See p. 12

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NAVAL COMMUNICATIONS BULLETIN

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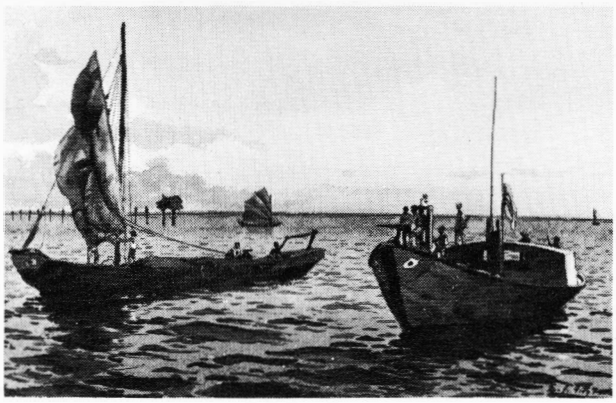
ON THE COVER: Jagged peaks along Iceland's eastern coastline provide the spectacular scenery dominating this view of Navy transceiver site. "Site H-3" - an element of U.S. Naval Communication Station Iceland - is located at Hofn (population 525, says Rand McNally), some 225 miles southeast of station headquarters at Keflavik.

Contents

From the Director 1
1967 ANCC Crowded, Successful 2
Improving Fleet Communications 3
Kodiak's ORESTES Net Getting Heavy Use 7
Design Work Study for Naval Communications 8
Medal of Honor to Marine Captain Buckley for Bravery in Viet Nam 10
New Crypto Repair School Dedicated 11
NAVCOMMSTA Phil Awarded Navy Unit Commendation 12
Coast Guard Space Message Called 'Breakthrough' 12
Bronze Star Awarded to Lieutenant Vagenas 13
Files and Logs 13
Radio Frequencies in Oceanography 14
Ground Broken for Navy Transmitter Site 15
Data Circuit to GTMO Activated at Ft. Allen 16
First DCA Switching Center Outside CONUS Accepted Formally 16
DNC-14(CW) - A New Approach 17
A Note on Updating JANAP 195 19
Here's the Answer 20
NAVCOMM News Photos 22

All photos U.S. Navy and U.S. Marine Corps.



From The Director

RADM Weeks

Two SECNAV Notices issued on 19 April provide, respectively, for activation of a new Naval Communications Command, under a Commander reporting directly to the Chief of Naval Operations, and the establishment of Command headquarters - which will be located at Bailey's Crossroads, Va., present site of Naval Communication System Headquarters. Both actions take effect on 1 July this year.

The Office of Naval Communications has undergone a major reorganization. The effort, now in its final stages, and the anticipated results will be discussed in more detail in future Bulletin issues. In substance, the objectives were to remove as many day-to-day communications operational functions as possible from the Chief of Naval Operations staff - and to assign command and primary support responsibilities for shore (field) activities in the Naval Communication System and the Naval Security Group to Commander, Naval Communications Command.

In the interests of efficiency and administrative convenience, it has been decided to assign command of the NAVCOMM Command and staff cognizance for CNO to the same officer - in other words, to myself. As of 1 July, I will be the first Commander, Naval Communications Command, in addition to continuing in my present assignment as Assistant Chief of Naval Operations (Communications)/Director, Naval Communications.

Along with the responsibilities related to shore communication facilities, the Command is further tasked with providing for the communications and cryptologic needs of all Navy ships, Navy aircraft and Navy shore activities. This includes translating needs into requirements, preparing programs to satisfy needs, and implementing the programs. At the Pentagon, the ACNO (COMM) and his personnel will be responsible for such staff functions as validation and approval of requirements, planning, program review, evaluation and appraisal.

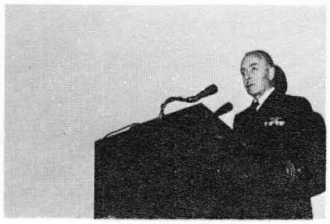
Designated Command tasks and functions will include those previously assigned to Naval Communication System Headquarters, Naval Security Group Headquarters and the Naval Radio Frequency Spectrum Activity. These three Headquarters are being disestablished as separate activities. Elements of the new Command will be located in office spaces within the Washington area; long-range plans call for eventual relocation of the Command into a single headquarters in the Washington area.

The organizational changes and resulting realignment of functions are expected to benefit all levels of Navy communications. The new Command's concern with day-to-day operations of our world-wide communication and cryptologic facilities will allow greater emphasis at CNO level on policy matters and support of DOD and JCS communications programs. At the same time, closer integration of facilities under field (Command) jurisdiction should aid in enhancing and expanding vital communications support for the fleet.

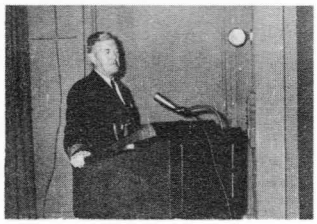
Rear Admiral Robert H. Weeks, U.S. Navy

Vice Admiral Holmes

Lieutenant General Starbird



Rear Admiral Weeks



Rear Admiral Wadleigh

1967 ANCC CROWDED, SUCCESSFUL

The 1967 Annual Naval Communication Conference was conducted on 10-14 April in the Pentagon, Washington, D.C. Every available seat in the Army Auditorium (capacity 250) was filled as Rear Admiral R.H. Weeks, USN, Director, Naval Communications, welcomed communications representatives to this unique meeting.

Fleet and Shore System conferees represented every facet of the Navy's communications effort. Major Fleet Commands and Type Commanders sent 40 representatives, 12 of whom made formal operational communications presentations to the entire conference. A total of 89 Shore System representatives were present from every NAVCOMMSTA and NAVCOMMU, NAVRADSTAs Cutler, Jim Creek and Thurso, the Naval Districts, Naval Electronics Lab, Service Schools Command and various research organizations.

The Washington area was also heavily represented with daily attendance from personnel of the Office of Naval Communications, Joint Chiefs of Staff, Defense Communications Agency, Marine Corps Headquarters, Naval Ship Systems Command, Naval Electronic Systems Command, Naval Facilities Engineering Command, Naval Supply Systems Command, Naval Research Lab, U.S. Coast Guard, Bureau of Naval Personnel, and other area commands.

The conference was in reality both a seminar, designed to make naval communicators in attendance knowledgeable on all aspects of present day communications and future trends, and an open forum to enable conferees from major commands to freely discuss problem areas and exchange ideas and concepts.

Guest speakers included (in order of appearance) Vice Admiral E.P. Holmes, USN, Director Navy Program Planning; Rear Admiral J.E. Rice, USN, Commander Naval Electronic Systems Command; Rear Admiral E.J. Fahy, USN, Commander Naval Ship Systems Command; Rear Admiral M.F. Weisner, USN, Assistant Chief for Personnel Control, BUPERS; Lieutenant General A.D. Starbird, USA, Director, Defense Communications Agency; Rear Admiral J.R. Wadleigh, USN, Assistant Deputy Director, Defense Communications System; Rear Admiral F.H. Michaelis, USN, Director Air, Surface and Electronic Warfare Division, OP-72, OPNAV; and Colonel J. Lemay Jr., USMC, Headquarters U.S. Marine Corps.

IMPROVING FLEET COMMUNICATIONS

By Rear Admiral Edward J. Fahy, USN

Commander, Naval Ship Systems Command

(Rear Admiral Fahy was a guest speaker at the Annual Naval Communication Conference conducted at the Pentagon on 10-14 April. This is the text of his remarks.)

The support side of the Navy doesn't often have the opportunity to face such a large portion of the fleet. I welcome this chance to spell out some of the problems and projects which currently concern NAVSHIPS, and to ask you for your assistance in our combined effort to improve Navy communications. The Naval Ship Systems Command has a lot of talented, hard-working, and dedicated men bringing their knowledge and training to bear in this area.

First, I intend to tell you what the overall situation is at present, and what we see as our greatest problems - what we are doing to solve them - and where you can play a more active role in this problem-solving process.

You will hear a detailed presentation on BASELINE II Thursday. I am taking the liberty of scooping part of that story by outlining some of the findings from that exercise, since they have such direct application to NAVSHIPS.

First, today's ships contained a mixed bag of "black boxes," some old and some new.

