (kph)	70	60	60
Road range(km)	500	500	500
Amphibious	Yes, up to 10 kph	Yes, up to 10 kph	Yes, up to 10 kph
Protection	Against small arms fire and shell splinters. Forward firing smoke grenade dischargers fitted. DAS can be fitted on BMDs.		

- Notes:
- (a) All BMDs are air-droppable, in the case of BMD-3 with the crew inside the vehicle.
 - (b) Ranges against light AFVs, double against personnel. High elevation of weapon also makes cannon usable against helicopters out to 4 km.
 - (c) Mainly seen as prime mover, command vehicle and in anti-tank version BTR-RD.

WHEELED INFANTRY COMBAT VEHICLES AND ARMoured PERSONNEL CARRIERS

Technical Characteristics	BTR 90	BTR 80A	BTR70
Calibre(mm)main armament	30	30	14.5
Calibre(mm)secondary armament	7.62mm coax	7.62 coax	7.62 coax
Ammunition types	AP and HE, Konkurs ATGM(a)	AP and HE	
Basic load	500xcannon, 3xATGM, 2000x7.62	300xcannon, 2000x7.62	500x14.5, 2000x7.62
Rate of fire (rpm)	250-500	250-500	600
Max effective range(m)cannon	2000(b)	2000(b)	2000
Max effective range(m)ATGM	4000	4000	
Crew and passengers	3 + 10	2 + 8	2 + 8
Combat weight	17,000	14,550	13,600
Configuration	8x8	8x8	8x8
Power to weight ratio(hp/t)		17-9	19.1
Max road speed(kph)	80	90	90
Road range	600	600	600
Amphibious	Yes, up to 10 kph	Yes, up to 10 kph	Yes, up to 10 kph
Protection	Against small arms fire and shell splinters. Forward firing smoke grenade dischargers fitted.		

Notes: (a) Details of ATGM can be found in ATGM section.
 (b) Ranges against light AFVs, double against personnel. High elevation of weapon makes cannon usable against helicopters out to 4 km.

TANK DESTROYERS

Technical Characteristics	BTR-RD (Robot)	9P149 (Shturm-S)	9P148
ATGM	Konkurs and Faktoriya	Shturm S or Ataka	Konkurs and Faktoriya
Basic load	12 and 12(a)	12	10xKonkurs or 6xKonkurs and 8xFaktoriya
Rate of fire (rpm)	3-4	3-4	3-4
Range, min-max (m)	75-4000 and 70-2500	400-5000 or 100-6000	75-4000 and 70-2500
Msl flight speed (m/s)	210 and 180	345 or 320	210 and 180
Warheads	Tandem HEAT, HE and FAE	Tandem HEAT, FAE	Tandem HEAT, HE and FAE
Guidance	SACLOS (b)	SACLOS (b)	SACLOS (b)
Command link	Wire (IR tracking)	Radio	Wire (IR tracking)
Weight (kg)	8000	11900	7000
Power to weight ratio (hp/t)	30	20.2	26
Ground pressure (kg/cm ²)	0.5	0.46	0.6
Max road speed (kph)	61	62	100
Speed in water (kph)	up to 10	up to 4.5	up to 10
Road range (km)	500	500	750
Base vehicle	BTR-D	MT-LB	BRDM

Technical Characteristics	9P151(c)	9P150**(c)
ATGM	Khrizantema	Groza**
Basic load	15	15
Rate of fire (rpm)	3-4	3-4
Range, min-max (m)	250-6000	100-10000
Msl flight speed (m/s)	400	up to 1200
Warheads	Tandem HEAT, FAE	Tandem HEAT, FAE
Guidance	SACLOS	FOG + GPS (non-line of sight top attack)
Command link	Automatic radar guidance/semi automatic laser beam-riding	
Weight (kg)	16700	16700
Power to weight ratio(hp/t)	27.2	27.2
Ground pressure (kg/cm ²)	0.58	0.58
Max road speed (kph)	70	70
Speed in water (kph)	up to 10	up to 10
Road range (km)	600	600
Base vehicle	BMP-3	BMP-3

- Notes:
- (a) One firing post and 12 x Faktoriya carried in vehicle for dismounted employment, though Faktoriya can also use vehicle launcher.
 - (b) Operator can be remotod up to 20m from vehicle to engage with vehicle left hull down to enemy.
 - (c) Two targets can be engaged simultaneously, or one by two missiles using both guidance systems.

RECONNAISSANCE VEHICLES

Technical Characteristics	BRM-3K (Rys)	BRDM-3** (c)	PRP-4
Main armament calibre(mm)	30	30	7.62
Secondary armament calibre(mm)	7.62	7.62	
Ammunition types	AP-I, HE-I, HE-T, HE Frag	AP-I, HE-I, HE-T	AP-I
Rate of fire (rpm)	330 (30mm), 250(7.62mm)	250-500mm, 600(7.62mm)	250
Basic load	600x30mm, 2000x7.62mm	500x30mm, 2000x7.62mm	2000
Max effective range(m)	2000(30mm) (a), 1500(7.62mm)	2000(30mm), 1500(7.62mm)	1500
Combat weight (kg)	18700	8000	14500
Power to weight ratio(hp/t)	26.7	26	20.7
Ground pressure (kg/cm ²)	0.6	0.6	0.6
Max road speed (Kph)	70	100	65
Road range (km)	600	750	575
Amphibious	Yes, up to 10 kph	Yes, up to 10 kph	Yes, up to 7 kph
Radio range (km)	100(moving), 350 (stationary)		
Radar range (km)	10 (vehs), 4 (pers)	10 (vehs), 4 (pers)	20(fall of shot 10)
Laser RF range (km)	up to 10 km	up to 10 km	up to 10 km
Other equipments	LTD, TI and active pulse NODs(b)	LTD, TI and active pulse NODs	TI and active pulse NODs

Notes: (a) Ranges against light AFVs, double against personnel. High elevation of weapon also makes cannon usable against helicopters out to 4 km.
(b) OP can be remoted up to 6 km from veh.
(c) Other variants: BRDM-2 ATGM(9P148); BRDM-2U (command); BRDM-2RKh (chemical recce).

