

Pete Greene's List of Navy Ship Interior Communications Systems - Circuit Designators

MULTI-CHANNEL (MC) ANNOUNCING/INTERCOM CIRCUITS			
Circuit	Surface	Submarine	Notes
1MC	General Announcing - Shipwide	General Announcing Groups: 1 - All 2 - Weather Deck Forward 3 - Weather Deck Aft 4 - Engine Rooms 5 - Upper & Main Deck Passages, Mess, Lounges, Galley 6 - Lower Deck Passageways, Shaft Alley, Steering Gear Room	Shipwide; LS-305 typical
2MC	Engineering Announcing	Propulsion Plant	Engineering machinery spaces only
3MC	Aviators/Troop Announcing		Typically Hanger Deck
4MC	Damage Control 2-way	Emergency Reporting Announcing	SA-718/WIC switchboxes
5MC	Flight Deck Announcing		AN/SIA-118, AM-2316/SIA
6MC	Intership Announcing (Hailing)		Loudhailer, Type IC/SDE
7MC	General Announcing 2-way	Control or Maneuvering Announcing	
8MC			
9MC			
10MC			
11MC	Turret Control 2-way		
12MC	Comms for Secure Spaces; Turret		LS-518D, AM-3729/SR(I)
13MC	Turret Control 2-way		
14MC			
15MC			
16MC			
17MC	Anti-Aircraft/Secondary Battery Control		Intercom & salvo/cease fire alarms
18MC	Bridge Announcing 2-way		LS-518D; Bridge-Pilot House
19MC	Aviation Control 2-way (Ready Room)		
20MC	CIC 2-way		
21MC	Captain's Command 2-way	Captain's Command 2-way	Bridge & other stations
22MC	Radio Room / Electronic Control 2-way		
23MC	Electric Power Gen & Dist 2-way		Uses 26MC if not present
24MC	Flag Command 2-way		
25MC			
26MC	Machinery (Engineering Casualty) 2-way		Machinery Space & Bridge
27MC	Sonar and Radar Control 2-way	Sonar Supervisor	
28MC			
29MC	Sonar Control and Information Announcing		AN/SIA-120
30MC	Special Weapons Control 2-way		
31MC		Escape Hatch Announcing	LS-450(J)/B Pressure-proof speakers
32MC	Weapons Control 2-way	Weapons Control	AA, ASROC, gun directors, CIC, etc.
33MC			
34MC			
35MC		Launcher Captain's Announcing	
36MC			
37MC			
38MC			
39MC	Cargo Control 2-way		Cargo Control/Stations, Helo Ctl, PH
40MC	Flag Administrative 2-way		
42MC	CIC Coordination 2-way		CIC stations
44MC	Instrumentation Space 2-way		Satellite System operations
45MC	Research or Mission Operations 2-way		labs, science offices, meteo, etc.
46MC	Aviation Weapons 2-way		AN/SIA-122, LS-558/U Explosion-proof
47MC		Torpedo Control	
50MC	Integrated Operational Intelligence Center IC		IOIC stations, Intel, Photo, EDP, etc.
51MC	Aircraft Maintenance & Handling Control IC		51MC1 (maintenance), 51MC2 (handling)
51MC1	Aviation Maintenance		
51MC2	Aircraft Handling		
52MC			
53MC	Ship Administrative 2-way		CO, XO and selected offices
54MC	Repair Officer's Control 2-way		Repair officer and repair shops
75MC	Decontamination Station 2-way		LS-474/U, LS-306; Decon Access

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CALL, SIGNAL AND INDICATOR CIRCUITS			
Circuit	Description	Notes	Equipment Used
1E	Call System - Cruising and miscellaneous		
1EM	Signal System - Cruising and miscellaneous		
2E	Call System - Ship Control		
2EM	Signal System - Ship Control		
3E	Call System - Engineering		
3EM	Signal System - Engineering		
A	Officers' Call Bells		
BT	Marker Buoy System		
E	Telephone Call System (between SPTs)	"Growler" multi-station Intercom	
EG	Engine Governor Control & Tach System		
EM	Selective Call Signal (common talk)	cf. MJ	H-203/U headsets
J, XJ	Sound Powered Phone	"J" and "XJ" Circuits (see "Sound Powered Nets")	
K	Shaft Revolution Indicator System		
LC	Gyrocompass System		
MJ	Selective Call Signal (selective talk)	cf. EM	H-203/U headsets
N	Rudder Angle Indicator System		
NB	Bow Plane Angle Indicator System	(submarine)	
NS	Stern Plane Angle Indicator System	(submarine)	
TL	Dead Reckoning Tracer System		
TP	Main Ballast Indicator System	(submarine)	
TR	Hull Opening Indicator System		
XLC	Auxiliary Gyrocompass System		
XNB	Aux Bow Plane Angle Indicator System	(submarine)	
XNS	Aux Stern Plane Angle Indicator System	(submarine)	
Y	Underwater Log System		
	GERTRUDE Underwater Telephone	EMCON comms, 3-4 miles	
	Voice Tubes	Original Sound Powered Phone!	brass tube, max length about 40 feet