These "black boxes" run the gamut from the 1930's to 1967. Since the 1930's, as each innovation in communications-electronics has appeared, we have done our best to keep our ships equipped with the most modern equipments. Communications, unfortunately, does not always have Number One priority when the time comes to apportion funds. Realistically, we cannot expect to refit every few years. As a consequence of several factors - the remarkable progress by the electronics industry, our three-year overhaul cycle, and restrictive shipboard space and configurations and funds - we presently have a shipboard inventory of so many different types of equipments that it staggers the imagination.

These equipments range from those of the 1930's through synthesized single sideband and now satellite terminals. Unfortunately, we must retain the unsynthesized, hand-tuned, off-line encrypted, CW capability until our relatively poor cousins - the amphibious, service force and mine craft types - catch up with the combatants such as carriers and guided missile frigates. From a realistic standpoint, we cannot expect to replace all of our outdated shipboard equipment within a short time. We can, however, try to intelligently manipulate our resources to better advantage, and thereby phase out our truly antique equipment and techniques. These old equipments, which some of you are perhaps using now, compound an already complex situation, utilize critical space, and degrade overall system performance.

The second conclusion we have reached is that it is imperative that we work study the available assets of equipment, space and people so that we can develop the most efficient operational configuration. Remember, for 20-odd years we have been obtaining new equipment and installing these individual "black boxes" into available space in our ships. These installations have been controlled by overhaul cycles, funds and the happenstance arrival of new techniques and hardware. I will discuss work study in more

Continued on next page

detail in a moment.

Third, we now find ourselves with this intolerable inventory of various shipboard equipments, which have been over the years installed in available space, completely lacking a true system quality monitoring or control capability. Naturally we have modern test equipment and we have preventive maintenance programs. But we have not adopted, either afloat or ashore, quality monitoring techniques in which configuration or circuit quality is measured continuously. We need such a system to provide not only optimum performance, but also fault detection, fault isolation, and continuous, positive, preventive maintenance.

In carrying out NAVSHIPS' responsibility for ensuring the total integration and compatibility of all systems within today's funding and personnel restrictions, it behooves us to apply the best techniques at our command - not only in engineering, but also in management. And the best example of our attack on the three problems I have mentioned is the Afloat Communications Management Office. It combines this management/engineering approach.

This new office will go a long way towards improving our awareness of your needs. It is headed by a knowledgeable senior officer from the fleet, Captain John Newland. It will be our best way of letting you know what can be done - or why we can't give you what you want just when you want it.

Captain Newland has had considerable experience in fleet communications and is well acquainted with your views and problems. His first-hand knowledge of fleet problems qualifies him well for his function of dealing directly with the fleet. He reported to NAVSHIPS from a tour as Commanding Officer of ANNAPOLIS, so I believe you will agree that he knows your side of the picture.

The creation of this new office is a concrete example of our intent to be more responsive to requests from the fleet for improved communications systems. We don't (and you shouldn't) expect that establishment of this office will work miracles overnight. However, it is one justifiable and practical way to attempt significant improvement. It will probably function first as a "fire house" for the most pressing problems; next to see that "get well" programs are administered; and third to see that priorities assigned by the Chief of Naval Operations don't get lost in the shuffle. It should break some of the traditional bottlenecks in communications problem-solving.

The Afloat Communications Management Office was set up to ensure that fleet problems are given more priority in the technical side of the house. It is tremendously important that you know where to go with your problems and your questions. We want to decrease the chances of fleet problems going awry.

One area to which this office has already directed much effort - even prior to BASELINE II - is the Afloat Communications Work Study Program. Communications work study of a particular ship is done at the request of the Chief of Naval Operations, the Type Commander, the Fleet Commander, or the Commanding Officer. The communications system is studied in its entirety. All aspects are covered - the equipment itself, arrangements, procedures, training, manning, doctrine - all relevant factors. This means, in true "total systems" fashion, looking at the man-to-equipment as well as the equipment-to-equipment relationships. After analysis of the collected data, an improved system is developed and, following approval, installed on board ship.

The first communications work study was done as a part of the overall command and control study for the CVA(N) 68. To date, studies of 12 other ships have been completed and new systems have been or are being installed. Seven aircraft carriers are in this group, including USS ENTERPRISE, as well as two guided missile cruisers and two guided missile frigates. Studies are currently underway on 16 other ships, including destroyers and destroyer types as well as some ships from the amphibious force. Let me emphasize now that these figures are much more significant than they appear on the surface. The 28 studies we have done and are conducting will be applied to a much larger number of ships, since some of them were class-type studies.

In all cases, we have found that message

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processing procedures can stand improvement across the board. Generally, they are not centralized or organized but are spread throughout the operating spaces - one of the consequences of our past practice of installing new parts of the total communications system as they become available. This leads to duplication of effort and inefficient increased motion. In one case, study of a CVA 19 class carrier showed that the average elapsed processing time for outgoing on-line messages from receipt in communications until transmission acknowledgement was 73 minutes for a sample of 2770 messages. The new equipment and space arrangement plan developed for the ship greatly simplified the incoming and outgoing message flow. So much so, in fact, that all outgoing traffic was cut to an average of 11 minutes.

It is obvious that there are many benefits to work study, and that we should apply this approach to as many ships as we can. For this particular carrier, for example, we found that there is increased operational effectiveness because of reduced processing time, reduced handling requirements, more simplified system operation, and increased supervision. Secondly, logistics requirements are decreased because of the reduction in equipment types, co-location of maintenance and operations, and simplification of future reconfiguration. Third, training requirements are decreased when the number of different types of equipment is reduced. Fourth, we were able to decrease space requirements by 860 square feet on the 02 level, which is prime real estate in this class carrier. And finally, the new system allowed a decrease in manning requirements of six men per watch. The pay-off for other ships should have about the same order of magnitude.

The Chief of Naval Operations has recommended that all new construction designs also receive communications work studies. And, under the Afloat Communication Alteration/Modification Program for ships undergoing overhaul in Fiscal Year 1968, the schedule is now being prepared and will include 38 more ships. Again, what we learn from these studies will have application to more than just those 38 ships.

As I said earlier, it just is not possible to completely separate the management and technical aspects. The greatest benefits come when they complement each other. The Afloat Communications Management Office will demonstrate that more and more clearly as it is used more and more.

I am sure you are interested in our specific plans for obtaining hardware. Perhaps the clearest indication of the level of effort is the funding support we have received and will be passing on to you in the form of equipment. For instance, in Fiscal Year 1963 we obligated nearly $26 million for shipboard communications equipment, including training equipment and support material. Installation costs, obligated two years later, brought that total to about $57 million. For Fiscal Year 1964, hardware and installation funds approximate another $57 million. For Fiscal Year 1965, the figure jumps to more than $80 million; and for Fiscal Year 1966, it comes close to $95 million. In these instances, I have combined a fiscal year figure for equipment procurement with estimates for installation of that equipment contained in the budget two fiscal years later.

We anticipate that our obligations for equipment alone during Fiscal Year 1967 will be on the order of $37 1/2 million, including a $3 million supplemental for Southeast Asia. As you can clearly see, our expenditures reached a peak in Fiscal Year 1966. Here's one example of where that money is going. In Fiscal Year 1966, about 25 percent of the equipment money - $12 1/2 million - was spent for antenna improvements, primarily new generation multi-couplers and tuners. These items will facilitate the use of new transmitters and receivers. They should reach the fleet some time during Fiscal Year 1968.

For Fiscal Years '69 through '73, we are preparing an Afloat Communications Program Change Request (PCR) which will reflect to the maximum extent possible the fleet deficiencies discovered during BASELINE II. Through this PCR we will try to get money to correct deficiencies, to modernize and update, to meet new requirements, and to fund any of the new developments which will migrate from the R&D stage into production during that time frame.

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So far I've talked about what NAVSHIPS is and will be doing, based on our recognition of the problems and what we have learned through work study. But we can only go so far. There are two things wrong with our ability to respond to fleet needs.

First, we realize that, as beneficial as it is, work study can only analyze an existing situation. It involves to a considerable degree a misconception - that the observed situation reflects future requirements. Second, the basic prescription for the operational capabilities in any given ship of the Navy reflects little if anything beyond the requirements for X receivers, Y transmitters, and Z terminals.

