

APPENDIX B

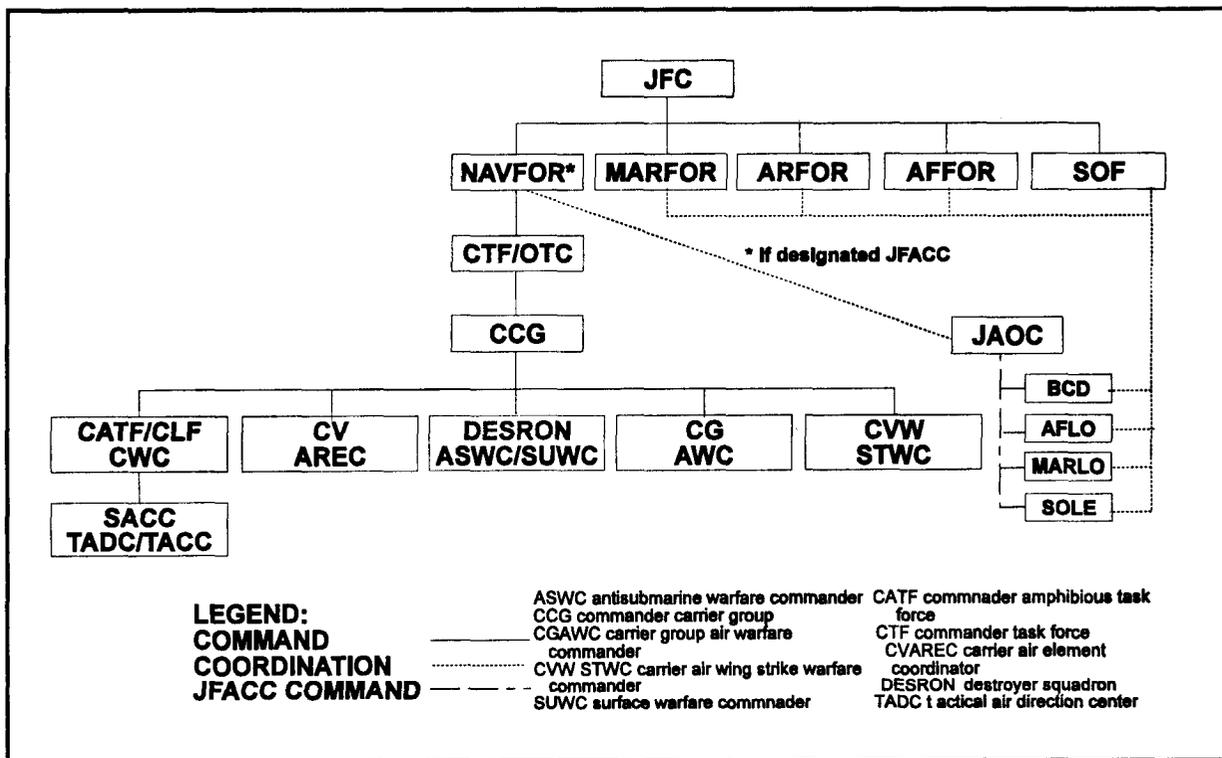
BCD RELATIONSHIP TO THE NAVFOR AND MARFOR

Currently, if the JFC designates the NAVFOR Commander as the JFACC, he will conduct operations on either an LCC (command and control platform) or on an aircraft carrier, depending on which is in the theater. The LCC has more capability in terms of communication equipment, but it is more likely that a carrier will be on the scene.

When assuming duty as the JFACC, the NAVFOR commander or commander carrier group (COMCARGRU) forms a JFACC staff and begins operations. Initially, most of the JFACC staff will consist of USN personnel with liaisons from the other components and augmentees flown in as needed.

The functions of the Navy JFACC are organized and standard. The aircraft carrier or the LCC has a JAOC. The A TO is developed according to joint procedures and guidance from the JFC. Due largely to the constricted berthing space available on USN ships, the staff of a sea-based JFACC will normally be smaller than a land-based JFACC. The difference in staff size has an effect on the joint air planning capacity that a sea-based JFACC can handle. The organization and procedures associated with a sea-based JFACC do not differ significantly from a land-based JFACC. The functions are the same. The differences between the two are more often a factor of scale of the operation than with the procedures inherent in both. A notional sea-based JFACC structure is shown in the figure below.