TELEVISION SYSTEMS (TV)			
Circuit	Description	Notes	
3TV	General Topside Surveillance TV	remotely controlled	
4TV	CIC TV	plotting board information	
5TV			
6TV	Flight and Hanger Deck Surveillance TV	deck operations and status	
7TV	Operations Control TV	combat operations center spaces	
8TV	Pilot Landing Aid TV	approach and landing, with date, time, wind speed, aircraft speed	
9TV	Ready Room Briefing TV	plotting board info from the air intelligence room to each ready & briefing room	
10TV	TALOS Missile TV		
11TV	TERRIER Missile TV		
12TV	TARTAR Missile TV		
13TV			
14TV	Surveillance, Training and Entertainment TV		
15TV	Entertainment TV Antenna Distribution	Broadcast TV distribution	

ENTERTAINMENT SYSTEMS			
Circuit	Description	Notes	
SE	Recorded and Radio Programs		
MP	Motion Picture Sound		

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RECORDING SYSTEMS (VR)		
Circuit	Description	Notes
1VR	Sonar Recording System	means of recording/reproducing sonar signals
4VR	ECM Recording System	means of recording/reproducing signals intercepted by ECM equipment

ENGINE ORDER & TELEGRAPH (MB)		
Circuit	Description	Notes
1MB	Motor Order Telegraph	
2MB	Motor Order Telegraph	
3MB	Engine Order/Control Control	
4MB	Engine Order System	

NON-COMMUNICATIONS SYSTEMS		
Circuit	Description	Notes
17GA-1	Torpedo Data Computer Circuit	(submarine)
6PA	Torpedo Firing Circuit	(submarine)
6R	Torpedo Ready Lights	(submarine)
GA-1	Torpedo Data Computer Circuit	(submarine)
GT	Target Designation System Circuit	(submarine)
S1RC	Underwater Sound System	(submarine)
S2RC	Underwater Sound System	(submarine)
SRT	Underwater Sound System	(submarine)

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SOUND POWERED NETS (J, XJ)		
Code	Circuit Description	Notes
10JP1-3	Guided Missile Launcher Control	
13JP	Machine Gun Control	
1JG	Aircraft Control	
1JS	CIC Information	
1JV	Maneuvering and Docking	
1JW	Ship Control Bearing	
2JV	Engines (Engineer's Circuit)	
2JS	NTDS/CDS circuit	TAO, JOOD and SWC/WCO
21JS	Surface Search Radar	
22JS	Long-Range Air Search Radar	
24JS	Range-Height Radar	
2JZ	Damage and Stability Control	
4JV	Engineering (fuel and stability)	
4JZ	Forward Repair	
5JV	Electrical (Engineer's Circuit)	
61JS	Sonar Information	
81JS	EW Information	Intercepted signal characteristics and threat evaluations; also Weapon System Coordination
JA	Captain's Battle Circuit	
JB	Main Battery Spotting	
JC	Main Battery Control / Weapons Control	
JD	Main Battery Pointer	
JE	Main Battery Site Setters	
JG	Aviation	
JH	Switchboard	
JK	Fuze Setters	
JL	Lookouts/Bearing	
JNT	Illumination	
JP	Secondary Battery Control	
JQ	Site Setters	
JS	CIC	
JT	Target Designation	
JV	Engineering	
JW	Ship Control Bearing / Rangefinders	
JX	Radios and Signals	
JZ	Damage Control	
X101J	Turret	
X1J	Ship's Administration	
X1JV	Maneuvering and Docking	
X2JS	CIC Command	
X2JZ	Damage & Stability Control	
X3JZ	Damage Control Repair Station Net 2	
X40J	Casualty	
X4JZ	Damage Control Repair Station Net 3P	
X50J1-7	Aqueous Film Forming Foam Net	
X52J	Waste Disposal Circuit (CHT)	
X5J	Engineer's Net; Sprinkling & Ord Repair	
X5JZ	Damage Control Repair Station Net 3S	
X6J	Electronic Service	
X6JZ	Damage Control Repair Station Net 4	
X7JZ	Damage Control Repair Station Net 5P	
X8J	Replenishment-at-Sea	
X8JZ	Damage Control Repair Station Net 5S	
XJA	Captain's Battle Net	
<p>NOTES:</p> <p>J circuits are Primary circuits (control, operating, battle nets), and use headsets</p> <p>XJ circuits are Auxiliary circuits (routine nets, backup to Primary nets), and use handsets (Type L)</p> <p>X1J to X61J circuits are Supplementary circuits (short direct circuits, such as bridge to QD), typically using a growler and handset</p> <p>Numerals after the designator indicate a particular station on the circuit</p>		