I promised you in the beginning of this talk that I would specify some areas where you can provide urgently needed and invaluable assistance. An article in the February issue of the Naval Communications Bulletin describes one of those areas. The author of this article, entitled "The Fleet Communicator," suggests ways that the communications officer can help improve his own situation. I quote:

"When you get to that sea billet make your needs known. Since the name of the game is documentation, continually be on record requesting justifiable items. If your critical feedback is inoperative the whole system suffers and we end up fielding a substandard team. Second best is not good enough. Make your requirements and deficiencies known. Speak-or forever hold your peace - or backlogs - as the case may be."

Let me emphasize - the name of the game, particularly in the Washington atmosphere, is documentation.

We pride ourselves on being engineers who work hard to remain conversant with the real needs of the operating forces, but we are, after all, engineers - not mind readers. Our ability to deduce true requirements is necessarily limited by the constraints of our day-to-day occupation. Many people are addressing the issue of describing operational requirements in truly operational terms.

I won't belabor this point. But I will state that you can do nothing better to help us serve you than to state your needs in meaningful terms. Let me emphasize a few all-important facts concerning shipbuilding that you should keep in mind as you frame your operational requirements.

First, shipbuilding is a long lead-time process. It is not enough for you to state today's requirements today. We are contracting for ships that you will not see for three or more years. So your requirements - your operational requirements - must be projected an equal time into the future for us to respond to them effectively. By the same token, ship alterations have a comparable lead time. We have little now and in the future will have less ability to respond to your requests, stated in the last year of construction or during the last four months prior to overhaul.

The second thing you should keep in mind is that the past history of communications has been one of meeting increased requirements with an increased number of equipments. The result is that we are running out of ship, both in terms of space and frequency spectrum.

Much of what I have said so far really addresses the problems involved in using existing numbers of equipments more effectively. Part of this burden you must bear. We can try and will do our best to provide you with the means of greater communication capability. You, however, must bear the burden of knowing your system well enough to realize that increased potential for effectiveness.

Additionally, a burden in dollars will be imposed in areas where you have been accustomed to addressing only the problem of funding hardware procurement. When we say work study, we really mean a relatively low-cost study and a very expensive and extensive rearrangement, often complete, of facilities to implement the findings of the study. Also, we must face and you ultimately must fund other costly measures, such as topside reworking of ships to reduce the rusty-bolt effect.

Admiral Forrest P. Sherman made this

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statement when he was Chief of Naval Operations:

"Successful communications systems do not just happen. They represent the combined skills of the engineer, the craftsman, the technician, and the operator. They reflect the countless hours spent at drawing boards and in the development laboratories of a vast electronics industry, the painstaking work of artisans and trained installation teams, the carefully drawn plans of the tactician, and the proficient hand of the operator who ultimately mans the controls."

In today's complex world, I believe that statement needs further amplification. NAVSHIPS has the team of engineers, craftsmen, and technicians - that has not changed. But the operator must do more than just man the controls. He is obligated to make his needs and wishes known - and to let them be known in the right places so that some action can be taken. As I said earlier, I have a fine group of people who are extremely anxious to do whatever they can to help their Navy stay on top. With your help and your savvy we can do it.

I say all of these things to remind you that NAVSHIPS is working with the information available, and the constraints imposed at any given instant, to utilize your ship margins, at the cost of your ship operating time - but with the hope of meeting your requirements. I suggest to you that you never benefit by ducking the issues. We cannot absolve you of real life constraints and limitations. Moreover, no ship problems are "NAVSHIPS' problems." They are your problems. We simply work to do our best to solve them for you.

KODIAK'S ORESTES NET GETTING HEAVY USE

Since its initial activation during November 1965, the itinerant ORESTES ship/shore net at U.S. Naval Communication Station Kodiak, Alaska has become a much utilized and highly reliable communication capability.

Following its activation, and until the end of 1965, NAVCOMMSTA Kodiak processed 344 ORESTES messages. From its infancy to its adolescence, 1966 proved ORESTES to be a reliable and fruitful venture, producing a total traffic yield of 3,419 messages for this 12 month period. During the first four months of 1967, with the installation of two additional systems, traffic totals showed a yield in excess of 1,000 messages per month.

The geographical location of NAVCOMMSTA Kodiak provides extremely fine north-south propagation paths offering ORESTES service on three systems over unusually long distances. Messages such as the following are evidence of this highly desirable natural phenomenon: "TKS/SITTING 2,000 MI FROM YOU AND CAN'T RAISE ANYONE BUT YOU. TKS VERY MUCH. AR!" NAVCOMMSTA Kodiak has further extended its ORESTES facilities to include Coast Guard vessels engaged in Alaskan patrol duties.

Two of the three ORESTES systems at Kodiak utilize non-directional receiver antennas selected from various locations in the "antenna farm," thereby providing space diversity reception. Companion transmitter antennas for these two systems also supply a non-directional capability. The remaining ORESTES system is used for directional communications only.

Through plotting the movements of various ships and observing receive signal levels, the most suitable system can readily be determined for any particular call. With installation of additional transmit RLPA antennas, this TRANSPAC follow-the-fleet service will continue to grow and further enhance the opportunity to communicate with NAVCOMMSTA Kodiak.

The reply to a "Here's the Answer" question published in our December 1965 BULLETIN (No. 87) stated that Roman numerals in the text of a message should be transmitted as ROMAN ONE, ROMAN TWO, etc. Subsequent research has disclosed that this was in error. Paragraphs 304 ACP 129(B), 208 ACP 124(B), 201 ACP 127, et al., state, inter alia, that messages shall be transmitted exactly as written; therefore, for example, the Roman numeral "IV" is transmitted as "IV" (.. ...-).

DESIGN WORK STUDY FOR NAVAL COMMUNICATIONS

By Lieutenant junior grade Steven F. Cunningham
Communications Programs Division

Many studies have been conducted to determine optimum design principles for new construction ships. The concept of Design Work Study evolved from these studies, and is now being utilized with increasing frequency to determine an optimum shipboard communications system which may be installed during yard overhauls and availabilities.

What is Design Work Study, and how can this concept help the fleet communicator?

A Design Work Study is a critical evaluation of existing facilities, utilizing systems engineering and management techniques, aimed at developing the most efficient combination and arrangement of men and machines. Work study techniques have been successfully employed in many areas aboard ship, but results in the external and record communications systems have been particularly encouraging.

The goal of work study is to design a system which will enable the ship to perform more efficiently all communications functions required in support of the mission. It has been determined that many ships possess an inadequate and inefficient arrangement of equipments installed piecemeal with little regard for functional relationships. In addition, installations are not standard throughout ship types and classes, causing variations in operating procedures.

Generally, there is an insufficient correlation between man, machine and function resulting in unnecessary delays in processing, which are intolerable in the present high message volume environment.

Work studies are conducted in a systematic sequence of events, beginning with the definition of communications requirements.

A work study team examines existing operational and communications doctrine, applicable operation orders and instructions, and requirements for various special missions in order to determine the ship's functional requirements. These requirements are then translated into the communications systems necessary to support the stated mission.

The availabilities of installation funding, equipment, and industrial capacity are then assessed to determine the extent of modification which may be made during the assigned yard availability.

In this process, two approaches may be taken in developing the optimum suit.

In one approach, an ultimate arrangement is designed based on state of the art equipments and known requirements. A design is submitted for approval and the installation is accomplished providing space and weight for future installation of systems or equipments which are not available at the time of the yard availability.

In another approach, given a list of approved alterations, available equipments and funding limitations, an optimum design is developed within these parameters.

When the scope and objectives of the study have been determined, the work study team will visit the ship to observe operations and record pertinent data. An attempt is made to observe communications during a variety of operational situations. Data is recorded throughout the communication system, utilizing various measuring devices, industrial engineering tables, arrangement and wiring plans, structural diagrams and communications logs, files, forms and check-off lists.

Information recorded includes time/motion studies of operating personnel during various message traffic conditions, analysis of equipment utilization, maintenance and repair functions, and recording of space availability and arrangement. The emphasis

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during this observation and recording phase is on determining the correlation between equipments and the operator and maintenance personnel using them. This facilitates the design of a functional arrangement that will produce more efficient operation.

Data stored in the work study contractor's computer data base relating to message handling times, message volumes, number and use of circuits, personnel requirements and operating procedures is incorporated in the analysis phase of the study to supplement on-the-scene observations.

