

APPENDIX B

SMALL CMD ASSET DATA

ALL OF SHIP 'CMD03' HAS BEEN USED.

ASSET/MONOLA VERSION 1.0 - DESIGN SUMMARY - 9/16/94 12.33.58.

PRINTED REPORT NO. 1 - SUMMARY

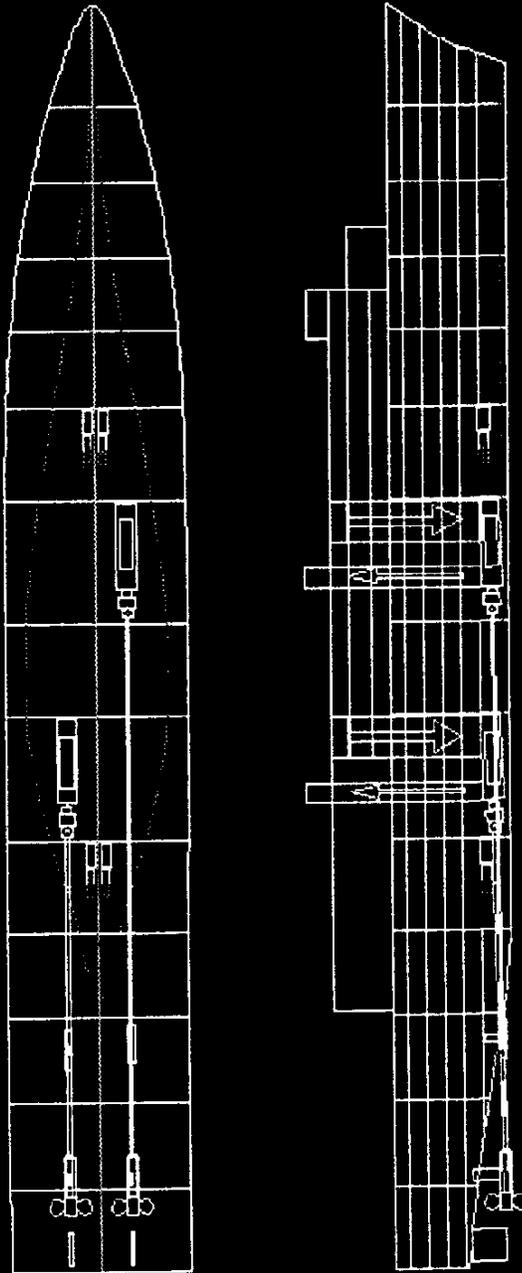
SHIP COMMENT TABLE

PRINCIPAL CHARACTERISTICS - FT		WEIGHT SUMMARY - LTON	
LBP	479.9	GROUP 1 - HULL STRUCTURE	6118.4
LOA	495.7	GROUP 2 - PROP PLANT	2001.0
BEAM, DWL	88.0	GROUP 3 - ELECT PLANT	431.4
BEAM, WEATHER DECK	88.0	GROUP 4 - COMM + SURVEIL	133.5
DEPTH @ STA 10	57.0	GROUP 5 - AUX SYSTEMS	1315.1
DRAFT TO KEEL DWL	26.3	GROUP 6 - OUTFIT + FURN	840.8
DRAFT TO KEEL LWL	26.3	GROUP 7 - ARMAMENT	50.9
FREEBOARD @ STA 3	34.7	-----	-----
GMT	9.3	SUM GROUPS 1-7	10891.2
CP	0.570	DESIGN MARGIN	1362.7
CX	0.920	-----	-----
		LIGHTSHIP WEIGHT	12253.9
SPEED(KT): MAX= 27.2		SUST= 26.0	LOADS 4528.5
ENDURANCE: 6000.0 NM AT 16.0 KTS		-----	-----
		FULL LOAD DISPLACEMENT	16782.4
TRANSMISSION TYPE: MECH		FULL LOAD KG: FT	34.5
MAIN ENG: 2 GT @ 42907.2 HP			
		MILITARY PAYLOAD WT - LTON	0.0
SHAFT POWER/SHAFT: 41927.2 HP		USABLE FUEL WT - LTON	2051.6
PROPELLERS: 2 - CP - 20.0 FT DIA			
AREA SUMMARY - FT2			
SEP GEN: 4 F DIESEL @ 1500.0 KW		HULL AREA	- 104765.7
		SUPERSTRUCTURE AREA	- 76036.3

