

NAVAL COMMUNICATIONS BULLETIN

PKO/OPS
RIP *(R)*
Pages 12 & 13
Close attention
to instructions

READ *RMS*
RDS
ETS



“GRAY GHOST OF THE VIETNAM COAST”

NAVAL COMMUNICATIONS BULLETIN



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 (COMM)/Commander,
 Naval Communications Command

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 Deputy Commander

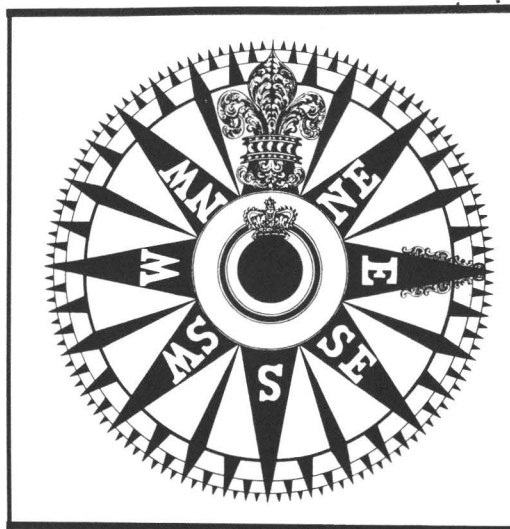


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Issuance of this periodical approved in accordance with Department of the Navy Publications and Printing Regulations, NAVEXOS P-35. Editorial offices are in Room 320, Columbia Bldg., Bailey's Crossroads, Va. 22041, telephone 694-8491. Address correspondence to the Editor, NAVAL COMMUNICATIONS BULLETIN (N1P), Naval Communications Command, Bailey's Crossroads, Va. 22041. Contributions of articles, suggestions for articles, photographs, and items of interest on Naval Communications and related subjects are welcomed.

COVER: As her coat-of-arms indicates, the major communication relay ship USS ANNA-POLIS was the first of her kind; she has also verified her right to the "Vox Maris" (Voice of the Sea) motto during three years on station in Vietnam coastal waters. The story starts on page 2.

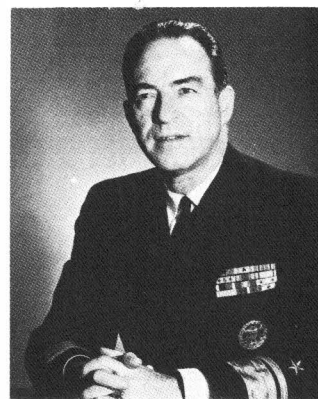


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All photos U.S. Navy, unless otherwise indicated.

FROM THE COMMANDER



On 25 October I returned to Washington from an eventful three-week trip to Navy communication installations in Iceland, Europe and Africa. The crowded, busy schedule included tours of NAVCOMMSTAs Iceland, Londonderry, Morocco, Spain, Italy, Greece and Asmara, as well as the Naval Radio Station at Thurso, Scotland, the Naval Security Group Activity in Bremerhaven, Germany, and the Naval Communication Unit in London.

An early highlight of the trip was the opportunity to take part in commissioning ceremonies for our new facility atop Benbradagh Mountain at Dungiven, Northern Ireland - now operating as the transmitting component of NAVCOMMSTA Londonderry. It was a pleasure to speak at the ceremonies on 8 October, and to have a chance to personally congratulate those responsible for the conception, design and construction of this remarkable achievement. The Irish are a most hospitable people, and the highly enjoyable visit was all too brief.

Every stop contributed to my knowledge of, and respect for, the skill and dedication of Navy communications personnel. Certainly our communicators merit a strong share of the praise bestowed by Secretary of the Navy Paul R. Ignatius in his fine Navy Day message on 27 October: "The sustained superb performance of all Navy and Marine Corps personnel, requiring long hours, hard work and lengthy separations from home and family, is a constant source of pride and inspiration to me and to your countrymen. Whether deployed with the operating forces, or serving with the essential support forces or the shore establishment, your outstanding performance, pride and professionalism are adding significant chapters to the history of the Navy and Marine Corps."

As the holiday season nears, and with my high regard for the working Navy communicator reinforced by this recent trip, I assure you that my appreciation for your "performance, pride and professionalism" is foremost in my mind as I take this opportunity to wish all members of the Naval Communications organization afloat and ashore, and their families and friends everywhere, a Merry Christmas and a Happy New Year.

Rear Admiral Francis J. Fitzpatrick, U. S. Navy

After Three Years On The Line:

'GRAY GHOST OF VIETNAM COAST' CHECKS IN FOR REST AND OVERHAUL

By Lieutenant junior grade F.H. Ewing, USNR

In late August, 1968, USS ANNAPOLIS (AGMR-1) finished her eighteenth Patrol on the line in Vietnam and headed for a much deserved overhaul period in Yokosuka, Japan.

The overhaul is the first since ANNAPOLIS was converted in 1962 from the decommissioned escort aircraft carrier, USS GILBERT ISLANDS (CVE-107), to its present status as Major Communications Relay Number One. Since September 1965, ANNAPOLIS has operated off the Vietnam coast, bringing Naval Communications to SEVENTH Fleet naval units afloat with speed and reliability, and providing a voice for command when and where needed.

The beginning of the overhaul period ended the first phase of ANNAPOLIS' history as a vital link in modern U. S. Navy communications. Early in 1969, she will start her second phase with a return to the line after

the yard overhaul in Yokosuka, where the engineering plant will be updated and overhauled.