Technical Characteristics	RkhM (chemical recce)	IRM (engineer recce)
Calibre of armament(mm)	14.5 and 7.62 coax	7.62
Rate of fire (rpm)	70 and 250	250
Basic load	500 and 2000	2000
Max effective range(m)	2000 and 1500	1500
Crew	3	6
Combat weight (kg)	13000	17200
Max road speed (k)	60	52
Road range (km)	500	500
Amphibious	Yes, up to 6 kph	Yes, up to 12 kph (can also op, submerged depth 10m)
Special capabilities	Detects and identifies CW agents, determines radiation levels, marks areas of contamination. Pers carried for dismounted recce	Detects mines (land and underwater), determines load bearing cap of terrain, depth of rivers and profiles of banks, bottom, conducts survey. Two-4 men carried for dismounted recce

ANTI-TANK GUIDED MISSILES(a)

Technical Characteristics	9K115M Metis M (AT-13)	9M111M Faktoriya (AT-4b)	9K111 Konkurs M (AT-5)	Kornet (AT-14)
Range min/max(m)	40/1500	75/2500	75/4000	100-5500
Msl flight speed(m/s)	167	180	210	229
Warheads	Tandem HEAT,FAE	Tandem HEAT,HE	Tandem HEAT,FAE	Tandem HEAT, FAE
Guidance	SACLOS	SACLOS	SACLOS	SACLOS
Command link	Wire(IR tracking)	Wire(IR tracking)	Wire(IR tracking)	Laser beam rider
Weight with firing post(kg)	23.8	34.9	49	46
Launch platform(with nos of msls carried)	Manpack(8)	Manpack(8)	9P148(BRDM)(10), BMP-2, BMD-2(4) Manpack (8)	9P148(BRDM)(10), BMP-2, BMD-2(4) Manpack (8)
Penetration(mm, RHA)	900	460	800	1200

Technical Characteristics	9K114 Shturm S (AT-6a)	9M112 (Kobra) (AT-8)	9K120 (Refleks) (AT-11b)	9K116 Bastion/Basnya (AT-10)
Range min/max(m)	400/5000	100-4000	100-5000	100/4000, 5000
Msl flight speed(m/s)	345	345	313	227
Warheads	Tandem HEAT, FAE	Tandem HEAT	Tandem HEAT	Tandem HEAT
Guidance	SACLOS	SACLOS	SACLOS	SACLOS
Command link	RF	RF	Laser beam rider	Laser beam rider
Launch platform nos of msls carried)	9P149(MTLB) (12), Mi-28(16)	T-80B(4),T-72B(4)	T-80U(6),T-80B(4), 2A45M	BMP-3(8),BMD-3(4), MT-12
Penetration(mm, RHA)	800	700	700	600

Technical Characteristics	9K120 Ataka* (AT-6b)	Vikhr* (AT-16)	Groza**
Range min/max(m)	600/6000	500/1000	100/10000
Msl flight speed(m/s)	320	800	up to 1200
Warheads	Tandem HEAT, FAE	Tandem HEAT, FAE	Tandem HEAT, FAE
Guidance	SACLOS	SACLOS	FOG + GPS for non-line of sight top attack
Command link	Laser beam rider or RF	Laser beam rider	
Launch platform(with nos of msls carried)	Mi-28(16),Ka-52(16) 9P149(MTLB) (12)	Ka-52(16),Mi-28, Su-25TM	9P150 (BMP3) (10)
Penetration (mm, RHA)	800	800	1000

Technical Characteristics	9M123 Khrisantema (AT-15)
Range min/max(m)	250-6000
Msl flight speed(m/s)	400
Warheads	Tandem HEAT, FAE
Guidance	Fire and forget and SACLOS
Command link	Automatic radar and semi-automatic laser beam rider (b)
Launch platform(with nos of msls carried)	BMP-3(15)
Penetration (mm, RHA)	700

- Notes: (a) All have a night fighting capability (max range 3500m) thanks to TI sights.
 (b) Two targets may be engaged simultaneously, or one by two missiles using both guidance systems.

SURFACE-TO-AIR MISSILES

Technical Characteristics	S-300 PMU1 (SA-10d)	S-300V1 (SA-12a) (b)	S-300V1 (SA-12b) (b)
Target Detection Range (max, km)	300	250	250
Target engagement Range (min-max, km), ac(SSM)	25-150 (25-40)	8-75 (8-45)	13-100(13-40)
Altitude of engagement (min-max, m), ac(SSM)	25-30000 (2000-25000)	25-25000 (2000-25000)	1000-30000 (2000-25000)
Max SAM speed (m/s)	1900	1700	2400
Max target speed (m/s)	3000	3000	3000
Guidance principle	Track via msl	Inertial, semi active radar homing	
Nos tgts tracked/ engaged simultaneously	100/6	70/24	
Nos msls guided	up to 12 per bty	up to 48 per bty	
Nos msls per TELAR/ transloader	4/4 (a) (48 in bty)	4/4 (c)	2/2 (c)
Unit of fire	8	12	6
TELAR	MAZ-543M (8x8)	MT-T (tracked)	MT-T (tracked)
Time into/out of action (min)	5/5	5/5	5/5
Associated radars (NATO designation)	BIG BIRD (surv/tracking), CLAM SHELL (tgt acquisition), FLAP LID (engagement)	BILL BOARD (surv, tgt acquisition), HIGH SCREEN (ABM tracking), GRILL PAN (engagement)	

Notes: (a) Transloader can also be used as launch vehicle but guidance has to be done by associated TELAR.