The analysis of recorded data is accomplished using Design Work Study methods. Some of the techniques used are time/motion analysis, correlation charting, flow charting, technical drawing, photography and scale mock-ups. This method of analysis identifies the deficiencies in the present system and suggests the best solutions.

As mentioned earlier, many of the deficiencies are common throughout the fleet. These have been observed in normal fleet operations as well as in special exercises such as Baseline II.

Once a ship has been work studied, it becomes a prototype for other ships of its class, permitting a cost effective application of the initial design work study to all ships in the class. Subsequent alterations are accomplished after incorporating design changes necessitated by further studies or technological advance, and after a "ship check" to adapt the proposed arrangement to the physical plant.

Work study analysis of the communications system produces recommendations for remedial action. These recommendations are in the form of new procedures, new equipments and installation of a functionally oriented communication space arrangement designed to achieve the optimum man/man, man/machine and machine/machine relationship.

The success of the Design Work Study concept has been significant, and numerous benefits are being realized by fleet communicators. Message handling capacity is greatly increased. Many of the ships that have received work studied arrangements have experienced a four-fold or greater increase in message processing capacity.

Another of the prime benefits is standardization of communication suits throughout classes and types of ships. This standardization of physical plant permits standardization of operating procedures and record systems. The more efficient operation of the communications system may ease the watch standing burden enough to allow greater efforts in training and preventive maintenance.

The Chief of Naval Operations, through the Chief of Naval Material and Naval Ship Systems Command, has initiated a broad program implementing work study in shipbuilding and alteration.

Normally, the work study team will board the ship for the data recording phase about one year prior to the commencement of overhaul. The analysis and review phase follows data recording and should be complete by the time of issue of the 120 day letter.

After the overhaul is complete, contractor personnel may be available to instruct ship's personnel in the operation of the system, to ensure maximum utilization and benefit. A booklet may be provided for use in training if contractor personnel are not available. As more ships receive work studied arrangements, the training and operation will be incorporated in fleet and type training programs.

It has become increasingly apparent that modern management and engineering techniques must be employed in Naval Communications to ensure that the system is capable of handling the ever mounting volumes of message traffic without sacrificing any of the elements of reliability, rapidity and security.

Earned While On TAD From COMMSTA:

MEDAL OF HONOR TO MARINE CAPTAIN BUCKLEY FOR BRAVERY IN VIET NAM

Captain Harvey C. Barnum, USMC

A former Assistant Officer-in-Charge of the Wahiawa-Kunia Marine Detachment at U.S. Naval Communication Station Honolulu recently received the nation's highest military award. Marine Captain Harvey C. Barnum was presented the Medal of Honor at a ceremony in Washington, D.C. The presentation was made by Paul H. Nitze, Secretary of the Navy. Barnum won the medal while on temporary active duty in Viet Nam. At that time his regular duty station was at NAVCOMMSTA Honolulu. He was cited for exceptional bravery and leadership while engaged in a battle with the Viet Cong on 18 December 1965.

Actually, the men he rallied on a hot afternoon in the jungle of Viet Nam didn't even know him. Barnum was acting as a forward artillery observer, temporarily attached to a company of the 9th Marines at Ky Phu. The company was ambushed in the open by a band of Viet Cong. Intense fire mortally wounded the company commander and radio operator. Barnum, as next senior officer, moved out into the open and took command of the besieged unit. He directed a counter attack against the hidden Viet Cong. He gave aid to the dying commander and strapped the radio on his own back.

Without hesitation he took over, encouraged all units, made swift decisions. His calmness served to stabilize the badly decimated unit. Barnum called in air support on his own position, and from a vantage point on top of a hill, directed the aircraft towards the enemy positions, all the while exposing himself to enemy fire. Moving from platoon to platoon through the open country, he rallied the men, even though the Marines were exhausted and many seriously wounded. He supervised removal of dead and wounded by helicopter, then led an advance over 500 meters of open terrain in a strong counter attack. He then rounded up the survivors and set up defense positions for the night. "Through his extraordinary initiative, his professional skill, his inspirational valor in the face of savage enemy fire, and his extreme calm in a moment of major crisis, all despite constant personal risk and far in excess of his required duties, he brought order and effectiveness to a gravely injured and disorganized unit . . .", the citation read. Corporal Patrick J. Iaourato, Jr., USMC, who witnessed the action, said Barnum's "willingness to risk his life repeatedly to save others and accomplish this mission was the most inspiring experience I have ever witnessed."

Private First Class David L. McClain, USMC, wounded twice in the action, said, "Captain Barnum is undoubtedly the bravest man I have ever seen. He exposed himself to heavy fire all afternoon, and had fire concentrated on him any number of times by the Viet Cong, and how he kept from getting killed or badly shot up I will never know."

Barnum emerged from the battle with nary a scratch.

HARD TO BELIEVE

The day after the battle, while camped in a rice paddy, a Marine radio operator jokingly said to Captain Barnum, "Say, you might get the Silver Star."

Continued on next page

Then, a few days later, Barnum walked into a mess tent and was told by a fellow Marine: "General Walt has put you up for the Medal of Honor."

"I dropped my coffee mug right there," Barnum said.

When asked how a man could expose himself to hostile fire from all sides and rally a group of scared, battered Marines, who were pinned down in an ambush, Barnum replied, "It's sort of like after the kickoff during a football game. Once you start to move, you don't think about anything but doing the job. If there was any fear involved, it was after everything was over. That's when it sorta grabbed me."

When General Wallace M. Greene, Jr., Marine Corps Commandant, read off the Medal of Honor citation at the ceremony in Washington, Captain Barnum said he just kept thinking "it's hard to believe it is me."

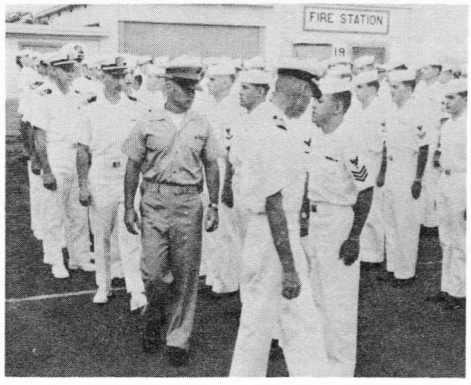
FANFARE IN WASHINGTON

While in Washington for formal presentation of the Medal of Honor, Barnum received the treatment reserved for heads of state and other dignitaries. There were luncheons, dinners, meeting with top military officials and congressmen, a special dinner at the South Vietnamese Embassy, a tour through the White House, and an excursion to Mt. Vernon with his parents, who were present for the week-long ceremonies.

HAS CAREER PLANS

Captain Barnum plans to make a career of the military. He would like to get back to Viet Nam. His reasoning is simply that he is a Marine, Marines go where the fighting is, and Viet Nam is the place.

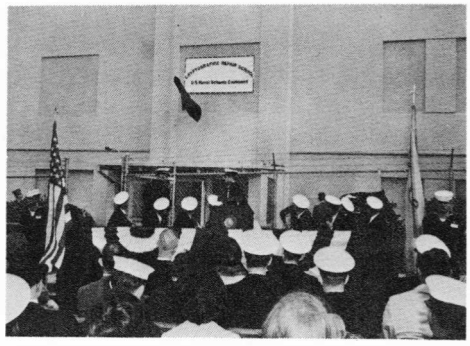
Barnum is a native of Chesire, Connecticut. He graduated from St. Anselm's College in Manchester, New Hampshire. He reported aboard NAVCOMMSTA Honolulu in April, 1965. From here he was sent TAD to Viet Nam. Shortly after his return, he was transferred to Pearl Harbor to serve as the Officer-in-Charge of the Hawaiian Armed Services Police. He left Hawaii on 20 March 1967 to attend artillery school at Fort Sill, Oklahoma, and to await further orders. (NAVCOMMSTA HONO TRADE WINDS, 24 March)



Before leaving Hawaii for Fort Sill, Okla., Medal of Honor winner Captain Barnum conducts personnel inspection at his former duty station, NAVCOMMSTA Honolulu.