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Interior Voice Communications System (IVCS)	
Channel	Purpose
11	Helicopter and Boat Fuel Control
12	Helicopter Control
22	Navigation Coordination
25	Combat System Officer of the Watch (CSOOW) Coordination
26	Electronic Support Supervisor Coordination
29	Underwater Supervisor Coordination
51	Captain's Battle Net
52	Lookout Reporting
53	Maneuvering Control
54	Navigation Service
55	Visual Signals
56	Docking
60	Gun Coordination and Service
62	Forward VLS Strikedown
63	Aft VLS Strikedown
65	Ordnance Supervisor Coordination
66	Fire Control Supervisor Coordination
68	Light Machine Gun Coordination
80	Damage and Stability Control
81	Repair 2
82	Repair 3
83	Engineering
84	Fuel Control
85	Electrical
86	Repair 5
88	Vehicular Control Helicopter Transfer (VCHT)
90	Firefighting Equipment
91	Emergency Reporting
NOTES:	Computer-controlled voice system serves as the ship's internal telephone system and replaces most sound-powered phone circuits Uses jackboxes and standard telephone terminals

CIC Nets	
Channel	Purpose
1	Command Casualty Net
2	Antiair Warfare (AAW) Casualty Net
3	Antisurface Warfare (ASUW) Casualty Net
4	ASW Casualty Net
5	Gunfire Control System (GFCS) Casualty Net
6-9	Unassigned
10	Surface /Subsurface Tracking (SST) Coordination
11	ASW Coordination
12	AAW Coordination
13	ASUW Coordination
14	Tactical Information
15	Command
16	Force Coordination
17	Electronic Warfare (EW)
18	GFCS
19	Digital Dead Reckoning Tracer (DDRT) Plotting
20	Sonar Coordination
21-49	Unassigned
NOTES:	The CIC communications system permits CIC console operators to call other console operators, to sign onto CIC nets, to talk on secure and plain radio circuits, and through IVCS to call any telephone on the ship or access IVCS nets. Units located in CIC, Sonar Control and Bridge.

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ALARMS			
Code	Alarm Type	Surface Ship	Submarine
AE	Emergency Wash Alarm		
AV	Hazardous Gas Monitoring and Alarm		
CA	Collision (siren sound)	Yellow/Star (Third Priority)	Red
DG	Remote Draft Indicator		
DL	Intrusion Alarm		
E	Call System (between SPTs)		
EC	Low-pressure Oil & Hi-temp Water Alarm		
EF	Generator Bearing High Temp Alarm		
EG	Propeller Pitch Hydraulic Alarm		
EH	Gas Turbine Exhaust High Temp Alarm		
EM	Signal System (between SPTs)		
EP	Gas Turbine Lube Oil High Temp Alarm		
F	Fire/Smoke/High Temperature Alarm		
FD	Flooding Alarm		
FH	Sprinkling Alarm		
FR	CO ₂ Release Alarm		
FZ	Security Alarm		
G	General (gong sound, 100 per min)	Red/Circle (Highest Priority)	
GD	Diving (klaxon horn sound)	N/A	Green
LB	Steering Emergency Signal		
MG	Gas Turbine Overspeed Alarm		
MJ	Multiple Talking & Selective Ringing System		
TD	Liquid Level Alarm		
W	Ship's Whistle		
WA	Engineering Watch Alarm		
	Chemical	Green/Square (Second Priority)	N/A
	Flight Crash	Gray/Lever	N/A
	Missile Jettison	Blue	Blue
	Missile Emergency	Orange	Orange
	Power Plant	White	Pink
	Sonar	Yellow	N/A
	Diving Alarm	N/A	