(b) S-300V1 battery normally has 4 anti-aircraft and 2 anti-missile TELARS, with 3 x transloader-launcher vehicles. Sometimes, however, batteries are pure air defence or anti-missile defence.

SURFACE-TO-AIR MISSILES

Technical Characteristics	9K37 Buk M2 (SA-17) (a) (b)	BUK M1 (SA-11) (a)	9M330 Tor-M1 (SA-5) (a)
Target Detection Range (max, km)	35/160(tgt 100m/over 1000m alt)	100	30
Target engagement (min-max, km), range ac (SSM)	2.5-50 (b)	3-36	1.5-12(up to 6)
Altitude of engagement (min-max m)	10-25000	15-22000	10/6000(a)
Max SAM speed (m/s)	1200	1000	850
Max target speed (m/s)	1200	830	700
Guidance principle	Semi-active radar homing	Semi-active radar homing	Command
Nos tgts tracked/ simultaneously	10/4	up to 6	2/1 per TELAR
Nos MsIs guided simultaneously	2 per fire unit	up to 12	2
Nos msIs per TELAR/transloader	4/8(c) (48 in bty)	4/8(c) (48 in bty)	4/4
Unit of fire	12	8	8
TELAR	GM-352 (tracked)	GM-352 (tracked)	GM-352 (tracked)
Time into/out of action	5 from march, 1 after tac mov	5/5	
Associated radars (NATO designation)	SNOW DRIFT (surv, tracking, tgt acquisition) CHAIR BACK (tracking, engagement)	SNOW DRIFT (surv, tracking, tgt acquisition), FIRE DOME (tracking, engagement)	SNOW DRIFT (Surv, tgt acquisition), SCRUM HALF (tracking engagement)

Notes: (a) Can act as autonomous TELARS.
 (b) Buk M2 has an ABM capability of unknown parameters.
 (c) Transloader can also be used as launch vehicle but guidance has to be done by associated TELAR.

SURFACE-TO-AIR MISSILES/GUNS

Technical Characteristics	2S-6M Tunguska (SA-19) (a)
Target Detection Range (max, km)	80 (DOG EAR), 18 (2S-6) (TELAR)
Target-Engagement Range (min-max, km), ac(a)	2.5-8(msl), 2-4(gun)
Altitude of engagement (min-max, m)	1.5-3.5 (msl), 0.3 (gun)
Max SAM speed (m/s)	ave 600
Max target speed (m/s)	500
Guidance principle	Radio Command (semi-automatic)
Nos tgts tracked/engaged simultaneously	1/1
Nos msls guided simultaneously	2
Nos msls per TELAR/transloader	8/8
Unit of fire	16
TELAR	GM325M (tracked)
Cannon	4x30mm
Rate of fire (rpm)	burst of 83 or 250 per wpn
Range (m)	4000 (slant)
Altitude (m)	300
Nos of rds (system and resupply veh)	1900 + 3808
Time into/out of action (min)	
Associated radars (NATO designation)	DOG EAR (surv, regt), HOT SHOT (engagement)

Technical Characteristics	ZU-30**
Cannon	2x30
Rate of fire (rpm)	Burst of 83 or 250 per barrel
Range (m)	4000 (slant)
Altitude (m)	3000
Unit of fire (rds)	6000
Weight (kg)	1500
Prime mover	GAZ-66, MTLB, BTR-D

- Notes: (a) There is also an URAL-53234 (8x8) mounted version of the weapon system (Pantzyr S-1) for rear area defence (eg of airfields, communication nodes).
 (b) Cross over range from cannon to SAM is normally 2000m

SURFACE-TO-AIR MISSILES

Technical Characteristics	9K35 Strela 10 M3 (SA-13)	9K38 Igla-N (SA-18)	9K310 Igla-M1 (SA-16)
Target detection range (Max, km)	45 (DOG EAR), 10 (SNAP SHOT)	-	-
Target engagement range (max, km)	0.8-5	500/2500(approaching) 800-5000(receding)	500/2000 (approaching) 1000-5000 (receding)
Altitude of engagement (min/max, m)	10/3500	10/3500	10/3500
Max SAM speed (m/s)	520		
Max target speed (m/s)	420	360 (approaching) 320 (receding)	360 (approaching) 320 (receding)
Guidance principle	IR homing (a)	IR homing (a)	IR homing (a)
Nos tgts tracked/ engaged simultaneously	1/1		
Nos msls per TELAR/transloader	8 (incl 4 ready to fire)	Manpack	Manpack
Unit of fire	8		
TELAR	MTLB		
Association radars (NATO designation)	DOG EAR (surv, regt), SNAP SHOT (engagement, range only)		

(a) With counter-counter measures against IR decoys.

MINELAYING EQUIPMENT

Technical Characteristics	GMZ-3	PMZ-4	Mi-38 (c)
Armament (mm)	1 x 7.62		
Weight (kg)	28500		
Max speed (kph, roads)	60		
Range (km, roads)	500		
Fording	1m		
Mine capacity	208 (a)	depends on tow veh (a) (b)	330
Minelaying rate (kph) surface laying buried	up to 16 up to 6	4-10 2-3	14
Mine spacing (m apart)	4-5.5	4-5.5	5.5-10
Reload time (mins)	15-20	15-20	15-20
Unit of fire	400	-	-

- Notes: (a) Only contact or proximity fuzed mines can be mechanically laid. Tilt fuzed mines must be hand laid (or fuzes inserted after surface laying).
 (b) Possible tow vehicle loads are: BTR, 100-130; URAL-375, 350; ZIL-157, 200.
 (c) Mines laid by chute.