SEA-BASED JFACC ORGANIZATION



FM 100-13

Navy Tactical Air Control Center

The USN TACC is the senior agency of the Navy tactical air control system (NTACS). The sea-based USN TACC is the primary air control agency from which all air operations are controlled. This includes support of amphibious operations when air control and airspace management are sea-based. It is the USN functional equivalent of the USAF JAOC and USMC TACC. Like the USAF AOC, it can be augmented and tailored to form a JAOC.

The USN TACC controls air support and air warfare forces in the AOA, when established, until control of the operations is passed to the CLF. The USN TACC is operated by a tactical air control squadron (TACRON). A TACRON is organized to man all of the offensive air systems and a portion of the air defense systems of the USN TACC.

The tactical air controller (TAC) is the officer in charge of all operations of the USN TACC. He is responsible for the control of all aircraft and air warning facilities in the AOA. The TAC is responsible for the overall operation of the USN TACC. The USN TACC is divided into the following five sections:

- Air traffic control.
- Air support control.
- Helicopter coordination.
- Air warfare.
- Plans and support.

The figure on page B-4 depicts the organization of the USN TACC and the links to the BCD. Each section has defined responsibilities.

Air Support Control Section

The air support control section (ASCS) exercises operational control and coordination of all aircraft (offensive air) assigned to strike warfare or troop support missions. The air support coordinator advises the SACC of weapons loads, fuel status, and other data that will aid in mission assignment or coordination.

The ASCS advises the supporting arms coordinator (SAC) on the following:

- Use of CAS aircraft.
- Evaluates and coordinates tactical air requests (TARs) received.
- Consolidates daily air support requirements.

Air Warfare Section

The air warfare section (AWS) is responsible for the evaluation of all air warning reports and the operational control of all air warfare assets. It does the following tasks:

- Issues threat warnings.
- Initiates and controls the assignment and engagement of air contacts by combat air patrol (CAP), guns, missiles, and electronic attack (EA).
- Designates anti-air warfare (AAW) sectors.

The AWS coordinates all air warfare operations in the AOA. The AWS acts as a link between the CATF and the air warfare commander (AWC). Actual control of AW assets usually remains with the AWC.

Air Traffic Control Section

The air traffic control section (ATCS) is responsible for the safe and speedy handling of all aircraft operating in the AOA. It controls and coordinates all air traffic entering, operating in, or traversing the AOA. The section also coordinates search and rescue operations.

Helicopter Coordination Section

Transport helicopter operations are controlled by the helicopter direction centers (HDCs) on aviation-capable amphibious ships. The helicopter coordination section provides oversight to all HDCs in the amphibious force. In the course of providing oversight the section does the following tasks:

- Coordinates all transport helicopter operations.
- Ensures requests for helicopter support are filled.
- Controls specific helicopter missions as required.

The HCS advises the TAC and SAC on the following:

- Use of transport helicopter assets.
- Requests for transport helicopter support from the landing force
- Assignment of missions to transport helicopter.
- Coordination of transport helicopter operations with the SACC.

Plans and Support Section

The task done by the plans and support section (PSS) are as follows:

- Conducts current and future planning.
- Assembles and distributes the daily air **plan** or **ATO**.

- Assembles reports.
- Provides all communications support.