NEW CRYPTO REPAIR SCHOOL DEDICATED

New facilities for a Cryptographic Repair School at Mare Island, Vallejo, Calif., were officially dedicated on 11 April during ceremonies outside the new building. The new school occupies the eastern wing of Owen Center, a Naval Hospital recreation complex before the site was reestablished as the Naval Schools Command. Cost of the rehabilitation project was $500,000. A windowless, tightly guarded structure, the school will instruct personnel from all branches of military service in the maintenance and repair of military communications equipment.



Sign over entrance of newly completed Cryptographic Repair School building is unveiled during dedication ceremonies.

NAVCOMMSTA PHIL AWARDED NAVY UNIT COMMENDATION

U.S. Naval Communication Station Philippines has become the first communication station to receive a Navy Unit Commendation for communication support in a war zone.

Rear Admiral Herman J. Kossler, USN, Commander Naval Forces Philippines, presented the citation at a special ceremony in San Miguel.

The Unit Commendation, signed by Secretary of the Navy Paul H. Nitze, is for "exceptionally meritorious service" from 1 August 1964, to 1 August 1966.

In accepting the citation, Captain R.R. Deibler, USN, the COMMSTA's commanding officer, said, "Our responsibilities in connection with the overall effort in Southeast Asia are even greater today than they were during the period specified in this citation.

"However, to know that these responsibilities and endeavors are recognized makes the burden just a little bit lighter and the long hours just a little less tedious."

The citation notes the station's support of "the United States SEVENTH Fleet, Marine Units in South Vietnam and other United States Forces actively engaged in resisting the aggression of communist forces from North Vietnam.

"Although personnel and equipment increases did not match the increased workload created by the rapid buildup of military forces in Vietnam," it continues, "the officers and men of Naval Communication Station Philippines met this challenge by working long, arduous hours to revamp procedures and to design new equipment or devise new uses of existing equipment in order to handle the tremendously increased volume of communications traffic."

It also takes note of the station's Vietnam detachments which "provide specialized services for the forces engaged with the enemy."

The citation commends the "dedicated and inspiring performance of duty by the officers and men" of NAVCOMMSTA Phil, which "reflects great credit upon themselves and the United States Naval Service."

Personnel attached to the station during the effective period will be authorized to wear the Navy Unit Commendation ribbon.

COAST GUARD SPACE MESSAGE CALLED 'BREAKTHROUGH'

On 7 April, the U.S. Coast Guard sent the first official message from ashore to a ship at sea via the new NASA ATS-1 experimental satellite, launched from Cape Kennedy last December.

The message was from the Commandant of the Coast Guard to the cutter KLAMATH in the Pacific Ocean. The Coast Guard called the broadcast "a remarkable breakthrough that will add a new chapter to maritime communications."

The broadcast originated at the Applications Technology Satellite Operational Control, NASA Goddard Space Flight Center, Greenbelt, Md. The signal was sent from Goddard via telephone lines to the Mojave Test Site, Goldstone, Calif., and then beamed some 22,000 miles out in space to the ATS-1 satellite. The spacecraft in turn sent the message to the awaiting Pacific Ocean-stationed KLAMATH.

The KLAMATH is continuing to explore maritime communications capabilities of the NASA ATS-1. The cutter is serving as an ocean station vessel, gathering weather information at the Pacific Ocean mid-point between the Hawaiian Islands and the West Coast of the U.S. mainland.

BRONZE STAR AWARDED TO LIEUTENANT VAGENAS

An officer assigned to U.S. Naval Communication Station Honolulu has been awarded the Bronze Star with Combat "V" as a result of his actions while on Temporary Additional Duty in Vietnam.

Lieutenant James T. Vagenas was awarded the medal for heroic and meritorious service while serving as Officer-in-Charge of a communication unit in Vietnam from September 1966 to March 1967.

The medal was presented by Captain W. H. Wettlaufer, the COMMSTA's Commanding Officer, at a recent ceremony. The accompanying citation read in part:

"His inspiring leadership gained an outstanding reputation for the effectiveness of United States Naval Communications in the area of Vietnam. In late January 1967 Lieutenant Vagenas, acting as communications advisor, accompanied River Patrol Section 511 on detached duty to Vietnamese Navy Coastal Group 36 base at Long Phu. On two occasions during this duty PBR's in which Lieutenant Vagenas was embarked came under enemy fire. He calmly assisted in suppressing the hostile fire by manning a Mark 79 grenade launcher. On the night of 27 January the Coastal Group Base came under enemy mortar and automatic weapons attack. Courageously, Lieutenant Vagenas assisted the evacuation of the PBR's to the main Bassac River and the wounded personnel to an upriver helicopter landing pad, despite the necessity of having to run a gauntlet of enemy fire over a mile long. Throughout this evacuation he exposed himself to enemy fire in order to spot enemy weapons positions for supporting arms. By his prompt and courageous action he was undoubtedly instrumental in the saving of many lives and in breaking up the enemy attack. His courage under fire, dedication to duty and inspiring leadership were in keeping with the highest tradition of the United States Naval Service."

FILES AND LOGS

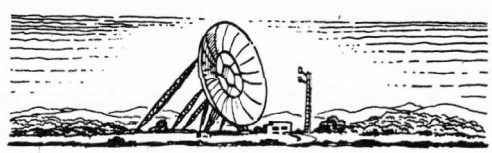
Prior to Exercise BASELINE II, conducted in EASTPAC in October 1966, forms were distributed to ships scheduled to participate in the exercise to determine the types of files and logs being maintained by communications personnel. The complete forms revealed that many ships are devoting valuable time and stowage space to the maintenance of files and logs which are NOT required.

The following is a list of files and logs which must be maintained by communications personnel and the authority for same:

Files	Authority
Communication Center	SECNAVINST 5212.5
Cryptographic Center	SECNAVINST 5212.5
Radio Station	SECNAVINST 5212.5
Visual Station	SECNAVINST 5212.5
Fleet Broadcast	SECNAVINST 5212.5
General Message	NWP 16

Logs	Authority
Radiotelephone Circuit	SECNAVINST 5212.5
Radiotelegraph Circuit	SECNAVINST 5212.5
Radioteletype Circuit	SECNAVINST 5212.5
Visual	DNC 5
Frequency Meter	DNC 5
Publications Inventory	SECNAVINST 5212.5

In addition to the above, certain other files and logs are required for safeguarding classified material. Attention is invited to the effective editions of OPNAVINST 5510.1 and RPS-4. It is recommended that all ships carefully review their existing logs and files and maintain only those required.



RADIO FREQUENCIES IN OCEANOGRAPHY

By Lieutenant Junior grade J.J. Murray
Assistant Liaison Officer
Navy Radio Frequency Spectrum Division

In many ways, man's knowledge of the seas has remained unchanged since the first ship set sail upon the oceans. Our knowledge in this area, though vast, is unsystematic and tinged with mystery. Thought of alternately as God or woman, the seas' elemental force has been feared more often than understood.

Today, while astronauts tumble through space, men are beginning to view the sea differently. While as awesome as ever, the oceans are seen to be a vast potential ally in combating hunger and despair. It has become urgent, if not to tame the sea, then to control and use it with greatly increased effectiveness.

The United States Navy has played a central role in the promotion of programs to further define the nature of the oceans. One such program has been developed for widespread monitoring of the oceans by means of buoys stationed in critical locations throughout the world.

These buoys are planned to be self-sufficient automatic oceanographic data collection facilities, generating data relative to tide formation and direction, temperature fluctuation, meteorological/ionospheric conditions and surface wind factors, vital to civil development of the seas' potential. The information which they gather will be transmitted automatically to fixed and mobile stations for collation and evaluation.

The Navy Radio Frequency Spectrum Division of CNO (OP-944) enters this oceanographic planning phase with regard to transmission methods of the considerable data to be collected.

As is currently proposed, the facilities will utilize High Frequency (HF) radio spectrum resources in the Maritime Mobile band to transmit the information collected. Since the buoys are to be far-flung in location and many in number, an efficient means of electronic transmission over long distances is vital. Only HF fits this bill. Though satellites may come to be used in the future, HF presents the only realistic approach to the problem at this time.

It is not easy, of course, to obtain HF allocations. The 3-30 Mc/s band is highly congested, a situation not likely to change in the near future. But, if the sea is to become an asset to man, the means must be found to efficiently collect and relay information measured about the oceans. In order to obtain the needed frequencies, the United States will propose at a World Administrative Radio Conference (WARC) on Maritime Mobile matters to be held in Geneva, Switzerland, from 18 September to 7 November this year, that radio telecommunications in oceanography be considered as being akin to, and an integral part of, maritime communications. Frequency support for this need would thus be made available from frequencies currently allocated to the Maritime Mobile Service.