24 HR LOAD	3204.4	TOTAL AREA	180801.9
MAX MARG ELECT LOAD	9386.6		
VOLUME SUMMARY - FT3			
OFF CPO ENL	TOTAL	HULL VOLUME	- 1671170.5
MANNING 28 25 312 365		SUPERSTRUCTURE VOLUME	- 760362.6
ACCOM 30 27 340 397	-----	-----	-----
		TOTAL VOLUME	2431533.0

I)

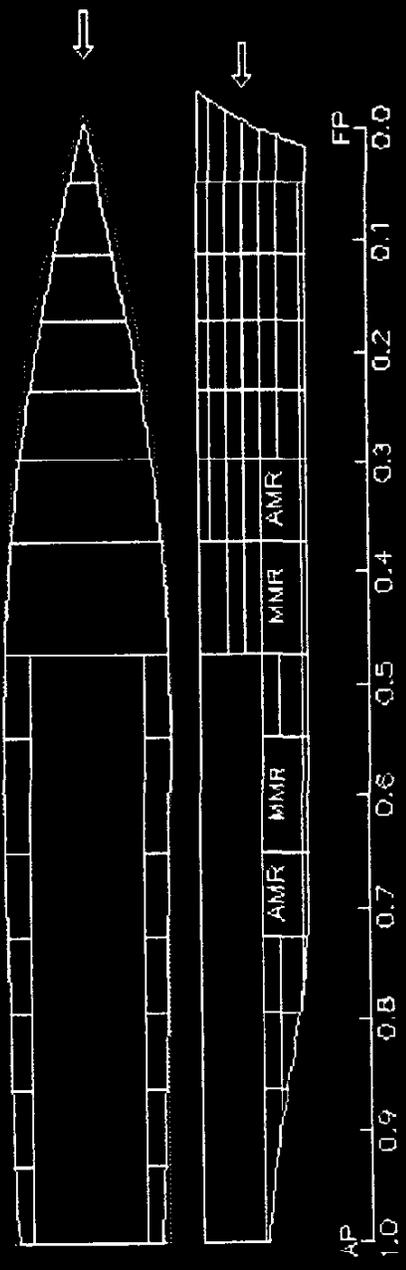
ASSET/MDINOILA VERSION 1.0 - MACHINERY MODULE - 9/12/94 08.36.49.
GRAPHIC DISPLAY NO. 1 - SHIP MACHINERY LAYOUT