The PSS is responsible for the following:

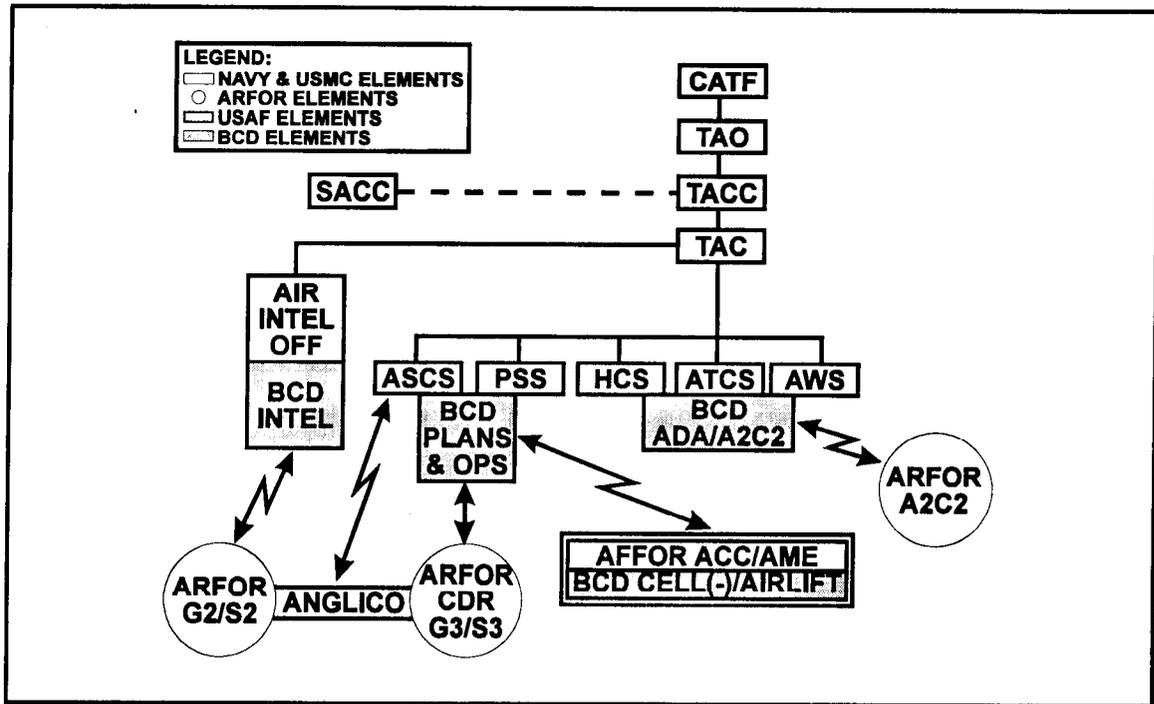
- Current and future planning.
- Data collection and dissemination.
- USN TACC communications support.
- **Supervision of** communications personnel.
- Preparation and distribution of all air operations reports.

The PSS also processes ATO type products such as the daily helicopter and fixed-wing fragmentary orders for air operations.

Air Intelligence Officer

An air intelligence officer (AIO) is assigned to the SACC to the TAC by preparing the air target list and maintaining a current plot of enemy and friendly orders of battle. He coordinates with the ASCS on tactical air requests approved by the SAC for engagement by air assets and receives BDA reports to update current target lists.

BCD LINKS TO A USN TACC



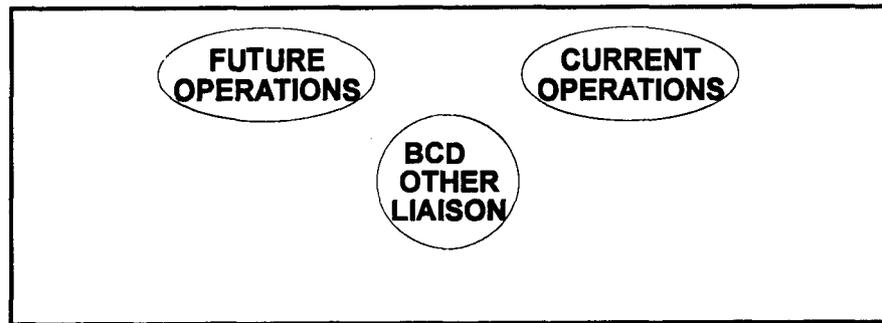
US Marine Corps Tactical Air Command

The USMC TACC is the senior air control agency in the Marine air command and control system (MACCS). It serves as the aviation combat element (ACE) commander's command post. The Marine TACC is the facility from which the ACE commander and the battle staff plan, supervise, coordinate, and execute all current and future MAGTF air operations. It is the fictional equivalent of the USAF JAOC and the USN TACC, and is the facility from which the BCD operates. The battle staff is divided into two sections. One handles current MAGTF operations while the other plans future operations.