REMOTE MINING SYSTEMS

Technical Characteristics	UMZ	PKM
Vehicle	ZIL-131 (6x6)	Manpack
Mine dispensers	6xlaunchers, each 30xtubes	Single launcher tube of UMZ
Basic load	1152xPFM-1S, 720xPOM-2, 180xPTM3	
Range(m)	30-100 (depends on mine type)	30-100 (depends on mine type)
Dispensing speed (kph)	up to 40	
Depth of minefield (m)	15-240	
Length of minefield (m) (a)		
PTM-3 a-tk	600	
POM-2S a-tk	5000	
PFM-1S a-pers	3200	
Reload time (mins)	up to 120	

Technical Characteristics	KMGU	VSM-1
Vehicle	Gd att ac and hels	Helicopters (Mi-38)
Mine dispensers	Each KMGU has 8xsub-containers, each with 12xPGMDM ATK mines or larger nos of a-pers mines	4xK-29 boom mounted containers, each 26 downward ejecting mine canisters with 7424xPFM-1S, 464xPOM-2, 116xPTM-3
Range	Depends on aircraft	
Laying speed	400-800 kph at 50-200m	up to 220 kph at 30-100m
Depth of minefield (m) (a)	?	50(b)
Length of minefield (m)	?	
PTM-3 ATK		400
POM-2S ATK		4000
PFM-1S a-pers		2000

Notes: (a) Using one basic load.

(b) Random pattern of strip, with density only half that of strip laid by dispensing chute.

MINE CLEARING EQUIPMENT EXPLOSIVE FILLED LINE CHARGES

Technical Characteristics	MTK-2	UR-88P(a)	SPZ-2/4: BDT
Vehicle: Weight Max road speed (kph) road range (km)	Amph 2S-1 chassis (mod) 11000 up to 60(30 cross country) 500	carried in sects on ZIL-131	
Amphibious	Yes, up to 4.5 kph		
Line charge projection	3xUR-77 rkt(a)	rkt	SPZ-2 winched across minefield: SPZ-4 and BDT can be pushed across by a tk or towed by a plough tk
Range of rkt (m)	500	400	
Lane cleared (m)	up to 90x6 per rkt	115x6	up to 500x6

Notes: (a) Pods containing 1xUR-88 launcher each can be fitted to either side of a tank turret.

MINE PLOUGHS AND ROLLERS

Technical Characteristics	KMT-7	KMT-8	KMT-10
Plough vehicle	med tk	med tk	BMP
Type of system	plough and roller(a)	plough	plough
Lane cleared per plough(m)	0.75 (plough), 0.81(rollers) with 1.9 gap	0.75 with 1.9m gap	track width of BMP
Device to trigger tilt fuzes	Yes	Yes	Yes
Attachment to clear RDMs	-	Yes, full width	Yes, full width
Ploughing speed (max, kph) (b)	up to 12	up to 15	10-15

Notes: (a) Simultaneous use possible only on flat ground.
(b) Ploughing speed depends on the nature of the ground.
(c) AFVs can also carry a magnetic mine clearer, detonating mines 3-5m ahead of the vehicle.

ARMoured ENGINEER VEHICLES

Technical Characteristics	IMR-2M	BAT-2
Weight	44500	30000
Max road speed (kph)	60	60
Range (km)	480	500
Fording (m)	1.2	1.2
Equipment	Dozer blade (clears routes at 5-10kph, fills ditches and creates approaches at 230-300m/min); scraper-ripper; crane with grab and bucket atts; 2xUR-77	Dozer blade (soil moving capacity 400m ³ /hr); crane; winch

TACTICAL BRIDGING

Technical Characteristics	TMM-3(a)	MTU-72
No of spans in set	4	1
Bridge length, emplaced (m)		25 (crosses 18m gap)
per span(m)	10.5	max 23
per set(m)	42 (crosses 40m gap)	-
Bridge width(m)	3.8	3.8
Capacity(mt)	60	50
Assembly time(min)	full set 45-60(day), 60-80 (night) (b) (c)	4
Trestle leg length(m)	1.7-3.2 (adjustable)	-
Launch vehicle	KRAZ-255B (6x6)	T-72
weight (kg)	9500	44700
speed (kph)	60	60
range (km)	700	500

Notes: (a) Max launch slope 10° lengthwise, 6° lateral. Cannot be used in rivers deeper than 3.5m or with current exceeding 4m/sec.
 (b) Average speeds: a well-trained crew can half these construction times.
 (c) Bridge can be laid just under water for camouflage purposes, though this takes 50% longer. It can also be linked to a PMP bridge as a ramp section.

Technical Characteristics	PMP(c)	PMM-2	PVD-20(c,d)
No of spans in set	32xcentre, 4xramp		60xtreadway sects, 20xboats (full set - basic bridge is 10 treadways and 2 boats)
Bridge length, emplaced			
per span(m)	6.75(centre)/6(ramp)	10	
per half set(m)	119(60t), 281(20t)		
per set(m)	227(60t), 389(20t)	100 (45t)	88 (6t) or 64 (8t)
Bridge width(m)	6.5(60t), 3.8(20t)		
Capacity(mt)	20 or 60	50	6 or 8
Assembly time(min)	30(60t), 50(20t) (a) (b)		50
Launch vehicle	KRAZ-255B(6x6)	MT-T	GAZ-63 (4x4) (10 per set)
weight (kg)	18600		2000
speed (kph)	70	45(10 in water)	90
range (km)	490	500	800

Notes: (a) Average construction time is 7m/min: a well trained crew can cut this by over half.
 (b) Bridge kept in position with BMK-150 boats (12 per set, 6 per half set).
 (c) Sections can be redeployed by helicopters as underslung loads.
 (d) Air portable/droppable.

FERRIES, AMPHIBIANS AND RAFTS

Technical Characteristics	PTS-2	PMM-2
Role	Amphibian(a)	Heavy ferry(b)
Weight (kg)	17700	?
Max load, land/water(kg)	5000/10000	50000
Max speed, land/water (kph)	42/11	45/10
Range (km)	350	500
Max-load, PKP amph tlr(kg)	5000	-

Notes: (a) Also used to lay portable trackway across beaches, obstacle exits.
 (b) Also used as assault bridging (see tactical bridges section).