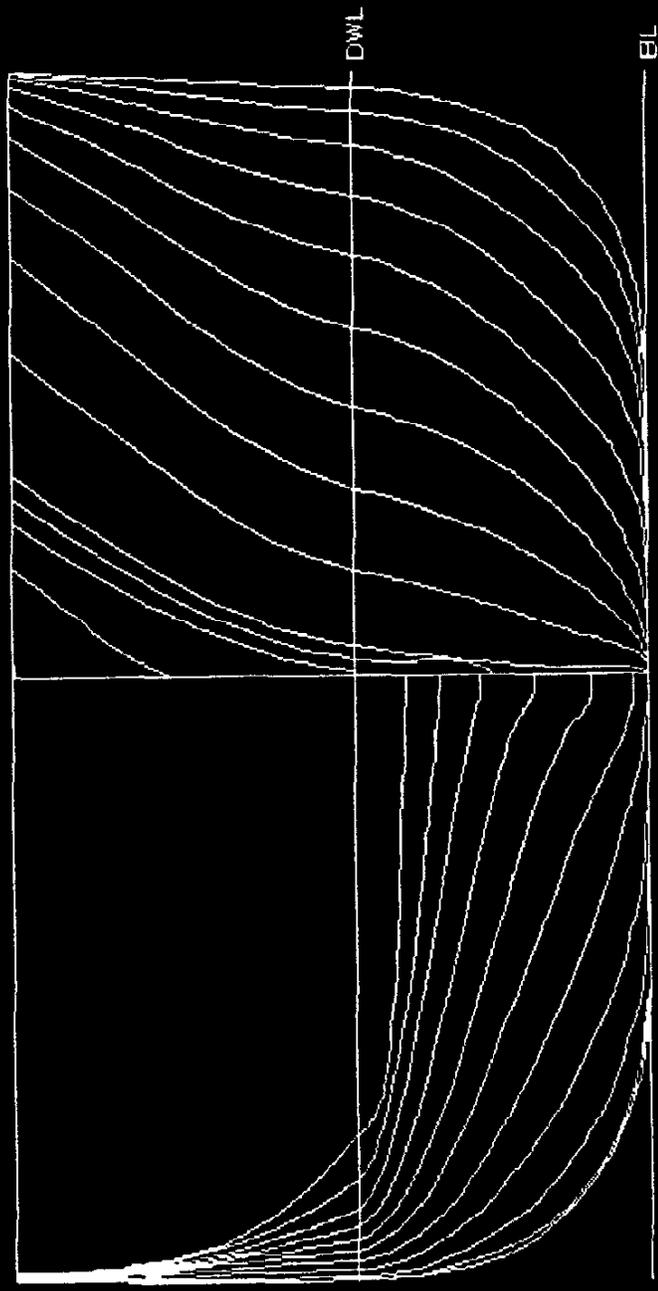
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ASSET/MONDIA VERSION 1.0 - HULL SUBDIV MODULE - 9/12/94 08.40.58.
GRAPHIC DISPLAY NO. 4 - HULL DECKS AND PLATFORMS
3RD DECK
(DECK NO. 4)

TOTAL DECK AREA, FT2 33657.4
LOST MR AREA, FT2 0.0
LOST LG OBJ AREA, FT2 -15179.9
AVL ARR AREA, FT2 18477.5



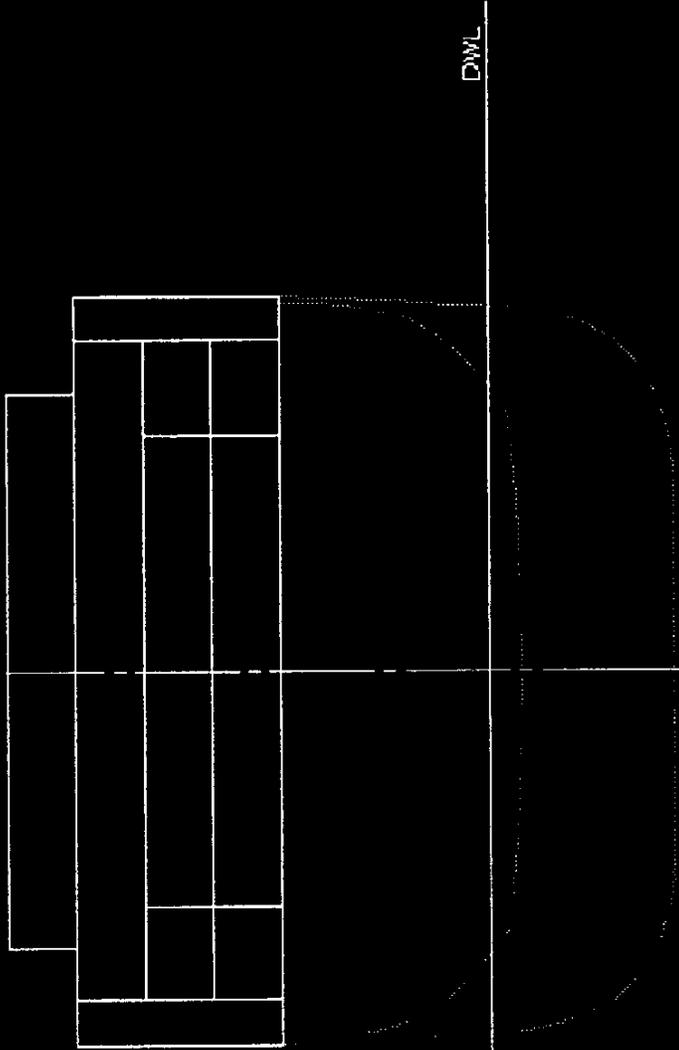
ASSET/MONOLA VERSION 1.0 - HULL GEOM MODULE - 9/13/94 10.42.29.
GRAPHIC DISPLAY NO. 1 - BODY PLAN