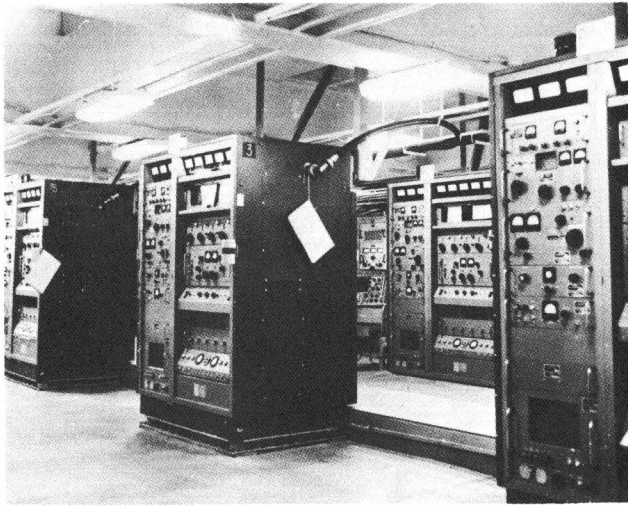
With specially designed antenna systems constructed on her flight deck, the latest in complex communications spaces, capacious fuel tanks, and, what is most important, her smoothly functioning and well-trained crew of 750, ANNAPOLIS is capable of operating for protracted periods of time in remote corners of the world's oceans, augmenting existing shore communication facilities, and temporarily extending essential Naval Communication services in areas where they might have been lost or where they may never have existed.

Until August 1967, ANNAPOLIS operated in the waters off the coast of South Vietnam, providing support to the surveillance units in the "Market Time" areas with a local area broadcast, ship to shore entry point, and support. In August 1967, with the arrival of USS ARLINGTON (AGMR-2) and the commissioning of U. S. Naval Communication Station Cam Ranh Bay, RVN, operations were changed, and ANNAPOLIS moved to a position near the entrance to the Gulf of Tonkin, where her support emphasized improving communications services to the Amphibious Ready Groups, the Carrier Strike Groups, and the ships involved in the gunfire support and surveillance operation "Sea Dragon." With the activation of NAVCOMMSTA Cam Ranh Bay the local area broadcast responsibilities were shifted from ANNAPOLIS to this new station.

In the Gulf of Tonkin, ANNAPOLIS has provided full period terminations for several of the major units engaged in strike operations relaying their traffic into the Naval Communications System through U.S. Naval Communication Stations Philippines and Guam. Other services provided earlier have been continued, and the transmitters freed from use on the local area broadcast have been utilized to retransmit the multi-channel broadcast originating in the Philippines.



Antennas have replaced a once vital and busy World War II flight deck.



Located in the largest compartment on the ANNAPOLIS, the transmitters make her "voice of the sea" heard all through South-east Asia.

A second change in operating schedules resulted from the arrival on station of the second AGMR, permitting shortened on-station periods and the continuous services of an AGMR. Patrol periods have stabilized at approximately 30 days on station and two to three weeks in port for each ship. Previously, ANNAPOLIS was required to be at sea for as long as 57 days at a time, and when she left station, her essential services were no longer available. With the upcoming overhaul period, ARLINGTON will be called upon to use her talents in the extended patrols similar to those ANNAPOLIS made before ARLINGTON's arrival.



Captain William J. Wacker has described his men as the highest technically trained men in the Navy.

With ANNAPOLIS' wealth of talent, excellent repair facilities, and the "can do" spirit of her crew, she has provided technical assistance to ships approximately 200 times while in port and at sea. ANNAPOLIS' technical assistance is a "people type" thing, involving the transfer of qualified technicians for on the spot trouble-shooting.

A recent example of this occurred from 13-21 May 1968, after USS BLANDY (DD-943) sustained a complete failure of its ability to copy the multichannel broadcast. ANNAPOLIS sent two petty officers and two chiefs to BLANDY to trouble-shoot her broadcast system and correct it. In thanks for ANNAPOLIS' help in resuming her broadcast copying capabilities, BLANDY gave ANNAPOLIS the shell casing of the 3,000th round she had fired against the North Vietnam forces.

Since ANNAPOLIS' appearance on station off the coast of Vietnam, she has handled more than a million and a half messages, steamed over 150,000 nautical miles, and averaged 250 to 270 days at sea per year.



The VLF transmitter room awaits equipment. Until gear arrives, it makes a fine basketball court.

Life aboard ANNAPOLIS is not all work and no play, however. While at sea, many recreational activities have been made available for the crew's enjoyment during off duty hours. Basketball and volleyball leagues are organized and played in the VLF room and on the elevator. Bingo is played two nights a week. Movies are shown nightly and Saturday and Sunday afternoons. Cookouts are held on the antenna deck with music provided by the ship's band, the "Salty Dawgs", who

Continued on next page

also lead the ship in jam sessions. Boxing and wrestling smokers are conducted at least once each patrol. On Saturday and Sunday afternoons skeet shoots and card and ping pong tournaments are held. All in all, ANNAPOLIS provides something for everybody during the Navymen's unaccompanied tour on board.

Rest and relaxation is on everyone's mind in Vietnam, and ANNAPOLIS personnel are no exception. ANNAPOLIS' schedule has taken her to such exotic Asian ports as Subic Bay in the Philippines, Keelung and Kaohsiung in Taiwan, Sasebo and Yokosuka in Japan, Hong Kong, Singapore, and "down under" to Perth, Australia.

ANNAPOLIS has been commanded by Captains John J. Rowan, J. W. Newland, Henry Bress and William F. Casper, and is presently under the command of Captain William J. Wacker.