Technical Characteristics	PMP RAFTS (a)					PVD-20 RAFTS		
Type (capacity in mt)	40	60	80	120	150	4	6	8
Length(m)	13.5	20-25	27	39.25	52.75	5.85	8.8	11.75
Rafts per set	16	10	8	5	4	10	6	4
Pontoons per raft	2	3	4	5+1 bank	7+1 bank	2	3	5
Assembly time(min)	7	8	9	15	20	15	20	25

Notes: (a) Rafts propelled by BMK-150 boats (12 per set, 6 per half set).

ENGINEER: FIELD FORTIFICATION/DOZER

Technical Characteristics	BTM-4	MDK-3	TMK-2
Weight (kg)	27600	40000	27200
Max speed(kph)	36	50	40
Range(km)	500	500	500
Trenching(m/hr)	up to 1200 (400 gd frozen)	up to 200	up to 400
Depth/width of trench(m)	1.5/1.1	2.9/3.5	1.5/1.1
Dozer blade	No	Yes(a)	Yes
Earth moving capacity (m ³ /hr)		450	
Crane	No	No	No

Technical Characteristics	PJM-2	BAT-M
Weight (kg)	12800	30000
Max speed (kph)	44	60
Range (km)	500	500
Trenching(m/hr)	180(35 gd frozen) 140 (pit)	-
Depth/width of trench (m)	1.2/0.9 up to 3/up to 3.5(pit)	-
Dozer blade	Yes	Yes
Earth moving capacity	up to 180	150-450
Crane	No	Yes

Notes: (a) As well as digging anti-tank ditches, MDK-3 has a ripper and road harrow for route denial.

PORTABLE FIELD FORTIFICATION

Technical Characteristics	Gorchak
Structure (a)	Concrete cupola/weapons complex, retractable
Armament	1xKornet ATGM, 1xAG-17 (30mm GL) 1xNSV 12.7mm, 1xPKM 7.62mm
Unit of Fire	4xATGM, 290x30mm grenades, 500x12.7mm, 1000x7.62mm
Weight (kg)	1000
Crew	2
Time to emplacement(hrs)	4

Notes: (a) Two carried on ZIL-130 (4x2) truck.

INFANTRY ROCKET/GRENADE LAUNCHERS

Technical Characteristics	RPG-16	RPG-27	RPG-29
Calibre(mm)	100(rocket)	105	105
Range max/effective(m)	800/500	250/200	800/500
Rate of fire (rpm)	4-6	Disposable wpn	2
Ammunition	Tandem HEAT	Tandem HEAT	Tandem HEAT
Unit of fire	20	1-2 per rifleman(a)	8
Weight of weapon (Kg)	10.3	8	12
Penetration (mm.RHA)	500	750	750

Technical Characteristics	AGS-17	GP-25 (Koster)	RPO/RPO-A
Calibre(mm)	30	40	110/93
Range max/effective(m)	1700/1000	400/50	500/300
Rate of fire (rpm)	50-100	40	Grenade Inchr/ Disposable wpn
Ammunition	HE, HEAT	HE	FAE(b), smk(c)
Unit of fire	300 (mag holds 29)	10(2 per rifle sect)	
Weight of weapon (Kg)	31	1.5(underbarrel wpn)	11 (3.5 for RPO)

- Notes: (a) Also widely issued to personnel whose primary role is non-combat.
 (b) Effect equivalent to 152mm round, but relying on blast and flame rather than splinter effect.
 (c) Both weapons held by flamethrower units. RPO is normal grenade launcher and RPO-A is disposable. RPO-A can be issued to ordinary rifle sub-units.

SMALL ARMS AND MACHINE GUNS (a)

Technical Characteristics	AK-74	RPK-74	SVD	PKM	NSV (b)
Calibre (mm)	5.45	5.45	7.62	7.62	12.7
Rate of fire(rpm, practical)	100	150	30	250	270
Range (m practical)	400	500	1000	1000	2000
Magazine capacity	30 or 40	40	10	belt fed	belt fed
Weight (Kg)	3.3	4.6	4.3	9	35.7

Notes: (a) There is also a range of SPF silent assault, sniper and underwater weapons.

(b) Main use is as turret mounted AAMG.

ARMoured AND TRACKED LOGISTICS VEHICLES

Technical Characteristics	BGBM**	MT-T	MT-LV
Role	Armoured arty ammo tpt	LCV	Over snow LCV (ground pressure is 0.27kg/cm ²)
Armament Calibre(mm)	1x12.7		
Weight (kg)	2000	25000	8500
Capacity(nos of rds)	48x203mm or 90x152mm		
Max load(kg)	6500	12000	4500 (2500 with tlr)
Max towed load(kg)	-	12000	7000
Max road speed (kph)	60	45	60(50 with ltr)
Amphibious	No	No	Yes, at 5-6kph
Range	500	500	500

Technical Characteristics	BMM-1/3	GAZ-3403Z
Role	Armd amb (1) and mob dressing stn(3)	Ammo/sups tpt
Weight (kg)	10000	4750
Capacity	9xstretcher cases(1)	1000 kg
Max towed load		2000 kg
Max road speed (kph)	80	50
Amphibious	Yes, up to 10 kph	Yes
Range	500	500