Preparatory work toward the WARC has proceeded in depth at the U.S. national level for the past two years. WARC Agenda Item 2.4, which deals with frequency support for oceanography, has not been received with wholehearted support by other nations. A major obstacle to foreign interest in the concept has been the absence of detailed plans setting forth requirements, operational details, methods of satisfaction, etc., for the system.

At the national level, a "representative" U.S. plan is under development for approval by the Interagency Committee on Oceanography (ICO)/Interdepartment Radio Advisory Committee (IRAC)/Federal Communications Commission and consideration by other countries. This plan is to reflect U.S. requirements, but lend itself to integration with similar needs of other countries. The Environmental Science Service Administration (ESSA), of

Continued on next page

Commerce, will provide technical support, particularly in the ionospheric propagation area.

Since the concept for meeting the foregoing oceanographic need embraces collection of information from numerous buoys which will require very small bandwidths (on the order of 100 cps per channel), a relatively small number of frequencies will be needed to support the service. The products generated by buoy data collection, however, will be well worth the effort expended. Knowledge gained about the sea, and uses developed therefrom, will more than amply repay whatever initial investment is made.

On An Irish Mountain Top:

GROUND BROKEN FOR NAVY TRANSMITTER SITE

Ground breaking ceremonies were held in late March atop Benbradagh Mountain, 1350 feet high, for the future home of the transmitter site of U.S. Naval Communication Station Londonderry, Northern Ireland. The mountain is near the town of Dungiven, 35 miles from the station.

Manning the shovel was Captain C.J. Zane, USN, Commanding Officer of the COMMSTA. He was assisted by Lieutenant Commander James Dobler, CEC, USN, and Mr. J.C. Comati of the European Division, Naval Facilities Engineering Command, London. Also present were Lieutenant junior grade John Ahl, resident Officer in Charge of construction at Londonderry; Mr. John Rainey, Jr. and G.M. Walker, representing the Rainey Construction Company, Ltd., contractor for the site; and Mr. Arthur Abbott and Mr. Frank S. McClellan, attached to the Naval Facilities Engineering Command in London.

Phase I of Project "Hulldown" (Civil Works and Antenna Erection Project) has already begun. This phase includes building a road to the top of the mountain and the foundations on the mountain top. Cost of the overall transmitter site project is estimated at nearly 3 million dollars.

The new facility is expected to minimize communications interference to local radio stations by Navy equipment.

The road was scheduled to be opened by 1 June and completely finished by October, at which time work will begin on the antennas.

The completed project will include air transportable communications vans atop the mountain, along with three smaller buildings: a small public works shop, a multi-purpose building and an administrative office.

Target date for operational activation is 1 November.

This project involves considerable engineering skill, since the entire top of the mountain is peat bog, comprised of partly decayed plant matter usually found in ancient swamps. It has been somewhat surprising to find it atop this huge mountain in layers averaging 8 feet deep. The entire level of peat bog must be removed and replaced with earth and aggregate before building can start.

Captain C. J. Zane breaks ground for new transmitter site on top of Benbradagh Mountain.

DATA CIRCUIT TO GTMO ACTIVATED AT FT. ALLEN

(From the NAVCOMMSTA Puerto Rico SPECTATOR, March 1967)

With the ever increasing needs of today's technical and widely dispersed Navy, speed in receiving logistic requirements plays an important role in defense readiness. The 20 word per minute CW hand key was surpassed by the 60 word per minute teletype. The 60 word per minute teletype in turn was made obsolete by the 100 word per minute teletype. With today's requirements, even greater speeds are required, greater than those that can be supplied by a teletype machine. This requirement has created a shift in operation from teletype to data communication.

A link in this evolution to a more sophisticated system has been activated at Fort Allen. A data circuit utilizing IBM cards rather than teletype tape was activated between Fort Allen and NAVCOMMSTA Guantanamo Bay. This circuit furnishes the users at Guantanamo with direct access to the Automatic Digital Network (AUTODIN) in the CONUS area. Naval Supply GTMO can now feed spare parts requirements directly into the computer at NSD Norfolk or ASO Philadelphia. A recent timed test revealed that 12 minutes after a requirement for a spare part was transmitted at GTMO, ASO Philadelphia had the readout from their computer with the availability of the spare.

The Fort Allen to GTMO circuit utilizes off the shelf IBM equipment with modifications to make the IBM units compatible with normally used teletype equipment. The data signal is transmitted to GTMO on one channel of the high frequency, single sideband radio trunk to Guantanamo from Fort Allen. Since activation in September 1966, 75,031 data cards have been transmitted with an average reliability of over 98 per cent.

Recent conversations with Naval Communication System Headquarters in Washington disclosed that this data circuit was the only data circuit in the Navy operating in a high frequency trunk. A more reliable transmission path is normally required. What others find difficult or impossible, NAVCOMMSTA Puerto Rico has accomplished with ease.

Operated By Navy:

FIRST DCA SWITCHING CENTER OUTSIDE CONUS ACCEPTED FORMALLY

The First Defense Communications System (DCS) Automatic Electronic Switching Center outside mainland United States, at Wahiawa, Hawaii, was accepted formally by the Navy for the Defense Communications Agency on 3 April.

The Hawaii Center is part of the AUTODIN (Automatic Digital Network), planned as a world-wide network to accept, relay and deliver data, teletypewriter and computer communications between various types and combinations of transmitting and receiving equipment. AUTODIN supports Department of Defense communications needs in the areas of supply, inventory control, personnel, finance, budget, operations, intelligence, and medicine.

Eight other AUTODIN switches will be installed in the Pacific area, and three centers are planned for Europe.

The Hawaii Center, operated by U.S. Naval Communication Station Honolulu, is a part of CONUS AUTODIN, which now has eight centers in existence: at McClellan AFB, Calif.; Norton AFB, Calif.; Tinker AFB, Okla.; Gentile AFS, Ohio; Andrews AFB, Md.; Hancock Field (Syracuse, N.Y.); Albany, Ga.; and Fort Detrick, Md. The Albany and Syracuse stations also are Navy-operated.

DNC-14(CW) - A NEW APPROACH

By Lieutenant R.T. Neff
Head, Navy Radio Frequency Spectrum
Activity Liaison Branch, Op-944L

Recent use of oblique ionospheric sounders by the Navy has indicated certain shortcomings in the data content of the DNC-14 series. In the edition of DNC-14 to be effective for June, July, and August 1967 (DNC-14(CW)) a new approach has been undertaken to correct these deficiencies.

One category of inaccuracy has involved the method of choosing sample circuits to represent all possible circuits in the ocean areas. Heretofore, sample circuits were chosen 60 degrees apart, in longitude, which resulted in errors up to two hours as regards the time during which specific frequency bands should be used. Through a revised method of sample circuit selection, this error factor is reduced by approximately one half.

Inadequate choice of sample circuits has been demonstrated in other ways, as well. In the past, sample circuits in only the North, South, East, and West directions were analyzed. No provision was made for circuits bearing Northwest, Northeast, Southwest, or Southeast, further reducing the publication's actual usefulness. In DNC-14(CW) a 360 degree coverage is attained through more efficient circuit selection.

Previously, frequency bands applicable to one month were made to serve for three months. This resulted in small errors compared to the above, but sufficient to degrade the overall accuracy of the publication. The DNC-14(CW) utilizes specific variables for each month, thereby achieving a unique monthly output.

In addition to improved methods by which frequency bands are computed, a more exact procedure of entering the tables, without reference to distance, has been incorporated. Let us examine this new system of locating the correct frequency band to use in a given case.

First, the water portions of the earth are divided into 34 so-called "reference areas." Each of these areas is 30 degrees wide and 40 degrees deep. Arranged in three bands circling the globe, the South latitude band is centered on 40 degrees S, the North latitude band is centered on 40 degrees N and the center, or equatorial, band is centered on the Equator (see Figure 1, an extract from DNC-14(CW)).