As a fitting climax to Captain Wacker's tour and ANNAPOLIS' eighteenth Patrol, ending three years of continuous service to SEVENTH Fleet ships in the Gulf of Tonkin, two awards have been bestowed upon ANNAPOLIS. On 16 September 1968, Rear Admiral R. L. J. Long, Commander Service Group THREE, awarded the Meritorious Unit Commendation to ANNAPOLIS for the period 9 January 1967



Rear Admiral R. L. J. Long, COMSERVGRU THREE, presents Meritorious Unit Commendation and Battle Efficiency Award to ANNAPOLIS; Captain Wacker is at right.

to 29 January 1968, and the Battle Efficiency Award. Both awards have made Captains Casper and Wacker, ANNAPOLIS' commanding officers during the aforementioned periods, and the crew of ANNAPOLIS justly proud. Officers and men of ANNAPOLIS stand ready to continue the ship's outstanding service when she returns to station after her much needed yard period.

NAVRADSTA LOLA COMMISSIONED

U. S. Naval Radio Station Lola, N.C., a component of NAVCOMMSTA Norfolk, Va., was formally activated at commissioning ceremonies conducted on 24 October.

The new RADSTA joins similar stations previously constructed at Lewes, Del. and Cape Cod, Mass. in giving the Navy a much needed, high capacity communications link with Atlantic Fleet ships. The Lola station extends coverage of this system southward along the Atlantic Ocean frontier.

The three stations are landward terminals of a tropospheric scatter communications system. The tropo technique provides two-way communications with many channels of information, and relies on reflection of transmitted signals over the horizon by dense layers in the atmosphere.

Construction of NAVRADSTA Lola was authorized by Congress in 1963. Resolution of problems related to siting and land acquisition required several years, and final detailed design and construction spanned an additional 15 months.

Lieutenant Bruce T. Mundy, USN, whose most recent previous assignment was as Communications Advisor to the RVN Navy in Saigon, is the RADSTA's Officer-in-Charge and Captain J. J. Zammit, USN, commands the parent NAVCOMMSTA at Norfolk. Captain L. S. Ashley, USN, Assistant Commander for Communications Systems Planning, Naval Communications Command, was guest speaker at the ceremonies.

WHO'S WHO (AND WHAT) AT DCA



Recent reassignments at Headquarters, Defense Communications Agency, Arlington, Va., have occasioned updating of the HQ lobby photo board. Shown are (top row, from left) Lieutenant General Richard P. Klocko, USAF, Director; Rear Admiral Robert H. Weeks, USN, Vice Director; (second row) Captain Edward H. Heuer, USN, Chief of Staff; Mr. Walter H. Morse, Counsel; Colonel Paul H. Long, USAF, Inspector General; Mr. John H. Sullivan, Information Services Officer; Lieutenant Colonel Joseph J. Fiederer, USAF, Executive Officer; (third row) Mr. A. P. Lawo, Assistant Chief of Staff for Administration; Rear Admiral Victor A. Dybdal, USN, Deputy Director, Plans; Major General William T. Smith, USAF, De-

puty Director, Programs; Brigadier General Kenneth M. Gonseth, USA, Deputy Director, Operations; Mr. G.C. Gardner, Jr., Comptroller; Brigadier General I.R. Obenchain, Jr., USA, Deputy Director for National Military Command System Technical Support (NMCSTS); (fourth row) Lieutenant Colonel Norman A. Parker, USAF, Deputy Assistant Chief of Staff for Administration; Colonel P. H. McCorkle, USA, Assistant Deputy Director, Plans; Captain J.K. Alleman, USN, Assistant Deputy Director, Programs; Colonel W. A. LaFrenz, USAF, Assistant Deputy Director, Operations; Colonel C.M. Smith, USAF, Deputy Comptroller; and Mr. B.E. Morriss, Assistant Deputy Director, NMCSTS.

RADM COOK VISITS PHIL

During a four-day visit to U.S. Naval Communication Station Philippines, Rear Admiral Ralph E. Cook, USN, Commander, Naval Security Group Command, commended station personnel for their support of the allied combat effort in Vietnam. "I note with pride the brilliant record you have achieved in reaching your operational commitments," he said at a luncheon in his honor.

ANTENNA WORK STARTS

Beginning of construction of a new Wullenweber antenna array at U.S. Naval Communication Station Greece was marked by a ground-breaking ceremony on 27 September. Station officials, contractor's representatives, and representatives of the Naval Shore Electronics and Engineering Activity, Europe, and the Naval Electronics Systems Command, Washington, D. C., attended.

NAVCOMMSTA Harold E. Holt:

IMPRESSIVE CEREMONY MARKS RENAMING IN HONOR OF LATE PRIME MINISTER



It's official: old sign is taken down to disclose new one as Australian carpenter-painter Charles Priest prepares main gate for big event.

The U.S. Naval Communication Station at North West Cape, Western Australia, on the remote shores of the Indian Ocean, was renamed on 20 September in honor of Harold E. Holt, late Prime Minister of Australia.

President Johnson, in a message written for the occasion, said the station was renamed because "the American people desire that it should serve as a memorial to Mr. Holt and the great personal contribution he made to the deepening of the bonds of friendship and the common goals which unite us."



U.S. Ambassador to Australia William H. Crook and his wife are escorted to the ceremony by Lieutenant Charles L. Towndsin, station Legal Officer.

The President's remarks were read by the U.S. Ambassador to Australia, William H. Crook.

Australian Prime Minister John G. Gorton and Dame Zara Holt, widow of the former Prime Minister, also participated in the ceremony.



Dame Zara Holt, escorted by Prime Minister John Gorton, reads memorial plaque naming U.S. Naval Communication Station for her late husband, Harold E. Holt. Radioman First Class Dennis M. McGlinsey, USN, holds his position flanking the memorial. (Official R. A. N. photo by G. Banks)

The U.S. Navy was represented by Randolph S. Driver, Assistant Secretary of the Navy (Manpower and Reserve Affairs) and Rear Admiral Draper L. Kauffman, Commander, Naval Forces, Philippines.

Prime Minister Gorton said he thought it "unique for a base of this kind to be named after a national of another country."