A sea-based Marine TADC is established during amphibious operations and is the senior MACCS agency before the transfer of control ashore. The organization and capabilities normally mirror the Marine TACC and differ only in the scope of assigned tasks, size of responsible airspace, and location of control. Once the MAGTF assumes control of all air operations, the Marine TADC becomes the Marine TACC.

The Marine TACC consists of two sections. The future operations section develops and disseminates the ATO. The current operations section supervises the execution of the ATO and makes adjustments as dictated by the situation. The figure on the next page depicts the organization of the Marine TACC.

USMC TACTICAL AIR COMMAND CENTER (TACC)



Integration of the BCD into the TACC

In many instances the USN or Marine Corps could be the JFACC and the primary provider of air power to Army forces. The USN uses an afloat tactical air control center (TACC) to manage air assets. The USN TACC is collocated the SACC aboard the amphibious task force (ATF) C³1 ship.

The Marine Corps uses a tactical air command center (Marine TACC) to manage air assets. The USN TACC and Marine TACC manage air operations inside an AOA on behalf of the CATF and the CLF respectively. The BCD with a contingency mission must be ready to deploy with USN and/or Marine TACC support teams to give the same BCD functional area links as in a USAF AOC.

BCD Functional Area Links

The fictional area links of the BCD with individual USN TACC sections is depicted in the figure on page

B-4. Workspace and communications support to the BCD must be specifically coordinated prior to all exercises or operations. Recommended BCD personnel manning for support to a USN or USMC TACC are listed in the table on the next page. Recommended BCD workspace locations when embarked aboard an LCC class ship such as the USS Mount Whitney are shown in the figure at the top of page B-7. Workspace locations when aboard an LHA class ship such as the USS Saipan are shown in the bottom figure.

Functions of the USN and Marine TACCS of concern to the BCD and ARFOR include:

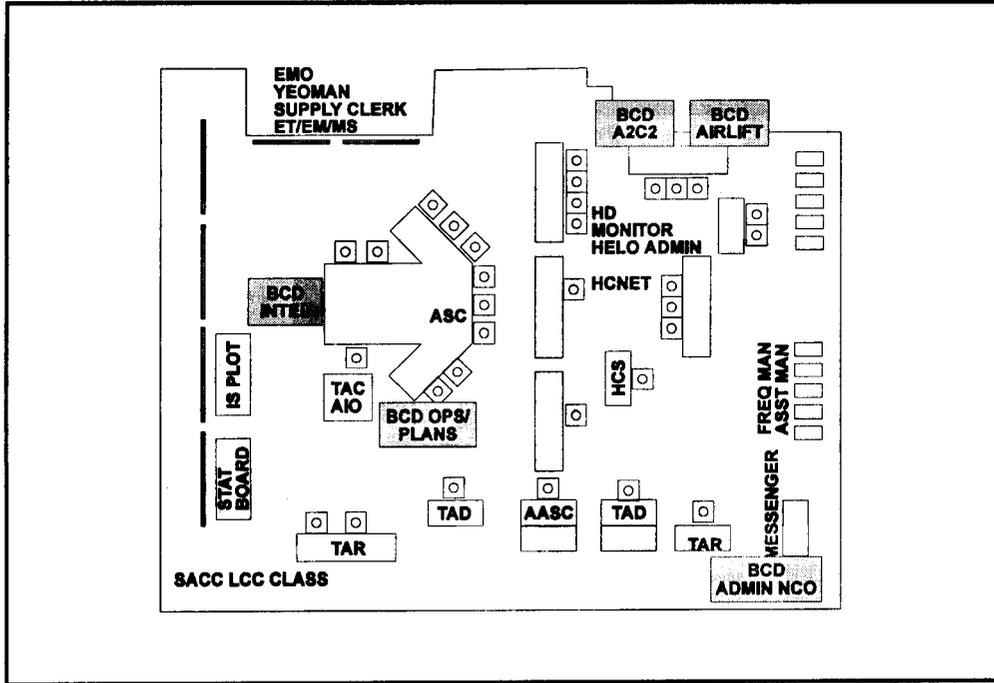
- Maximize the use of all air assets available to the CATF and/or CLF.
- Give CAS and DAS, air reconnaissance, EW, and air assault support (primarily helicopter) to the CLF and all units under his command or control.