D)

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ASSET/MONOLA VERSION 1.0 - DECKHOUSE MODULE - 9/13/94 1C.44.02.
GRAPHIC DISPLAY NO. 2 - DECKHOUSE END VIEW



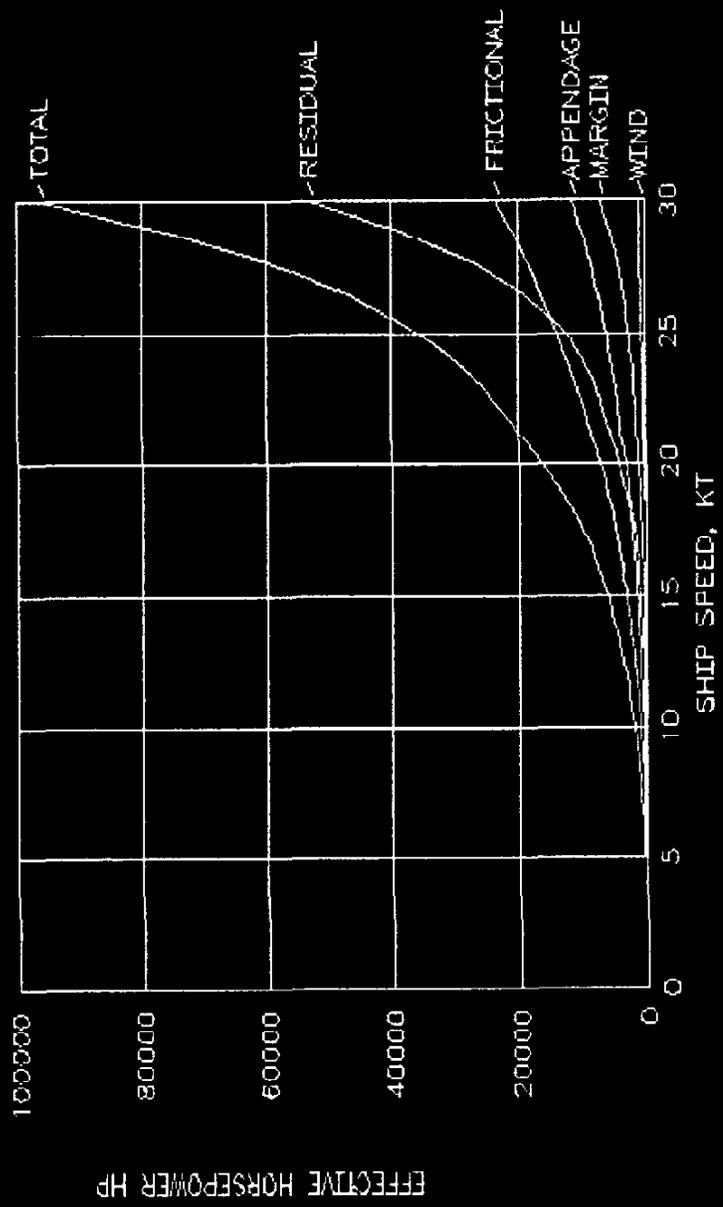
DWL

SCALE
FT



D)