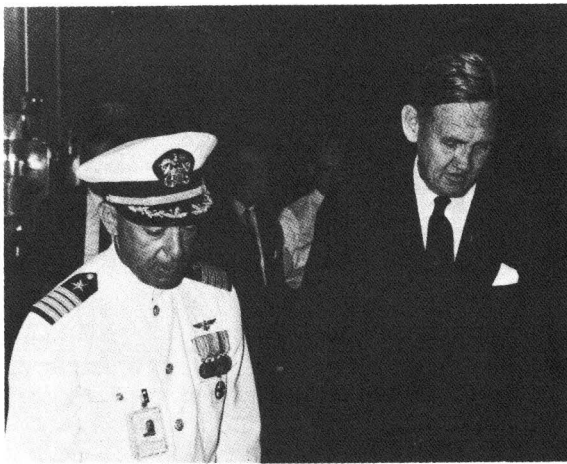
Naval Communication Stations are normally titled for their location. This station was commissioned in September 1967 as Naval Communication Station North West Cape. It is in fact, the only station of its kind to be named for a citizen of another country.

"It is fitting in this case," the Prime
Continued on next page

Minister said, "because this station, as part of a giant network keeping watch and ward on all oceans of the world, is a station which will enhance the military capacity, not only of the U.S., but also of Australia."

"It is fitting too, because I do not think that there was any Australian statesman or any statesman from any nation who established such warm, close, personal relations with a U.S. President as did Mr. Holt."

Dame Zara unveiled a large granite memorial with a bronze plaque bearing a raised profile of Mr. Holt and an inscription renaming and dedicating the station.



Prime Minister of Australia John Gorton is shown through VLF complex by Captain R. Friedman, Commanding Officer, NAVCOMMSTA Harold E. Holt.

"There must be many, many thousands of Americans whose dedication to their country has qualified them for such an honor," she said, her voice quivering with emotion.

"The fact that it's been given to someone from another country, not an American, I think, proves how strong the bonds are between us and America.

"It is an act which shows clearly the warmhearted friendliness of the American people and the courage and strength of the noble man who leads them."

In his message, President Johnson repeated his words from the station's commissioning. "The station is a symbol of both Australia's welcome to the United States Forces and of the United States' firm inten-

tion to play a continuing role in the pursuit of peace in Asia," he said.

Mr. Holt strongly supported the construction of the station and was the principal speaker at its commissioning.

He died three months later, on 17 December 1967.

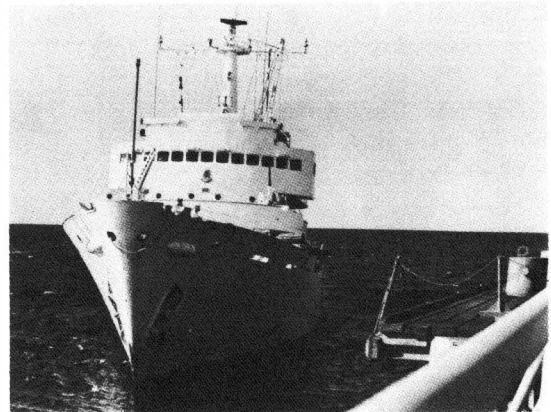
"From the early days of World War II, Australians and Americans have fought side by side with a common goal and for a common glory," Navy Assistant Secretary Driver said. "But in no other branch of the service has this comradeship surpassed the one that binds our two Navies."

Secretary Driver called the renaming unique, too, adding: "But in this case it is particularly fitting that Australian and American ships going about their tasks in distant waters should be guided by the voice of the Harold Holt Naval Communication Station."

Rear Admiral Kauffman said he thought Mr. Holt would be pleased with the cooperation typical of Australians and Americans living together on North West Cape.

"The people who live here seem to consider themselves part of one large family, and not at all categorized as Australians and Americans," he said.

More than 300 Australians and some 400 American sailors operate the communication station and live side by side in the nearby support city of Exmouth, with a total population of just over 2,000.



Australian survey ship HMAS MORESBY arrives at Navy pier for renaming ceremony.

NAVCOMMSTA SPAIN CONDUCTS COMMUNICATIONS TRAINING COMPETITION

By Lieutenant John E. Gender, USN

ATCU/Receivers Officer U.S. Naval Communication Station Spain

Naval Communicators from the U.S. SIXTH Fleet, North Atlantic, Eastern Atlantic, Northern Europe and Mediterranean communications areas met at NAVCOMMSTA Spain to participate in the 1968 USNAVEUR Communications Training Competition.

The training competition was the preliminary event for selecting four finalists to represent the U.S. Navy in the NATO Naval Communications Competition held later at the Royal Norwegian Naval Signal School, Haakonsevern, Bergen, Norway. In addition to being host and coordinator for the USNAVEUR Competition, NAVCOMMSTA Spain's Commanding Officer, Captain W. T. Hunt, USN, was designated by CINCUSNAVEUR as senior member of the evaluation board in the final selection of these participants.

Personnel representing U.S. Naval Communication Stations Greece, Morocco and Spain, U.S. Naval Security Group Activity Bremerhaven, Germany, and USS COLUMBUS (CG-12), USS BARNEY (DDG-6) and USS MOALE (DD-693), had been selected to participate as a result of preliminary competitions held in the SIXTH Fleet and each of the communications areas.

Competitive exercises were conducted in four communications skill areas: CW transmission, CW reception, teletypewriter transmissions and flashing light reception. General ground rules for selection of finalists for the NATO Competition were as follows:

CW Transmission Area: Five character groups are transmitted for a period of 20 minutes. Points were given for transmission style and for the number of groups sent less points deducted for errors.