RECOMMENDED BCD MANNING TO SUPPORT A USN OR USMC TACC

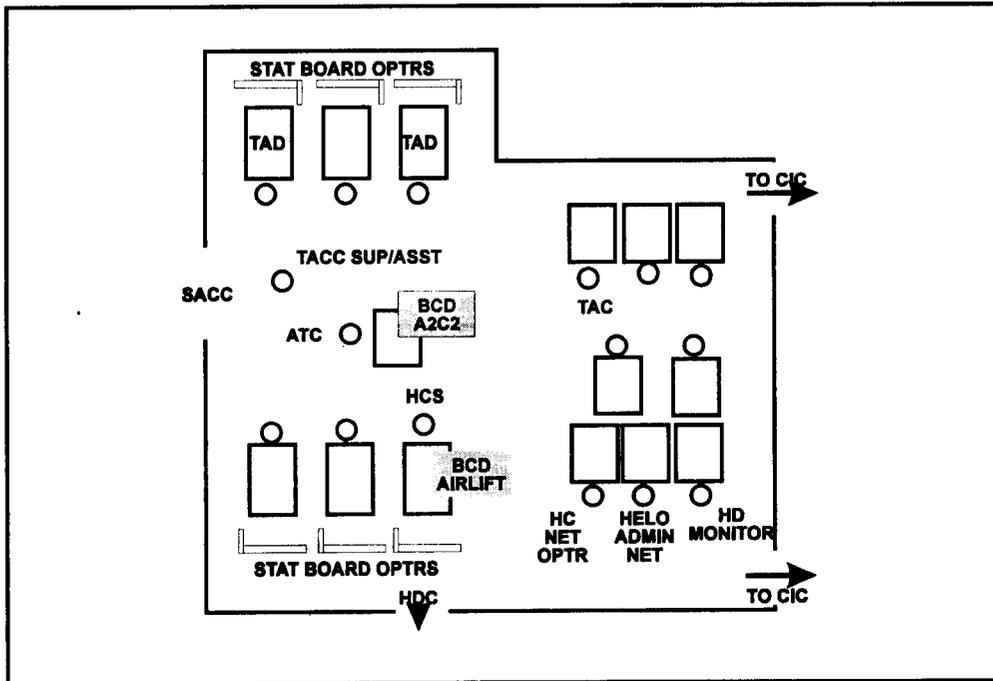
| A. Organic to the BCD: | |
|---|--|
| | <u>C² SHIP AAWC SHIP</u> |
| COL BCD commander | 1 (SACC) |
| LTC/MAJ chief/plans officer | 1 (SACC) |
| MAJ/CPT operations officer | 1 (SACC) |
| Plans/operations NCO | 2 (SACC) |
| Intel NCO | 1 (SACC) |
| ADA personnel (Note 1) | 1 |
| Airspace management (A ² C ²) personnel | 1 (HCS) |
| Airlift personnel (Note 2) | 1 (HCS) |
| | |
| B. Augmentees that may be placed OPCON to the BCD commander: | |
| | <u>C² SHIP CV (CARRIER)</u> |
| CLO (carrier liaison officer) | 1 |
| Fire support officer | 2 (ASC) |
| ARFOR LOs to CLF | 2 (ASC) |
| | |
| Notes: | |
| 1. Do not position ADA officers aboard unless it is expected the ARFOR will employ Hawk and/or Patriot and tie in with USN or USMC air defense systems. | |
| 2. Needed here only if airlift support to the ARFOR is coming from the USN; otherwise, locate as necessary with the DTACC. | |

- Consolidate all air support requests and task available air assets as needed by publishing the ATO.
- Control all tactical and itinerant air traffic to deconflict airspace in the AOA.
- Coordinate all air defense operations in the AOA.