SOFT-SKINNED, WHEELED LOGISTICS VEHICLES

Technical Characteristics	LuAZ-967M	UAZ-469B	UAZ-452	GAZ-66(a)
Role/variants	Lt airborne sp veh; battlefield casevac	Gen purpose lt veh	Ambulance, comd veh	LCV, prime mover, BBV
Weight(kg,empty)	930	1650	1720	2000
Max load(kg)	1350; 2xstretcher cases	695	800; 3xstretcher cases; 3xseated patients	2000
Max towed load (kg)	3000	850	850	2000
Max road speed (kph)	75	100	95	90
Max water speed	5-6	-	-	-
Range(km)	410	750	500	875
Configuration	4x4	4x4	4x4	4x4
Technical Characteristics	ZIL-131(a)	URAL-375D(a)	URAL-4320(a)	URAL-377M(b)
Role/variants	LCV, bowser, prime mover, maint, dump truck	LCV, bowser, BBV comd, rcy	LCV	LCV, dump truck
Weight (kg,empty)	6700	8400	8020	7000
Max load (kg)	5000(rds), 3500(cross country)	4800(rds, 4000 (cross country)	5000(rds and cross country)	7500 (dirt rds)
Max towed load (kg)	6500(rds),4000(dirt rds)	10000(rds), 5000(dirt rds)	7000(rds) 6000(cross country)	10000(rds), 7500(dirt rds)
Max road speed (kph)	80	75	75	75
Range(km)	850	570	570	740
Configuration	6x6	6x6	6x6	6x4
Technical Characteristics	KRAZ-260B (a) (b)	KamAZ-5320 (b)	KamAZ-4310 (a) (b)	URAL 5323 (a) (b)
Role/variants	LCV, bowser, tipper	LCV, tipper	LCV	LCV
Weight (kg,empty)	12750	7240	8400	8500
Max load (kg)	9000 (cross country)	8000	5000 (cross country)	10950
Max towed load (kg)	30000 (rds), 10000 (cross country)	11500	5000 (cross country)	10000
Max road speed (kph)	80	85	85	80
Range(km)	700	650	650	700
Configuration	6x6	6x4	6x6	8x8

Notes: (a) Variable tyre pressure system improves cross country performance.
(b) Some versions can carry dismantable flat racks (usually found in formation level ammunition transport units).

REMOTELY PILOTED VEHICLES

Technical Characteristics	Shmel-1 (Sterkh) (a)	Kolibri	DR-5*
Radius (data link range km)	60	180, 700(c)	1000
Speed (kph)	100-180	up to 250	1100
Endurance(hrs)	2	8	1
Altitude(m)	100-3000	50-3500	50-6000
Sensors	TV(b), IRLS or EW	TV, IRLS, EW	TV(b), IRLS, EW
Other fits	ECM or laser RF/LTD	ECM	ECM
Control	Op con or pre-programmed	Op con or pre-programmed	Pre-programmed
Nos controlled simultaneously	2	2	
Launch vehicle	Mod BTR-D		BAZ-135 or ac

Notes: (a) Shmel-1 is the RPV of the Sterkh system.
 (b) With real time down-link.
 (c) With second RPV as relay.

HELICOPTERS

Technical Characteristics	Ka-52 (Hokum B) (a)	Mi-28 (Havoc)	Mi-40
Crew	2	2	2+ asslt sect of 7
Armament: cannon	1x30mm turret with 500xAP/HE rds	1x30mm turret with 250xAP/HE rds	1x23mm multibarrel turret, 1x12.7mm rear facing
4 pylons, each up to	12xATGM Vikhr M(AT- 12)/Ataka(AT-9), or 80x80mm unguided rcts, or 4xAAM R-60 (AA-8) R-73(AA-11) or Kh-25MP (ARM)	16xATGM Shturm S(AT- 6)/Ataka (AT-9) and 40x80mm unguided rcts	2xATGM or 2xAAM
Speed: max (kph) cruise (kph)	300 270	300 270	310 260
Vertical rate of climb (m/min)	600	816	
Ceiling (m), service/hover	5800/4000	5800/3600	5500/3300
Combat radius k/m	250	200	200
Endurance (hrs)	1.66 (4 with aux tanks)	2	
g limit	+3	+3	
Protection	Cockpit armoured against 23mm. Wing tip mounted ECM pods or chaff/flare dispensers, RWR, IR and laser warning sensors		ECM pods and chaff, flare dispensers, RWR, IR and laser warning sensors
Other equipment	LRF/LTD, FLIR, LLTV		

Notes: (a) Also still seen is single seat version, Ka-50, whose performance is much the same.

Technical Characteristics	Mi-38 (a) (b)	Mi-26 (Halo) (c)	Mi-34 (Hermit)
Crew	2	4	1
Cargo hold capacity	30 tps or 5000 kg (6000kg external)	80 tps or 20000 kg(b)	3 passengers
Speed: max (kph) cruise (kph)	275 250	275 250	220 180
Ceiling(m) service/hover	6500/2500	5900/1000 (full load)	4500/1500
Range(km)	375 (5000 kg load/530 (4500 kg load-eg 30 tps)	500(13700 kg load)	600
Endurance (hrs)			5-5.5

Notes: (a) There is a div/bde airborne CP version.

(b) The older Mi-17, of which Mi-38 is a derivative, is still seen in two ECM versions, one for COMINT and comms jamming and the other for ELINT and radar jamming. Both have a loiter time of 4 hours.

(c) There is an army/corps airborne CP version.

COMBAT AIRCRAFT

Technical Characteristics	SU-27	MiG-29M
Role	All weather air superiority and ground attack	All weather air superiority with ground attack capability
Performance:		
max speed(kph)sea-level/height	1345/2500	1500/2445
service ceiling(m)	18000	18000
combat radius (km, max)	1500(2300 with AAR)	1450(2175 with AAR)
g limit	+ 9	+ 9
Armament:	Up to 4000 kg	Up to 4500 kg
cannon(mm)	1x30 (150xrds)	1x30(150xrds)
other natures, mixed	In air to air role. 10xAAMs (typically 2xR-27E, 2xR-27TE, 2xR-27EM/R-77 MRAAM; 4xR-73 or R-60 SRAAMs). In Gd Att role, KMGU cluster bombs; 250/500 kg bombs; rkt packs; Kh-58 ARM	In air to air role, AAMs 6xR-60T AR-60MK/R-73A/ R73E SRAAMs or 4 of these and 2xR-27R/R-77. In Gd Att role, 8x250 kg or 4x500 kg bombs; KMGU cluster bombs; rkt packs; Kh-58 ARM
Avionics:		
radar	Look-down/shoot down range 100 km, tracks 10 tgts and engages 2 simultaneously	Look-down/shoot down range 100km, tracks 10 tgts and engages 2 simultaneously
mission	IRST, range 50 km; LRF and TD, range 10 km; possible recce, ECM pods	IRST, range 15 km
self defence	RWR; chaff/flare dispensers, active ECM pods	RWR; chaff/flare dispensers; internal ECM