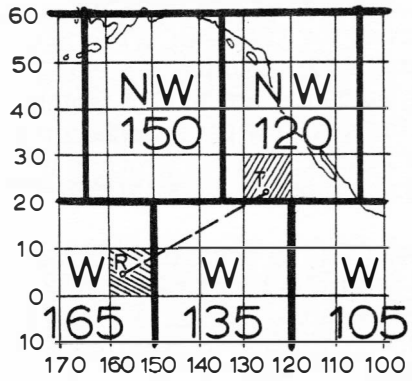


FIGURE 1

Since it is not practicable, due to the size of the task, to produce frequency band predictions for all the myriad instances which might develop in the Fleet, it is necessary to choose certain sample circuits, varying in bearing and range, from which frequency band predictions for analogous real circuits may be determined. DNC-14(CW) uses 12 of these sample circuits, for each "reference area," which are pre-selected for the operator and designated by a letter. Figure 2 is a replica of 10 x 10 degree squares, labeled A thru L, centered about a randomly selected transmitter station and receiver site indicated as being in the shaded areas marked "T" and "R," respectively, in Figure 1.

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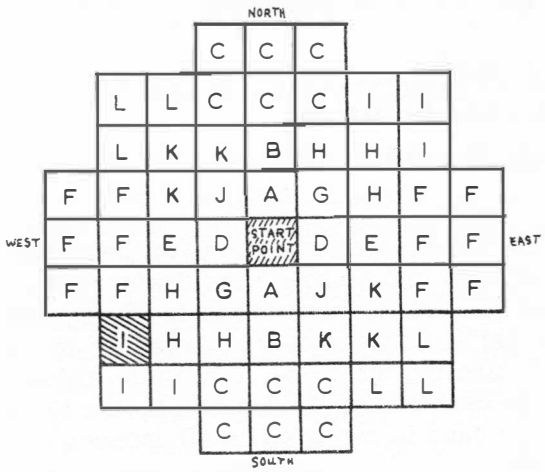


FIGURE 2

Having learned the "metes and bounds" of this new approach, it is now possible to advance to the "grammar," or processes, involved in using the DNC-14(CW). Since the sole object of the DNC-14(CW) is to provide the operator with optimum frequency bands, and these bands are located in tables, the object of the next few paragraphs is to acquaint the reader with the process of entering the tables.

Process One is essentially a means of determining in which reference area a point, halfway between the transmitter and receiver, is located. Thus, in Figure 1, the halfway point between "T" and "R" is located within reference area W135. (Should this halfway point be located on any border, the correct reference area will be the adjacent section perpendicular to the transmitter-receiver line and toward the nearest magnetic pole.)

Process Two involves selection of the correct sample circuit. This is done by transposing the transmitter location from Figure 1 to "Start Point" in Figure 2, and the receiver location to the appropriate 10 x 10 degree lettered square in Figure 2. Thus, in the example, "T" is placed at "Start Point" and "R" is placed at square "I" in Figure 2.

Combining W135 and I, the table listing W135-I is derived. Under this table the correct frequency band for any given hour will be listed. Thus, in the example, at 0500Z in August under table listing W135-L (see Figure 3) the correct frequency band to select is 16.4 Mc/s (Frequency of Optimum Traffic (FOT)) and 11.8 Mc/s (Lowest Usable Frequency (LUF)).

The understanding of FOT and LUF is fundamental to the usefulness of the DNC-14. FOT, as its name implies, indicates the most reliable frequency available. LUF is the lowest frequency at which 90 percent or above reliability will be experienced normally. The LUF-FOT band, then, represents the group of frequencies which should afford a circuit reliability of 90 percent or more.

Good circuit reliability usually extends to about 10 percent above the FOT. A zero (0) in the LUF column, as is seen for several hours in Figure 3, indicates a condition which is referred to as "LUF-above FOT." Under this condition, poor circuit reliability for all frequencies in the HF spectrum is predicted.

AUG - APPLICABLE TO W135-I

GMT	LUF	FOT	GMT	LUF	FOT
1	15.5	18.3	13	0.	9.3
2	14.4	18.9	14	0.	8.4
3	12.7	17.6	15	0.	12.6
4	12.7	17.1	16	14.1	16.1
5	11.8	16.4	17	14.4	17.8
6	10.9	16.3	18	0.	16.8
7	10.7	15.9	19	16.1	17.4
8	10.4	15.6	20	16.4	18.1
9	10.1	15.4	21	16.7	18.0
10	9.8	14.7	22	16.4	17.5
11	10.1	12.4	23	16.1	17.0
12	10.1	11.5	24	15.2	17.5

FIGURE 3

If a circuit is to be maintained several hours, a frequency should be chosen in the LUF-FOT band which will remain within the band over the duration of the transmission, or such that a minimum number of frequency shifts is necessary. In the example, the circuit could be maintained from 0500Z to 1200Z operating at 12 Mc/s. Thus, for an extended transmission commencing at 0500Z, 12 Mc/s would possibly be a better choice, even though 16 Mc/s is nearer the FOT at 0500Z.

Continued on next page

During any gradual enhancement of solar activity over three or four days, the FOT is increased with increases in the relative sunspot number, an index of solar activity. This effect was experienced during 20-31 March 1967, when the relative sunspot number increased from a normal 85-95 to an enhanced 190-210, causing the daytime FOT to increase by 65 percent and the nighttime FOT to increase by 50 percent. A significant increase in the LUF also accompanied this enhancement.

During short term solar flare activity, usually less than 3 days, increases in radio noise and absorption by the reflecting medium occurs, with an accompanying LUF increase, occasionally to the point of continual "LUF-above FOT" condition.

Such variations from normal conditions cannot be accounted for by the DNC-14 series. However, supplementary information is provided by a standard CNO message as given in OPNAVINST 2430.4 and by WWV broadcasts. Adjustments to the listed frequency bands can be made accordingly.

With the meaning and variations of the LUF-FOT band in mind and an understanding of the data retrieval methods employed, the DNC-14(CW) provides an accurate and time-saving reference for determining ship/ship or ship/shore optimum propagating frequency bands.

Any suggestions for further improvement of this publication are welcomed and may be addressed to CNO (Op-944L).

A NOTE ON UPDATING JANAP 195

By Lieutenant junior grade James W. Goetz, USN
Head, Radio Wave Propagation Section
Navy Radio Frequency Spectrum Activity

One of the most frequently consulted Navy publications is the Basic Armed Forces Communication Plan, U.S. Navy Frequency Plan - better known as JANAP 195(H). Keeping this JANAP updated is extremely important and requires thorough and accurate records.

Because of the frequent use and overall importance of the information promulgated, it was decided in 1963 that JANAP 195(H) should be updated by a printed change on a weekly basis - more frequently than any other joint publication.

CNO receives daily changes to frequency information. During the course of a week enough changes accumulate to assemble a printed change of approximately 30 pages. Pages to be incorporated into a change are selected according to the following priority: Annex B (Broadcast); Annex A (Ship/Shore); Annex E; the remainder of Part I including the chapters; Annex H; Annex G; and the remainder of Part II.

These pages are taken directly from the Master Copy, assembled in the proper order with a new letter of promulgation each week, and sent to the contract printer (who is responsible for printing, assemblage and distribution). Printing and assemblage require two weeks, and a period of five weeks is allowed for distribution. This five week difference between the date of the Letter of Promulgation and the effective date of the change is to ensure that all holders, worldwide, receive the change prior to the effective date.

A new change should be page-checked immediately upon receipt in order to allow time for ordering replacement for a defective copy. All comments concerning content of a change to JANAP 195(H) should be directed to the CNO (OP-944). Comments concerning printing and distribution of a change should be directed to the CNO (OP-09B84) in order to ensure immediate attention.

HERE'S THE ANSWER

Question

On a three masted ship, the national ensign is to be flown at the gaff on the mizzen mast. In which publication is this spelled out? DNC 27 and U.S. Navy Regulations both state it will be flown at the gaff, but neither cover the location of the gaff.

If a flag officer (eligible to fly a personal flag) goes on leave, but is not going to be gone in excess of 72 hours, is his absentee indicator flown? The Allied Naval Signal Book states that the indicator will not be flown when the officer is gone in excess of 72 hours, but it makes no mention as to whether a leave status has anything to do with it.