RECOMMENDED BCD WORKSPACE ON LCC CLASS SHIPS



RECOMMENDED BCD WORKSPACE ON LHA CLASS SHIPS



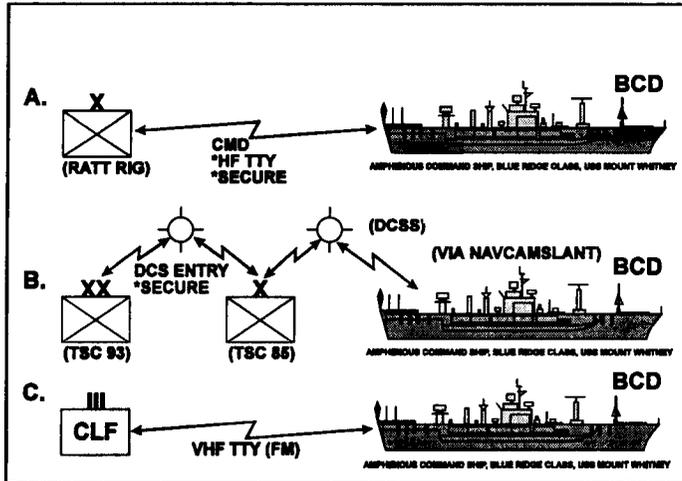
FM 100-13

Sea-Based Communications

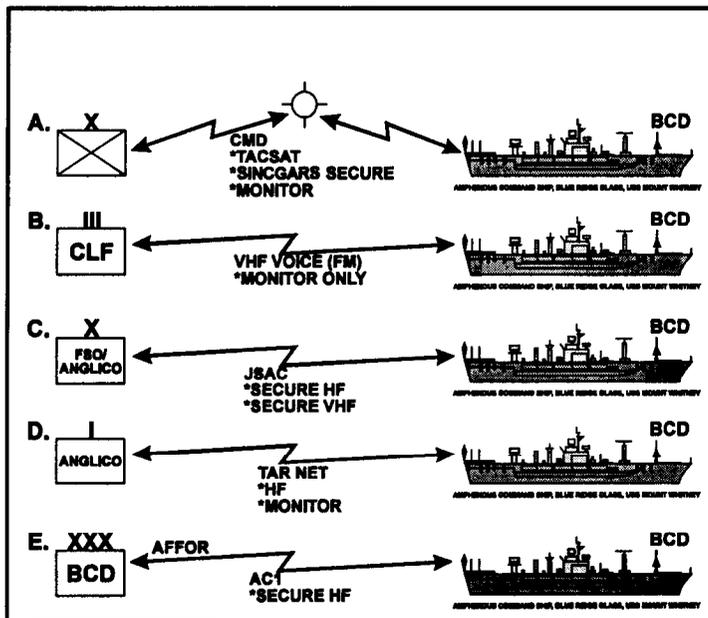
Teletype and voice nets the BCD can use to coordinate air-ground operations on behalf of the ARFOR while

sea-based are shown in the two figures below. they are also designated in the classified joint CESI for each exercise or operation.

BCD (SEA-BASED) JOINT TELETYPE NETS



BCD (SEA-BASED) JOINT VOICE NETS



BCD Operations During Joint Amphibious Operations

The BCD links electronically with the following:

- Tactical air officer (TAO).
- TAC.
- SAC afloat.
- Marine TACC senior watch officer (SWO) ashore.

The BCD sections perform their normal functions with TACC personnel in the sections depicted in the figure on page B-3.

BCD to Marine TACC Links

“Phasing control ashore” is the process of passing the authority to command, control and coordinate certain combat functions from the CATF to the CLF. The phasing of control ashore process, as it applies to the MAGTF ACE, directly impacts on the functioning and responsibilities of various MACCS agencies.