COMBAT AIRCRAFT

Technical Characteristics	MiG-31M	SU-25TM
Role	All weather strategic interceptor	All weather ground attack
Performance		
max speed(kph) sea level/height	1500/3000	950/900 (cruise 650 at 200 m)
service ceiling(m)	20600	1000
combat radius(km)	850 (1260 with AAR)	400 carrying 2000 kg at sea level, 630 at height
max endurance(hrs)	3½ (7 with AAR)	
g limit	+5 (supersonic)	+6.5
Armament:		Max cmbt load 5000kg
Cannon	-	1xtwin 30mm (200 rds)
AAMs	4xR-37 LRAAMs, 4xR-77 MRAAM, 4xR-73 SRAAMs	Ten pylons taking a combination of: 8xmsl pack of Vikhr ATGM; Kh-25ML, Kh-20L, Kh-31 ASMs; Kh-58 ARM; KAB-500 LGB; S-25 LG rcts; R-60, R-73 SRAAM
Avionics: radar	Range 200 km, or 120 km in look down mode (90 km and 70 km to rearwards), tracking 10 tgts and engaging 4 simultaneously	
mission	IRST. In 4xac gp, lead ac is linked to gd auto guidance network with other 3 having auto data link to lead ac permitting line abreast radar sweep of zone 800-900 m wide by 140° sector scanning angles	TV, LRF and TD, IR pack
self defence	RWR	RWR, chaff/flare dispensers, IR jammer

COMBAT AIRCRAFT

Technical Characteristics	SU-34	SU-35
Role	All weather theatre bomber	All weather air superiority and ground attack
Performance:		
max speed(kph) sea-level/height	1400/1900	1400/2500
service ceiling(m)	18000	18000
combat radius (km,max)	2000 (3250 with AAR)	2000 (3250 with AAR)
g limit	+ 9	+ 10
Armament:	10 hard prints, carrying up to 6000 kg	14 hard prints, carrying up to 8000 kg
cannon(mm)	1x30 (150xrds)	1x30 (150xrds)
other natures, mixed	Air to air: Combination of: R-73 SRAAM, R-77 MRAAM Gd att: Kh-25ML, Kh-25MP, Kh-29T, Kh-31, Kh-59 ASMs; KAB-500 LGB; KMGU cluster bombs; rkt packs; Kh-58 ARM	Air to air: Combination of:R-33E R-27E,R-40,R-73A,R-77 AAMs. Gd att: Kh-25ML,Kh-25MP,Kh-29T, Kh-31,Kh-59 ASMs; KAB-500 LGB rkt packs; KMGU cluster bombs; Kh-58 ARM
Avionics: radar	Multifunction high resolution fwd looking and rear facing	Multimode terrain following/avoidance, search range 165 km fwd and 60 km rearward, tracking 24 tgts and engaging 6 simultaneously. Also rear facing radar range 4 km engaging with rear facing AAM.
mission	LRF and TD range 10 Km. Possible recce, ECM pods	IRST, thermal imaging airborne laser designator, night/adverse vis pod
self defence	Internal ECM and possible ECM pods; RWR: chaff and flare dispensers	Enhanced ECM, incl wingtip pods; RWR; chaff and flare dispensers.

COMBAT AIRCRAFT

Technical Characteristics	Tu-22M3	SU-34 MR/MP
Role	All weather medium bomber	All weather recce(MR) and ECM(MP)
Performance:		
max speed(kph) sea level/height	1050/2000(900 cruise)	1200/1500
service ceiling(m)	13300	17500
combat radius(km)	1500-2200 depending on profile, speed, load	2000 (3250 with AAR)
g limit	+ 2.5	+ 6.5
Armament:	1xradar directed, tail mounted, twin barrelled 23mm Up to 24000 kg. 18500 kg of conv bombs; 3xKh-22 or 10xKh15-P ASMs	1 x six barrelled 23 mm, 4xR-60 SRAAM
Avionics:		
radar	Large nav/msl targeting radar	Nav/terrain avoidance
self defence	RWR, IR warning, 8 x multiple chaff/flare dispensers	RWR, MWR, internal ECM, chaff/flare dispensers
Mission sensors		MR: multimission SLAR, IRLS, TV, cameras, ELINT pod, optional laser pod, data link to gd MP: radar and radio jammers

TRANSPORT AIRCRAFT (FIXED WING)

Technical Characteristics	Il-76MF (Candid) (a)	Il-106	Tu-330	An-72 (Coaler)(b)	An-124 (Condor)
Payload: paratroops/troops weight(kg)	125/140(c) 40000	80000	35000	57/68 11000	-/88(d) 150000
Range (km, 80% of max payload)	3200	5000	3200	2700	4500 (max load)
Speed: max(kph) cruise(kph)	850 750-800	900 820-850	900 800-850	760 550-600	865 800-850
Ceiling(m)	11000	14000		10500	
Protection	IRCM flare packs			IRCM flare packs	
Other features	Tail gun turret			STOL	

Technical Characteristics	An-26 (Curl) (a)	An-70
Payload: paratroops/troops weight(kg)	30/40 5000	-/170 30000
Range(km) max payload	1780	3100(5350 with 20000 kg payload)
Speed: max(kph) cruise(kph)	530 435	800 750
Ceiling(m)	8000	9000
Protection	IRCM flare packs	

- (a) There is an airborne command post version.
- (b) Ambulance version carries 24 x stretcher cases.
- (c) Can carry 225 troops with a second deck fitted.
- (d) In pressurized cabin, additional to cargo load.