CW Reception Area: Five character groups were received at 25 to 36 words per minute as desired. Points are obtained by



CW receiving competitors at NATO meet were (from left) L/TM Micali, Italy; TLG 1 Van Hese, Netherlands; PO Engin, Turkey; QM1 Chazal, France; CT2 Young, U.S.; and LRO Duane, U.K.

multiplying the number of groups made by five and subtracting five points for each error made.

Teletype Transmission Area: Five character groups were transmitted for a period of 20 minutes. The minimum speed requirement is 40 words per minute. The score is computed by counting the overall number of depressions (functions) completed in the allowed time and deducting points for errors.

Flashing Light Reception Area: Five character groups were transmitted automatically at a standard speed of 12 words per minute for a period of 10 minutes. The exercise is graded by multiplying the number of groups received by five and subtracting one point for each error made.

The four finalists selected from the USNAVEUR Area to represent the U.S. Navy at the NATO Competition were Communications Technician Second Class Jeffrey R. Fitzsimmons of NAVSECGRUACT Bremerhaven in CW transmission, Communications

Technician Second Class Charles E. Young of Bremerhaven in CW reception, Radioman Second Class Alan R. Olson of NAVCOMMSTA Greece in TTY transmission, and Signalman Second Class James L. Latter of USS MOALE in flashing light reception. In addition to the finalists the U.S. Navy team included as escorts Lieutenant William F. Whitmore, NAVCOMMSTA Spain's Traffic and Circuits Officer, and Chief Radioman Joe L. Toth, Chief-in-Charge, Receivers Site.

The NATO Naval Communication Training Competition is conducted to provide a medium for increasing efficiency, exchanging views on training systems and methods, fostering friendship among operators, promoting a greater understanding of each others' problems, and rewarding deserving personnel.

Each NATO Navy is invited to send up to four male operators to take part in the competition. The competitors should be Naval Communicators who have not served more than six years from the date of enlistment to the first day of the competition, and should be selected on the basis of professional skill and general military department.

The quality of professional performance by participants from all NATO nations is extremely high. Many nations have allowed as much as three months of extensive training for their teams before the competition. In order to ensure the optimum potential for U.S. Navy performance in these competitions, personnel desiring to participate should ideally, before the preliminaries, train to meet the following standards under the guidance of the sample test groups.

CW Reception - 36 words per minute without errors:

(Sample)

PK:CB 8TO5M EVRIH JK/XZ SRFN8 6N8UK NONTK N3OQG 2YIBS KJRKC
8YPLN LM)PL N5X8C FUKGN HMYOK ZSRKC 3HOH8 E.MJX 1K8HX FEFRF

CW Transmission - 26 words per minute without errors, with emphasis on formation of characters, spacing between characters, spacing between groups and consistency of speed:

(Sample)

:8162 001(9 345/2 21:29 /9123 34/39 812-1 :8148 20-76 3(235
83759 19439 86095 18239 96483 28674 10543 76025 17324 19563
03826 03618 39275 29352 87947 86639 27439 78465 83846 82519

KSLDM WURTJ KDFTE SLVIE SOWLL OEPGK ALSIK LJKTJ LGIRJ WFEHF
EXIEJ MNECS LJUWF HTEKE SIELF ODKEI VCUFI YTRMH KIPLS KEICU

Teletype Transmission - 50 words per minute with no errors or extra machine functions:

(Sample)

Same as CW Transmission above

Flashing Light - Twelve words per minute with a maximum of five errors:

(Sample)

E S 6 F X A D 5 M 7 7 G / C B H A 4 T J
4 U 8 K 3 A L 3 M N V L 3 I M I 9 S 5 U C P T

90 groups similar to above were sent automatically at
12 words per minute, using small incandescent lights.

The 1968 results and, for comparison, the 1967 results for the United States were as follows:

	1967	1968
Morse Transmission	Third of Nine	Eighth of Eleven
Morse Reception	Fifth of Eight	First of Ten
Teletype Transmission	Second of Eight	Second of Eleven
Flashing Light Reception	Fourth of Nine	Tenth of Eleven
Overall Standing	Fourth of Nine	Fourth of Eleven

HERE'S THE ANSWER

Question

Could you please provide a reference confirming the fact that a division commander is included "de facto" as an addressee in a message addressed to his division? For instance, should COMINEDIV 72 receive a copy of a message addressed to MINEDIV 72, and if so, what publication clarifies this?

ENS H. J. O'Connell, Jr.
USS EMBATTLE (MSO-434)

Answer

In describing "Collective Address Groups" and Collective Call Signs", it is stated on pages 2-1 and 2-7 of ACP 167(B) and Appendix B of DNC 5(D) that "Collective address groups and call signs include the commander of the organization or group and all subordinate commanders therein." Since a collective address group/call sign would be used when addressing a message to MINEDIV 72, COMINEDIV 72 would be included in the address and therefore would receive a copy of the message.

Question

Several times the question has arisen, what do the seven stars in the commission pennant mean? After a thorough check of DNC 27(A), I am still unable to find the meaning. I have also tried to find the answer in several nautical dictionaries but have had little success.

SM2 Kenneth J. Smith
USS WALKER (DD-517)

Answer

The number of stars in the commission pennant has no special significance. Until 1933 the pennant came in sizes ranging from 4 feet to 70 feet in length. The larger sizes had 13 stars and the smaller ones 7 stars. With the ever increasing number of weapons and equipment topside, the display of the larger pennants became undesirable. On

30 August 1933, the Chief of Naval Operations approved the two smallest sizes as the only ones authorized for use by the Navy. The two selected had only 7 stars, therefore the 13 star pennants disappeared from use. The pennants with 7 stars were arbitrarily selected as providing the most desirable display.