The tactical air operations center (TAOC) is the primary air control agency of the MACCS. It is responsible for airspace control and management. It provides real-time surveillance and control of friendly aircraft. It provides navigational aid with respect to assigned airspace and direction. It performs real-time direction and control of air warfare operations involving aircraft and surface-to-air weapons. The TAOC collects and displays information obtained from TACC and other USMC sources. The TACC also uses information from other services and nations. The TAOC process the information for use in controlling assigned airspace and directing and controlling air defense assets. TAOC operations parallel those of the CRC normally associated with joint Army and USAF defensive air operations.

The Marine responsible for overall management of air defense assets within the Marine Corps AO or assigned sector is the Marine sector air warfare coordinator (SAWC). The SAWC typically collocates with the TAOC. By mutual agreement between the CATF and CLF, the CLF would assume control of landward sector AAW and exercise that control through the SAWC and TAOC.

The DASC is similar to the USAF ASOC normally found in a corps tactical operations center (CTOC). The DASC is the primary MACCS agency responsible for the direction of air operations supporting ground forces.

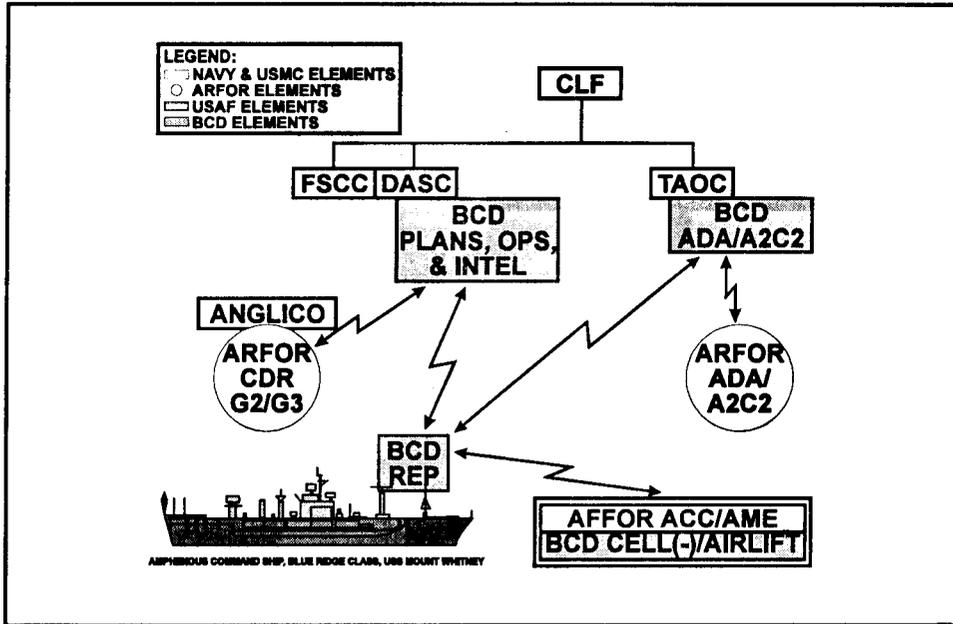
The Marine TACC evolves from the TADC. During the phasing of control ashore process, the CLF normally establishes a TADC ashore. The TADC is comprised of the same equipment and personnel who will operate the MAGTF TACC. Once the CATF and CLF agree that the MAGTF is capable of coordinating and managing aviation functions ashore, the responsibilities are passed to the Marine TACC. The functions include the following:

- All aviation planning and C² functions.
- Sector airspace management functions.
- Planning functions for landing force aviation.

Upon passage of the responsibilities, the Marine TACC assumes the functions as the Marine TACC and the USN TACC reverts to the position as the USN TACC.

The linkage of the BCD with the individual MACCS sections during the initial phase of an amphibious operation is shown in the figure at the top of the next page. Linkage during the mature phases of an amphibious operation are shown at the bottom.

BCD ASHORE LINKS (INITIAL AMPHIBIOUS OPERATIONS)



BCD ASHORE LINKS (MATURE AMPHIBIOUS OPERATIONS)