ACP 129(B) states that ships relaying emergency alarm signals to the OTC will fly the originator's call inferior to first substitute on an adjacent halyard. It also states that the OTC is not required to repeat the call. This would indicate that OTC also is in an emergency situation. In this case, shouldn't OTC also be required to hoist the call of the originator, to avoid the possibility of confusion as to who is actually in the emergency situation?

SMC M. Pope, USN
USS NEWPORT NEWS (CA-148)

Answer

Ships underway will display the ensign from the gaff. The Naval Ships System Command advises that each ship should have only one gaff and it is to be located on the aftermost authorized mast.

An officer's personal flag and absentee indicator will be displayed whenever he is absent from his command for a period of 72 hours or less. The reason for the officer's absence is of no concern. It should be kept in mind that the above is not the case when the officer leaves on an "official visit," which requires shifting of the personal flag.

In order to avoid confusion, the OTC may use the first substitute and the call of the originator when acknowledging emergency alarm signals in accordance with ACP 129(B), article 718.e. Where no chance of confusion exists, the OTC may dispense with the call of the originator in accordance with article 716.b, ACP 129(B).

Question

Is it mandatory to display call sign while shifting berths within the harbor? Most ships do, but DNC 5(C) states "when entering or leaving port," and actually neither is being done when shifting berths.

The prosign for a colon is $\overline{OS}$. Wasn't this also used for a semi-colon some time ago?

In a signal out of ATP 1(A), Vol. II, indicating hours, could "ANS 75" denote 45 minutes, as for example, "UW2 - ANS 75?"

SM2 Gerald A. Tanguay, USN
USS JOHN R. PERRY (DE-1034)

Answer

When shifting berths within a harbor, display of call sign(s) is not mandatory unless SOPA instructions specify otherwise. If it is deemed advisable for identification purposes, the call sign should be displayed. Initiative and common sense should be used in those cases where provisions have not been made to cover a particular situation.

The accepted Morse equivalent for the punctuation "colon" is not a prosign, but is a punctuation character. The characters $\overline{OS}$ have always represented colon. There has never been a Morse equivalent for a semi-colon.

To denote minutes, when a signal calls for hour(s), the answering pennant plus numerals denoting percent of an hour must be used except when 30 minutes is to be indicated. The answering pennant alone indicates 30 minutes.

Question

Regarding ATP 1(A), Vol. II, the basic publication is arranged in alphabetical order

Continued on next page

HERE'S THE ANSWER

starting with AA and ending with ZQ. The USN ADDENDUM is arranged in no order. For example, page 10-7.1 has signals UVA through UVD. The next signal in alphabetical order, UVE, appears on page 28-6.1 instead of page 11-4.1. Signals on page 11-4.1, UAA through UCA, should be the first in the ADDENDUM according to alphabetical order. Is there any special reason for this arrangement or is it an oversight?

When the signal VP4 is hoisted by a carrier the words "this ship" refer to the carrier. If the signal INT VP4 was hoisted by a repair ship would the words "this ship" refer to the repair ship, or still refer to the carrier as in the basic signal?

Pyrotechnic signals for directing ships' boats are not listed in ACP 168 B. The only place I can find them is in SM 2 & 3 NAVPERS 10135.B. Change 2 to ATP 1 (A), Vol. II changed the meaning of the flag one and flag two signals; where will the correction to the pyrotechnic signals appear?

SM1 John V. Regan, USN
USS CAMDEN (AOE-2)

Answer

Signals in the USN ADDENDUM to ATP 1 (A), Vol. II are arranged so that their meaning is located in the same chapter as signals of similar meaning in the basic publication. The first USN ADDENDUM to ACP 175 was published with signals in alphabetical order and appearing in chapter 11. As signals were added to the addendum it became necessary to place them throughout the publication in order to have their meanings correspond with those in the basic publication. This of course eliminated the alphabetical order of the signals. In the future, the second and third letters of signals added to the addendum will correspond to letters and meanings of the chapter in which they will appear. The first letter will continue to be "UNIFORM". Change four to the ADDENDUM will contain an index similar to the one in the basic publication.

The words, "this ship", which appear in the fourth suffix of the basic group VP pertain to the ship originating the signal. If the repair ship AR-5 hoisted the signal "INT VP4," it would break down to mean, "Is the flight deck damaged beyond repair by this repair ship?"

A forthcoming change to ATP 1 (A), Vol II, USN ADDENDUM will contain an up-to-date table of pyrotechnic signals for use by ship and boat during rescue operations. In addition to the reference cited in your letter these signals can also be found in NWP-50, chapter 7.

Question

Can the signal "Kilo at the Dip" be used over a radio - telephone circuit in place of the signal CB5, which is worded identically but marked "for Morse or radio - telephone use only"?

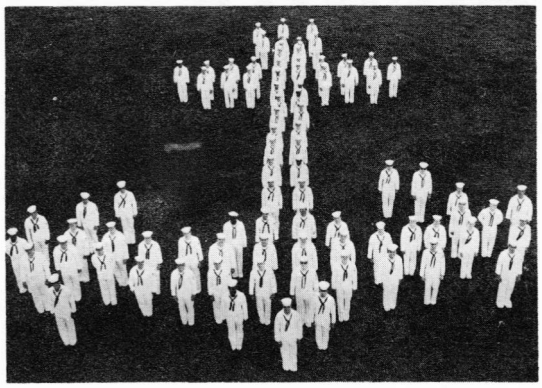
RD1 Dennis J. Woods, USN
USS RALEIGH (LPD-1)

Answer

In accordance with article 1508b ATP 1 (A), Vol. I, a two letter signal from ATP 1 (A), Vol. II is to be sent by radio or flashing light corresponding to the use of "FOXTROT" and "KILO" to indicate progress of aircraft operations during night operations. Day signals are contained in article 1508a of ATP 1 (A), Vol. I. Article 1569a.7 of ATP 1(A), Vol. I states that the carrier shall display or announce "FOXTROT at the Dip" to her rescue destroyers at least 10 minutes before commencement of flight operations. The consideration affecting the choice of any particular signal, as well as the restrictions on its use, are contained in Allied Naval Maneuvering Instructions, ATP 1(A), Vol. I.

Bringing "KILO" to the dip after being closed up has the same meaning as CB5. The only difference in the two signals is that "KILO" is an informative type signal to be used by the ship conducting flight operations, whereas, "CB5" is an action type signal that can be used by other ships by inserting governing groups, pennants, etc.

NAVCOMM NEWS PHOTOS FROM ALL OVER



KENITRA, MOROCCO - Some of the personnel at U.S. Naval Communication Station Morocco who were recently advanced in rating (191 in all) stand in anchor formation after being congratulated by Commander James J. May, USN, acting CO, during ceremonies conducted on 17 April. Nearly 70 percent of those who took the Navy-wide competitive examinations for advancement in February passed them successfully.

IMPERIAL BEACH, CALIF. - During personnel inspection at NAVRADSTA(R) Imperial Beach, Lieutenant Commander Maurice G. King, USN (right), receives the Secretary of the Navy Commendation for Achievement, presented by Captain R. W. Zimdars, USN, Commanding Officer, NAVCOMMSTA San Diego. Lieutenant Commander King was cited for his work as Officer in Charge of Commander SEVENTH Fleet Communications Security Team Two on board USS PRINCETON (LPH-5) and USS IWO JIMA (LPH-2) operating off the Viet Nam coast.

SAN MIGUEL, R. P. - Captain Robert R. Deibler, USN, CO, NAVCOMMSTA Philippines, writes first message to be sent from base's new Military Affiliate Radio System station, which began operations in May as the first Navy MARS station in the Philippines. Others are planned for the Sangley Point Naval Air Station and the Subic Bay Naval Base at Olongapo.

USS WRIGHT (CC-2) - Bronze bust of President Johnson was presented to officers and men of WRIGHT in appreciation for communications support provided during Latin American Summit Conference at Punta del Este, Uruguay, 11-14 April. WRIGHT, commanded by Captain F. M. Romanick, USN, was anchored off Uruguayan coast from 9-15 April for that purpose.

SAN DIEGO, CALIF. - At Marine Corps Recruit Depot, where 35 Marines, airmen and sailors competed in finals of interservice judo tournament, Colonel J. A. Blakely, USMC (left), Commanding Officer, Communication-Electronics School Battalion, presents overall championship trophy to 2nd Lieutenant Paul K. Maruyama, USAF, of Travis AFB, Calif.