Question

In regard to a ship that is eligible to fly both the Navy Unit Commendation and the Meritorious Unit Commendation pennants, is it proper to fly both or just the senior citation while in port?

SMC James R. Crowe
USS HANCOCK (CVA-19)

Answer

When not underway, ships that have been awarded more than one award of this type shall display the pennant for each award simultaneously at the foretruck from sunrise to sunset. When more than one pennant is displayed, the pennant of the senior award, which in this case is the Navy Unit Commendation, will be displayed at the point of hoist with the less senior pennant(s) displayed below and on the same halyard. A forthcoming change to DNC 27(A) will clarify this situation.

Question

As some of my colleagues and I are in disagreement, I am writing to inquire about putting the five (5) bells (i. e., (FIGS) JJJJJ SSSSS (LTRS) on format line 5 of a Flash precedence message. We have checked the effective edition of ACP 127 and have no firm results.

RMI Alonzo C. Carle
NAVCOMMSTA Cam Ranh Bay

Continued on next page

Answer

Paragraph 151 of ACP 127(C) specifies where bell signals are to be applied on Flash precedence messages. There is no provision in ACP 127(C) for inserting bell signals in format line 5.

Question

Article 5242.a of DNC 5(D) states that each message text, except tactical and proforma messages, shall be in the following sequence. Where elements listed are omitted, the sequence shall be adjusted accordingly:

- (1) . Classification or the abbreviation Unclas.
- (2). Etc.

My problem is in connection with MOVREPS. This is a form message and the first word of the text is always the classification. What I would like to know is do you have to use the spaced out classification (i.e., C O N F I D E N T I A L Confidential, PPP MOVREP..... Etc.....)?

RMC H. F. Bishop
USS OKANOGAN (APA-220)

Answer

Paragraph 209.a of ACO 127(C) states that when classified messages are to be transmitted in plain language over approved

circuits, the security classification shall appear as the first word of the text. Each letter of the classification is to be separated by a space.

Since NWIP 10-1 systemizes the content of the movement report and makes it compatible with an automatic data processing system and requires the classification to be unspaced, both classifications are needed.

Question

According to article 431.a(6) of DNC 26(B) a tax is collected along with class "E" toll rate. In the entire section concerning the class "E" message, I can find no rate for a class "E" tax. Article 128 states that a tax of 10 percent be charged for coastal harbor and high seas radiotelephone non-collect personal calls. If there is a tax to be charged on class "E" messages is it the same as that charged for non-collect radiotelephone calls?

RM3 D. K. Hoffmaster
USS CHIPOLA (AO-63)

Answer

No tax should be charged on class "E" messages. Article 431.a(6) of DNC 26(B) was inadvertently overlooked in preparing NMC 1/1 to DNC 26(B) which eliminated the tax on class "E" messages. The aforementioned article will be amended in a forthcoming ALCOM.

CERTIFICATES AWARDED

TELETYPE PROFICIENCY

USS JOHN KING
Adams, James R. RMC
Noble, James A. RM3

USS CLAUDE V. RICKETTS
Foster, James M. Jr. RM3

DESTROYER DIVISION TWO SIX TWO
Battles, William K. RM1

FLEET TRAINING CENTER, NORFOLK
McCullar, Jerald K. RMC(SS)

SPEED KEY

NAVCOMMSTA JAPAN
Hisle, Paul E. RMSN

NAVAL SUPPORT FORCE ANTARCTICA
Hill, Gene A. RM2
Kruk, Charles E. RM2
Richards, Burke H. RM2
Van Horn, Clinton E. RM2



READ-

Case History:

PRICE FOR SNIDER

RANDLES

GRASSER

FANNING

READ 12 FEBRUARY

POSSIBLE COMPROMISE OF RPS MATERIAL

A Navy ship reported loss of AMSP 529A, discovered missing during the September quarterly inventory. The initial report stated that compromise was considered improbable, since it was assumed that the publication had been inadvertently burned with classified non-RPS distributed publications. The publication had been issued on sub-custody to CIC and was last seen by the RPS Custodian in May.

Investigation disclosed that lax watch-to-watch inventory procedures and lack of supervision in CIC contributed significantly to the conditions that caused the loss. AMSP 529A was sighted last, as confirmed by initials on the watch-to-watch inventory log, on 8 August. A new inventory log, which included all classified publications in CIC, was made up on 9 August; however, it was not initialed by any of the CIC Watch Petty Officers between 9 August and 23 August because they could not find an ACP, and felt that they would be held responsible if they initialed the inventory. This condition was discovered by the Operations Officer on 23 August. He immediately ordered a search, the missing ACP was found, and all CIC personnel were instructed on the importance of keeping an accurate watch-to-watch inventory and reporting a missing publication immediately.

The Operations Officer instituted measures to improve accountability of publications. As a result of this action a complete inventory of all classified non-RPS material was conducted in CIC, and all excess and obsolete material was removed for disposition and subsequently destroyed. However, the RPS distributed material charged to the CIC Officer was not inventoried. A new watch-to-watch inventory list was made up from the publications on hand, but AMSP 529A did not appear on this list, nor on any other inventory list until it was discovered missing by the RPS Custodian on 18 September.

In the administrative letter report the Commanding Officer recognized his broad command responsibility for the security of classified material and further assigned specific responsibility for the circumstances leading to the loss to the following personnel:

1. The RPS Custodian, for his failure to ensure that proper watch-to-watch inventories were being conducted after publications were issued on sub-custody for use on a watch station.

2. The CIC Officer, for poor supervision and failure to maintain a proper and accurate inventory, and specifically, failure to conduct an inventory of the RPS publications after being directed to correct the lax accountability procedures in CIC.

3. Four enlisted personnel in supervisory positions in CIC for improper performance of the supervisory responsibilities and failure to report missing publications expeditiously.