ASSET/MONOLA VERSION 1.0 - RESISTANCE MODULE - 9/13/94 10.35.47.
GRAPHIC DISPLAY NO. 2 - EHP VERSUS SPEED



DISPLACEMENT = 16783 LTON

TYPE AND NUMBER OF AIRCRAFT

CH-53D PROVISIONS FOR 2 SORTIES/DAY, 7 DAYS OF OPERATION

PROVISIONS EXPENDITURE FACTOR = .2

NUMBER OF CRANES = 1

NUMBER OF ELEVATORS = 0

NUMBER OF WIRES FOR ARRESTING GEAR = 0

NUMBER OF STEAM CATAPULTS = 0

FIN STABILIZERS = NO

HAUL DOWN SYSTEM = NO

SKI JUMP = NO

NUMBER OF SORTIES FOR EACH DAY = 0

NUMBER OF DAYS FOR DEPLOYMENT = 0

LENGTH OF LANDING DECK IN FEET = 100

WIDTH OF LANDING DECK IN FEET = 80

LENGTH OF TAKEOFF DECK IN FEET = 100

WIDTH OF TAKEOFF DECK IN FEET = 80

SAME DECK FOR TAKEOFFS AND LANDINGS

LANDING DECK/TAKEOFF DECK CONSTRUCTION AND MATERIALS = MILD STEEL

LEVEL OF MAINTENANCE FOR HANGER AREA IS LEVEL II

HANGER LOCATION IS ON DECK

HANGER CONSTRUCTION MATERIAL IS MILD STEEL

PROVISIONS MADE FOR THE FOLLOWING AIRCRAFT LOADS:

MAINTENANCE LEVEL 0 FOR HANGAR AREA

HANGAR LOCATION IS ON DECK

HANGAR CONSTRUCTION MATERIAL IS MILD STEEL

PERCENTAGE OF AIRCRAFT IN HANGAR = 50 %
LEADING TO 2677.143 SQFT HANGAR AREA

NUMBER OF CRANES = 1

WEIGHT SWBS	DESCRIPTION	WEIGHT, LT
42313	TACAN	= 0.55
4272	NAVIGATION ALIGNMENT SYSTEM	= 1.00
454	AIRCRAFT CONTROL APPROACH RADAR	= 10.37
492	FLIGHT CONTROL & INST. LANDING	= 6.00
533	GAS SYSTEM	= 0.00
542	JP-5 SYSTEMS	= 6.00
586	CRANE (AC & BOAT)	= 67.00
588	AIRCRAFT HANDLING SERVICE, STOWG	= 168.55
661	OFFICES	= 7.00
665	WORKSHOPS	= 8.50
672	STOREROOMS	= 12.00
782	WEAPONS HANDLING	= 0.29
783	WEAPONS STOWAGE	= 6.92
792	SPECIAL WEAPONS HANDLING/STOWAGE	= 0.00

***** AIRCRAFT SYSTEM (NO LOADS) *****

TOTAL WEIGHT OF AIRCRAFT SYSTEM IN TONS = 2237.08

***** MANNING *****

F16 NUMBER OF OFFICERS = 3
 F16 NUMBER OF CPO'S = 2
 F16 NUMBER OF ENLISTED MEN = 6

AREA	SWBS	DESCRIPTION	AREA,	SOFT
	1.32	AVIATION CONTROL AREA	=	240.00
	1.3233	AVIATION PLAN & READY ROOM	=	240.00
	1.35	AVIATION ADMINISTRATION AREA	=	230.00
	1.351	AIR INTERMEDIATE MAINTENANCE DEPT	=	143.52
	1.352	AIR DEPARTMENT	=	6.90
	1.353	AIR WING (SQUADRON OFFICES)	=	79.58
	1.36	AVIATION MAINTENANCE AREA	=	444.00
	1.361	AIRFRAME	=	36.41
	1.362	AVIONICS MAINTENANCE AREA	=	195.36
	1.3642	AVIATION JET MAINTENANCE SHOP	=	45.73
	1.3649	AVIATION FUEL MAINTENANCE AREA	=	3.11
	1.365	SURVIVAL EQUIPMENT	=	17.32
	1.367	GROUND SUPPORT EQUIPMENT	=	26.20
	1.369	ORGANIZATIONAL LEVEL FACILITIES	=	119.44
	1.38	AVIATION FUEL SYSTEM AREA	=	370.00
	1.39	AVIATION STORES AREA	=	-123.00
	1.3912	SD SR (AVIATION)	=	-3.57
	1.3921	AIRFRAME	=	-45.76
	1.3922	AVIONICS	=	-20.30
	1.3923	ORDNANCE	=	-2.83
	1.3924	POWERPLANT	=	-13.28
	1.394	FLIGHT CLOTHING	=	-33.21
	1.397	SQUADRON	=	-4.06