TANKER, ELINT AND AIRBORNE EARLY WARNING/CONTROL AIRCRAFT

Technical Characteristics	IL-78M (Midas)	Technical Characteristics	IL-20 (Coot-A)
Role Payload (fuel,kg) Speed: cruising(kph) refuelling(kph) Ceiling: cruising(m) refuelling(m) Nos ac refuelled simultaneously	Air to Air Refuelling Tanker (all weather) Wing tanks 9000; fuselage tanks 28000 With 65000 Kg load 1000km; with 36000 Kg load 2500 750 430-590 12000 2000-9000 1xhy bomber or 2xtac ac	Role Range(km) Cruising speed(kph) Operating height(m) Sensors	ELINT/recce 6500 625 800-10000 SLAR,ELINT

Technical Characteristics	A-50 (Mainstay)
Role Range(km) Speed, max/cruising (kph) Ceiling, max (m) Avionics: general radars flight self defence Performance	Airborne Early Warning and Control 7300 850/750 15500(10000 operating) Detects and tracks high-low level large and small aircraft and cruise msls over land and water and directs fighter ops Weather, nav and gd mapping, AEW & C rotating radome Satellite nav/comms and satellite datalink to gd stns RWR; flare packs; wingtip ECM pods Normally operates on figure-of-eight course at 10000m with 100km between centres of the two orbits

AIR-TO-AIR GUIDED MISSILES

Technical Characteristics	LRAAM		MRAAM		
	R-33E(AA-9)	R-77(AA-12)	R-27ER(AA-10)	R-27ET(AA-10)	R-27EM(AA-10)
Warhead type/weight (kg)	HE Frag/47	HE Frag/30	expanding rod/39	expanding rod/39	expanding rod/39
Range/ min-max (km)	15-20	0.5-150	0.5-75	0.5-70	0.5-110
Tgt alt, min-max (m)	25/28000	30000	20-27000	20-30000	10-27000
Tgt g load/speed (kph)	?	12/?	8/3500	8/?	8/?
Guidance	Inertial + semi-active radar homing	Inertial + command active radar homing (fire and forget)	Inertial, radio update + semi-active radar homing	Inertial, command + IR seeker (all aspects)	Inertial, radio update + semi-active radar homing

Technical Characteristics	SRAAM		
	R-73 RMD-1 (AA-11)	R-73 RMD-2 (AA-11)	R-60 (AA-8)
Warhead type/weight (kg)	HE-Frag/7.4	HE-Frag/7.4	HE Frag/6.0
Range, min-max (Km)	0.3-20	0.3-30	0.3-5
Tgt alt, min-max (m)	5-20000	5-20000	20000
Tgt of load/speed (kph)	12/?	12/?	12/?
Guidance	Inertial + IR seeker (all aspects)	Inertial + IR seeker (all aspects)	IR seeker (all aspects)

AIR-TO-SURFACE GUIDED MISSILES

Technical Characteristics	Kh-31P (AS-17)	Kh-58E (AS-11)	Kh-59M (AS-18)	Kh-29L (AS-14)	Kh-29T (AS-14)
Warhead weight (kg)	90 (HE) blast/Frag)	150	320(HE Pen) or 280 (cluster)	320 (HE pen)	320 (HE pen)
Range, min-max (km)	?-200	70-150	40-115	2-10	2-20
Launch alt, min-max (m)	?	100-10000		200-5000	200-5000
Max air speed (m/s)	1000	?	860-1000	?	?
CEP (m)			2-3	1-2	?
Guidance	Anti-radiation (incl home on jamming or on last known loc of radar)		Terrain contour matching, min alt 100m	Semi-active laser homing	TV image (fire and forget) against static targets or TI

Technical Characteristics	Kh-25ML (AS-12)	Kh-25MP (AS-12)
Warhead weight (kg)	90	90 (HE blast/Frag)
Range, min-max (km)	10-20	10-60 (25 low launch)
Launch alt, min-max (m)	?	?
Max air speed (m/s)	850	900
CEP (m)		
Guidance	semi active laser or TI (latter, range 12 km)	Anti-radiation

AIR-DELIVERED GUIDED BOMBS

Technical Characteristics	KAB-500Kr	KAB-500L	KAB-1500L	KAB-1500L-F
Weight, bomb/warhead (kg)	560/380 AP	534/?HE	1500/1100 AP	1560/1180 HE
Bombing altitude (m)	500-5000	500-5000	500-5000	1000-5000
Guidance	TV (day; fair weather only)	Laser	Semi-active laser	Semi-active laser
CEP(m)	4-7	?	7-10 (1-2 in latest model)	7-10

UNGUIDED AIR-TO-SURFACE ROCKETS

Technical Characteristics	S-8KOM	S-8BM	S-8DM	S-8OM
Weight, rkt/warhead (kg)	11.3/3.6	15.2/7.4	11.6/3.6	12.1/4.3
Calibre (mm)	80	80	80	80
Nos rkts per pod	20	20	20	20
Launch range (km)	1.3-4	1.2-2.2	1.3-3	4-4.5
Effectiveness	Shaped-frag, pen 400 mm armour	Concrete pen, up to 800 mm steel reinf concrete	FAE, 6 kg of TNT equivalent	Illum, 2Mkd of light

Technical Characteristics	S-130F	S-13T	S-25OF(a)	S-25OFM(a)
Weight, rkt/warhead (kg)	69/33	75/37.3	381/150	480/190
Calibre (mm)	122	122	340	340
Nos rkts per pod	5	5	1	1
Launch range (km)	1.6-3	1.1-3	3	3
Effectiveness	HE Frag (450 fragments)	Concrete pen, up to 1 m steel reinf concrete	HE Frag (6500 fragments)	HE Frag, beaten zone 18 ha

Note: (a) A semi-active laser guided version also exists.