The two officers involved were reprimanded verbally by the Commanding Officer, and notations concerning their performance in this instance were made in their next fitness reports. The four enlisted men were reprimanded verbally and were assigned extra instruction in the field of security of classified material.

The Fleet Commander in Chief, in his closing action letter commented on the evaluation of probability of compromise as follows; "...the opinion of the Commanding Officer that the publication was inadvertently destroyed and that compromise was improbable is supported by no evidence other than the fact some material was shredded and dumped at sea between 23 August and 30 August. That such disposition of the copy of AMSP 529A was made can be little more than hope that the outcome was resolved in the most favorable manner permitted by the circumstances. The gross carelessness displayed in this case should lead to a conclusion more pessimistic than the most favorable one."

Regarding the responsibility of the Commanding Officer in a case of this nature, the Fleet Commander in Chief commented, "The Commanding Officer has cited his responsibility in this case which stemmed from failure to ensure that established procedures for the handling of cryptographic material were being

Continued on next page

followed by subordinates. He is enjoined to give the necessary attention to this vital element of command in order to minimize the possibility of future occurrences of this nature."

Finally, the Fleet Commander in Chief did not concur with the disciplinary action taken or recommended, and directed the Commanding Officer "...to conduct an investigation in accordance with the JAG Manual,

ensuring that all officer and enlisted personnel concerned are afforded the rights of a party, and to take disciplinary action commensurate with the seriousness of the violation."

The above remarks were signed personally by the Fleet Commander in Chief. (Contributed by the office of the Assistant for Communications Security, Cryptology Division, Office of Naval Communications)

LIMITED DUTY/WARRANT OFFICER CATEGORY ESTABLISHED FOR COMMUNICATIONS

A primary path of advancement to Warrant Officer (757X) and Limited Duty Officer (657X) for communications personnel was recently approved by the Secretary of the Navy.

Action began in March 1968 with the recommendation of Rear Admiral Robert H. Weeks, USN, then Assistant Chief of Naval Operations (Communications), to establish the new categories, in response to the need for better identification of a skilled resource in critically short supply, and a competitive path of advancement for one of the largest groups of petty officers in the Navy. After an in-depth study of the need for these two new officer categories by the Permanent Board for Control of the Enlisted Rating Structure, established by the Chief of Naval Personnel, the recommendation was approved by the Deputy Chief of Naval Operations (Manpower) and the Assistant Secretary of the Navy (Manpower and Reserve Affairs).

The Radiomen comprise the second largest of the Navy's petty officer groups. It is planned to have a proportionate number of Warrant Officers and Limited Duty Officers in the new Communications Community. The sea-shore ratios, under current CNO policy, will be comparable to other LDO/WO categories. The Warrant Officer category (757X) is appropriately entitled Naval Communicator to avoid possible confusion with the Communications Technicians Warrant Officer category. The Limited Duty Officer (657X) category is entitled Communications.

Qualifications for the new categories have been written and will be included in

forthcoming BUPERS directives which will implement the two categories. Minor changes will be promulgated also for the existing qualifications in Operations and Electronics categories, inasmuch as a knowledge of communications is an inherent requirement in the operations category but not to the degree required for the new communications categories. The electronics specialist retains the vital technical role.

Typical billets to be filled by the communications LDO/WOs include Communications Officer (Afloat and NAVCOMMSTAs), COMM/Plans Officer (Type Commander Staffs), Radio Officer (Afloat), Traffic and Circuit Officer (NAVCOMMSTAs), Officer in Charge Radio Transmitter/Receiver Sites, Executive Officer (NAVCOMMSTAs) and various other key communications billets, depending upon an individual's background and rank. Grade and designators of the existing LDO/WO billets in communications will be changed to reflect the new categories.

It is envisioned that the initial input to the new categories will be volunteers having a significant background in communications from the 601X, 640X, 714X and 766X categories. Thereafter, the normal inservice procurement will be from Radiomen and Electronics Technician (Communications). Currently many operations and operations technician LDO/WOs are filling communications billets, including unrestricted line officer communications billets. Reliefs for incumbents will be provided as officers from the new Communications LDO/WO Community become available.

At NAVCOMMSTA Phil:

TELETYPE REPAIRMEN SET RECORDS, TEACH MARINES REPAIR SKILLS

The teletypewriter repair shop at U.S. Naval Communication Station Philippines, breaks records every day.

"We maintain more teletype equipment here than at any other communication station in the world," Lieutenant Colin G. Winters, electronics maintenance officer, said.

Staffing San Miguel's busy teletype repair shop are 16 specially trained sailors and eight civilian employees.

Chief Radioman Jose M. Cruz, chief in charge of the shop, said, "We receive inoperative gear from San Miguel, Tarlac and occasionally from ships. Counting components, we have about 4,000 pieces of gear to repair and maintain."

The Filipino repairmen service gear brought into the shop, while the sailors respond to calls for help in repairing faulty equipment in the classified spaces.

Radioman First Class William P. Seitz, assigned to the repair shop, seemed confident about the technical competence of the repairmen.

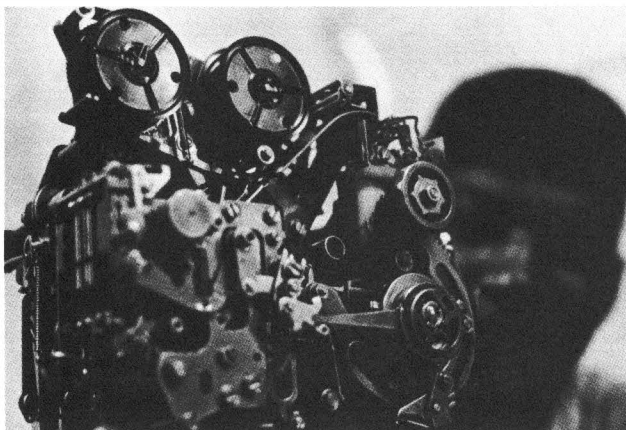
"I've never seen any piece of equipment come in that couldn't be fixed," he said. "This exceptional record may be due to the training the Navy has provided for teletype repairmen."