TOTAL AREA OF AIRCRAFT SYSTEM IN SQUARE FEET = 1213

***** LOADS *****

F22	WEIGHT ORDNANCE LOAD IN TONS	=	0
F22	VOLUME ORDNANCE LOAD IN CUBIC FEET	=	0
F22	MAGAZINE ORDNANCE AREA IN SQUARE FEET	=	0
F23	AIRCRAFT WEIGHT, TONS	=	21.05357
F26	AIRCRAFT SPARES WEIGHT, TONS	=	8.421429
F29	SPECIAL LOADS WGT (SONOBOUYS,PODS), TONS	=	0
F29	SPECIAL LOADS VOL, CUBIC FEET	=	0
F42	JP-5 LOAD WEIGHT, TONS	=	74.75
F42	JP-5 VOLUME, CUBIC FEET	=	3354.167
TOTAL	AIRCRAFT LOADS WEIGHT IN TONS	=	95.80358
TOTAL	AIRCRAFT LOADS VOLUME IN CUBIC FEET	=	3354.167

SHIP TYPE - CMD SMALL VARIANT - CRP, MECHANICAL

SEE PAGE 2 FOR LIST OF TECHNOLOGIES INCORPORATED

MAIN ENGINES - 3 LM2500-30 GAS TURBINES
 VERTICALLY MOUNTED EXHAUST WITH STACK
 MECHANICAL TRANSMISSION
 GENERATOR TYPE - LM500
 STEEL SUPERSTRUCTURE
 COMPENSATED FUEL SYSTEM

WEIGHT IN LONG TONS		VOLUME IN CUBIC FEET	
SHIP DISPLACEMENT	18481.20	SHIP VOLUME	2530436.00
HULL WEIGHT	8550.14	PROPULSION VOLUME	129843.40
SURVIVABILITY WEIGHT	25.50	ELECTRICAL VOLUME	71100.00
PROPULSION WEIGHT	464.50	PAYLOAD VOLUME	1151558.00
ELECTRICAL WEIGHT	496.16	AUXILIARY VOLUME	379358.60
PAYLOAD WEIGHT	3814.08	PERSONNEL VOLUME	238356.30
AUXILIARY WEIGHT	1494.51	REDUNDANCY VOLUME	0.00
OUTFITTING WEIGHT	1013.40	OFFICES/SHOPS VOLUME	455230.30
REDUNDANCY WEIGHT	0.00	LOADS VOLUME	7943.94
FUEL WEIGHT	1639.09	FUEL VOLUME	71755.04
LOADS WEIGHT	458.29	MARGINS VOLUME	0.00
MARGINS WEIGHT	525.54		

POWER PLANT PARAMETERS

CRUISE BHP	10470.39
SUSTAINED BHP	60018.51
MAXIMUM BHP	74915.56
INSTALLED BHP	75000.00
NO OF ENGINES	3
PROPULSION SFC	0.66
SUSTAINED SPEED KTS	25.97
MAXIMUM SPEED KTS	27.50
CRUISE SPEED KNOTS	16.00
MIN SUSTAINED SPEED KNO	24.00
INSTALLED ELECTRIC KW	9000.00
CRUISE ELECTRIC LOAD	2965.09
NO OF GENERATORS	3
GENERATOR SFC	0.87

RANGE IN MILES

UNDERWATER NOISE RANGE	66.00
IR DETECTION RANGE	4.59
RADAR DETECTION RANGE	250.00

SHIP CHARACTERISTICS

CREW SIZE	346.70
ACCOMMODATIONS	381.37
SHIP LENGTH FEET	603.88
SHIP BEAM FEET	82.27
SHIP DRAFT FT	20.57
METACENTRIC HEIGHT FT	36.60
CENTER OF GRAVITY FT	29.99
GM INTACT STABILITY FT	6.61
RANGE N.MI.	6000.00