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ALARM SYSTEMS		
Circuit	Description	Notes
1CX	Medical Treatment Room Refrigerator Failure Alarm System	
1DL	Secure Communication Space Door Position Alarm System	
1E	Call System - Cruising and miscellaneous	
1EC	Propulsion Machinery Lubrication Oil Low Pressure Alarm System	
1ED	Generator Air High Temperature Alarm System	
1EK	Pneumatic Control Air Pressure Alarm System	
1EM	Signal System - Cruising and miscellaneous	
1EW	Propulsion Engine Circulating Water High Temperature Alarm System	
1FR	Carbon Monoxide Release Alarm System	
1TD	Boiler Water Level Alarm System	
23TD	Expansion Tank Liquid Level Alarm System	
23TD1	Propulsion Engine Jacket Cooling Water Expansion Tank Low Level Alarm System	
23TD2	Ship Service Diesel Generator Jacket Cooling Water Expansion Tank Low Level Alarm System	
2CX	Air Conditioning and Refrigeration Plant Alarm System	
2EM	Signal System - Ship Control	
2FR	Halon 1301 Release Alarm System	
2JV	Engineer's Circuit (Engines)	
2JZ	Damage and Stability Control Circuit	
30TD	JP-5 Fuel Drain Tank High Level Alarm System	
3AV	Hydrogen Sulfide Alarm System	
3E	Call System - Engineering	
3EC	Propulsion Engine Lubricating Oil Low Pressure Alarm System	
3EM	Signal System - Engineering	
3EZ	Air Conditioning Loss Alarm System	
3FR	Aqueous Potassium Carbonate (APC) Release and Low Pressure Alarm System	
40TD	Sewage Tank Level Alarm System	
47TD	Waste Water Tank High Level Alarm System	
4EC	Differential Pressure Alarm System	
4EU	Firemain Low Pressure Alarm System	
4JV	Engineer's Circuit (Fuel and Stability)	
5AV	Halocarbon Alarm System	
5F	Mission Regulated Power Loss Alarm System	
5JV	Engineer's Circuit (Electrical)	
6MC	Intership Announcing System (hailing)	
9F	High Temperature Alarm, ASROC	

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Announcing Systems		
System	Usage	Specification
AN/SIA-114	Aegis Destroyer/Cruiser	A-A-59003/1
AN/SIA-117		A-A-59003/4
AN/SIA-118		A-A-59003/5
AN/SIA-120	1MC, 2MC, 26MC, 29MC	MIL-A-21577/8 (Dynalec P/N 60555-000)
AN/SIA-122	Intercom System	
AN/SIA-123	1MC/6MC, Alarms	MIL-A-21577 (Dynalec 61131)
AN/SIA-4	Battleship	SE101-A4-MMO-010/SIC-4 (Dynalec)
AN/STC-1	Cruiser/Destroyer (Aegis)	
AN/STC-2	Cruiser/Destroyer (Aegis)	
AN/WIC-2B	Submarine	

Speaker Types (LS)		
Wattage	Nomenclature	Features
80W	IC/SGL(-)	Aircraft Carrier Flight Deck (no volume control)
1W	LS-305()/SIC	No external volume control
1W	LS-306()/SIC	External volume control
7.5W	LS-386()/SIC	External volume control
7.5W	LS-387()/SIC	No external volume control
250W	LS-397()/SIC	Topside decks or masts, adjustable bearing, for inter-ship communications
5W	LS-450/U	Pressure-proof (submarine escape hatch announcing system)
	LS-474	600-ohm radio speaker w/ built-in audio amp
	LS-518/SIC	Intercom System (currently 518D)
	LS-519	Intercom System
1W	LS-530()/SIC	No external volume control, limited stray magnetic field
1W	LS-531()/SIC	External volume control, limited stray magnetic field
7.5W	LS-535()/SIC	No external volume control, limited stray magnetic field
7.5W	LS-536()/SIC	External volume control, limited stray magnetic field
3W	LS-558/U	Explosion-proof, no external volume control

Shipboard Cable Types	
Lighting, Power, and General Utility Cables	
DCOP	Double conductor, oil resistant, portable
DHFA	Double conductor, heat and flame resistant, armored
FHFA	Four conductor, heat and flame resistant, armored
SHFA	Single conductor, heat and flame resistant, armored
SHFL	Single conductor, heat and flame resistant, leaded
SHFS	Single conductor, heat and flame resistant, switchboard cable
TCOP	Triple conductor, oil resistant, portable
Note:	Numbers following the above letters indicate the approximate circular mil area of each conductor with the last three digits omitted
Interior Communication and Fire Control Cables	
MHFA	Multiple conductor, heat and flame resistant, armored
MHFF	Multiple conductor, heat and flame resistant, flexible
Note:	Numbers following these letters indicate the number of conductors in the cable. Each conductor has a cross-section area of about 2800 circular mils
Telephone Cables	
TTHFA	Twisted pair, telephone, heat and flame resistant, armored.
Note:	Numbers following letters indicate number of pairs of conductors.