COST IN MILLIONS OF DOLLARS

AVERAGE FIRST COST	490.97
O&S COST PER YEAR	25.06

COMBAT PAYLOAD		SURVIVABILITY PARAMETERS	
CU FT OF CARGO	25000	ARRANGEMENT FACTOR	1.00
RADAR SELECTION	MK 49 (MOD)	NBC PROTECTION IN %	0.50
MISSILES	NO MISSILES	SHOCK RESILIENCE FACTOR	1.00
TONS OF FUEL	1000 (300000 G)	RCS REDUCTION IN DB	10.00
LANDING CRAFT	3 LCACS	STACK EDUCTORS	YES
COMM. & CONTROL	LVL II (50 MEN)	REDUNDANCY WEIGHT-AUX	0.00
GUNS	NO GUNS	REDUNDANCY WEIGHT-COMBAT	0.00
SMALL AAW MISSILES	48	REDUNDANCY VOLUME-AUX	0.00
CIWS	2	REDUNDANCY VOLUME-COMBAT	0.00
CARGO ELEVATORS	1	REDUNDANCY COST-AUX	0.00
TROOPS	200	REDUNDANCY COST-COMBAT	0.00
VEHICLES	0	NO OF RAM PANELS	15.00
HOSPITAL BEDS	0	NO OF KEVLAR ARMOR PANELS	0.00
TONS OF FUEL	1000 (300000)	NO OF STEEL ARMOR PANELS	0.00
		NO OF ALUMINUM ARMOR PANEL	0.00
		PANEL WIDTHS	25.00
		STEEL ARMOR THICKNESS	0.07
		ALUMINUM ARMOR THICKNESS	0.00

***** MEASURES OF DESIGN EFFECTIVENESS *****

PAYLOAD/TOTAL SHIP COST RATIO = .2150211

MISSILES/\$M = 0

LIFE CYCLE COST RATIO = ACQ.COST / (40 x O&S COST) = .4897818

COMBINATION OF TECHNOLOGIES

5-01 IR INSULATION
5-02 RCS REDUCTION - SLOPING SIDES + RAM
5-04 URN REDUCTION
5-06 EDUCTORS
9-04 BOW AND STERN BULB

SHIP MANNING MODEL

EXECUTIVE OFFICER MANNING.....	2
NAVIGATION OFFICER MANNING.....	4
OPERATIONS OFFICER MANNING.....	3
COMBAT SYSTEMS OFFICER MANNING.....	2
ENGINEERING OFFICER MANNING.....	3
SUPPLY OFFICER MANNING.....	3
AVIATIONS OFFICER MANNING.....	3
EXECUTIVE ENLISTED MAN MANNING.....	14
NAVIGATION ENLISTED MAN MANNING.....	36
OPERATIONS ENLISTED MAN MANNING.....	35
COMBAT SYSTEMS ENLISTED MAN MANNING.....	29
ENGINEERING ENLISTED MAN MANNING.....	100
SUPPLY ENLISTED MAN MANNING.....	75
AVIATION ENLISTED MAN MANNING.....	8

NUMBER OF OFFICERS OF = 20
NUMBER OF ENLISTED MEN EM = 297
TOTAL MANNING NC = 346.7

SHIP PROPULSION DATA

PROPELLER EFFICIENCY NO = .6471406
SHAFT HORSEPOWER SHP = 93337.34
NO. OF PROPELLERS NPP = 2
PROPELLER RPM RPM = 99.6044
PROPELLER DIAMETER FT DP = 25.63742
THESE RESULTS AT 28 KTS

COMMERCIAL COST OF AMPHIB SHIP

4TH SHIP COSTS . . .

	MATERIALS	LABOR HRS
HULL	1.427368E+07	547325.9
PROPULSION	2.679261E+07	49859.86
ELECTRICAL	7198382	719892.5
AUXILIARIES	3.194353E+07	424925
OUTFITTING	1.348329E+07	170263.8
SURVIVABILITY	0	0
WEAPONS/COMBAT SYS		282242.1
ENGINEERING		271891.2
SHIP ASSMBLY		960000
SUBTOTAL	9.852515E+07	3436600
x PROFITS, FEE, ETC	x 1.18877	x 1.18877
x LABOR COST		x 25.2
+ WEAPONS/COMBAT SYS	7.658125E+07	
TOTALS =	1.93705E+08	1.029503E+08

TOTAL COMMERCIAL COST = \$ 2.966552E+08

AVERAGE TOTAL COMMERCIAL COST = \$ 368.5353