"Every sailor assigned to San Miguel's shop has attended a Navy school specializing in teletype repair."

In addition to on-the-job training, many of the Filipino civilian repairmen have attended technical institutions that conduct courses in teletype repair.

"The civilian repairmen have turned in outstanding performances as repairmen," said a senior petty officer in the shop. "If it weren't for them we'd really have a lot of trouble keeping on schedule."

The shop also is an important part of a "school" that teaches U.S. Marines from Vietnam to repair teletype equipment.



Radioman Second Class Ernie Thomas, assigned to the COMMSTA's teletype repair shop, sizes up the situation with a malfunctioning reperforator - one of more than 4,000 pieces of equipment the shop repairs and maintains.

"We teach about six marines each month to handle repair problems which arise 'on the spot' in combat situations," Seitz said.

"They observe actual repairs in progress thus getting considerable practical experience in repairing varied models of gear."

Marines currently attending the school seemed impressed with the caliber of instruction they receive.



Corporal Bob Loader (left) and Corporal Coy Bell, both of U.S. Marine communication companies in Phu Bai, Vietnam, pay close attention as Floriano Dangaran, a Filipino civilian, repairs a printer.

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Corporal Bob Loader, of the Marine communications company at Phu Bai, said, "We depend heavily on teletype and radio circuits for effective communication in Vietnam. The training we've received here should increase our versatility in repairing the gear."

Corporal Coy Bell, also of Phu Bai, noted the wide variety of models repaired at San Miguel's shop.

"I studied a very limited number of teletype gear models at previous schools," he said, "but I'm being exposed to the workings of many models here. Our course has emphasized practical experience in emergency

situations."

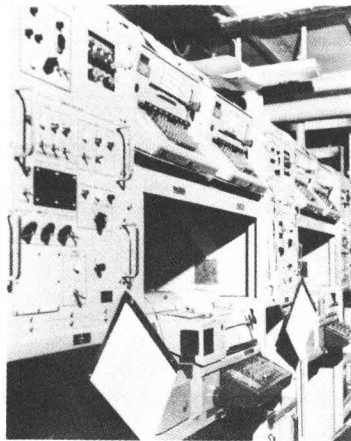
Both Marines felt that the practical observation of repair techniques is more enlightening than the traditional method of rote memorization and "book learning."

Bell said, "The guys here, both American and Filipino, seem to know exactly what they're doing. It's not hard to learn when you have competent teachers."

The men in the teletype repair shop continue to break records quietly, every day. (South China Sea Sentinel)

COMMAND SHIP WRIGHT NOW HAS AUTODIN

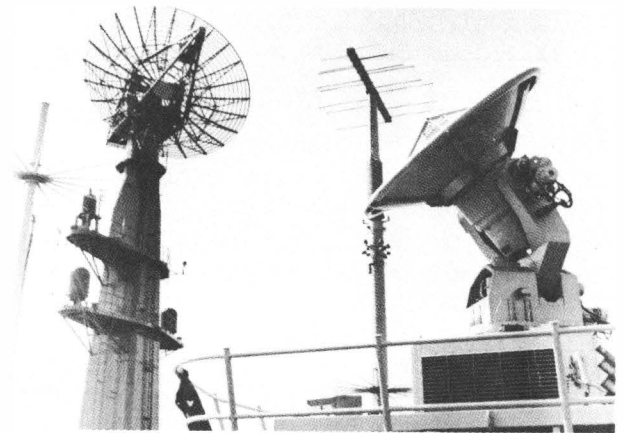
USS WRIGHT (CC-2) recently became the first seaborne dual access tributary station in the Defense Communications System's Automatic Digital Network (AUTODIN). Automatic Switching Centers at Andrews Air Force Base, Md., and Fort Detrick, Md., using Mode V operation, are WRIGHT's access points in the DCS AUTODIN system.



First AUTODIN dual access station afloat.

With the interface with AUTODIN, messages are now processed automatically with greater speed, security and reliability. AUTODIN is a high speed, computer controlled, common user, secure communications system. It has a high order of accuracy through an automatic error detection and retransmission capability.

WRIGHT can transmit at 100 words per minute to the automatic switching centers, where messages are routed automatically to addressee terminals at speeds approaching



Antenna deck view aboard WRIGHT emphasizes ship's communications capabilities

3,000 words per minute. Recent traffic analysis showed that with AUTODIN, the electrical handling time, from originator's time of transmission to addressee's time of receipt, averaged about 27 minutes for routine messages. The same analysis disclosed that flash traffic requires an average of only 3 minutes' electrical handling time.

WRIGHT gave seagoing AUTODIN a realistic test in a recent Joint Chiefs of Staff exercise. WRIGHT personnel reported that the system is a welcome addition to the ship's extensive arsenal of advanced communications equipment.

WRIGHT'S AUTODIN terminals further enhance the world-wide communications capability already provided through satellite communications (SATCOM), shipboard VLF (SV-LF), and normal HF/SSB trunk terminations.

NAVCOMMSTA BALBOA

Duty in the Canal Zone, in addition to the work entailed, raises the pleasant prospect of tropical living, golf, swimming, tennis, boating, river, bay and deepsea fishing, baseball, softball, bowling, track, range shooting, skeet, horseback riding, hunting, jungle trips, casinos, horse racing, bull fights, yacht clubs, beaches, and Officer, NCO, CPO and enlisted clubs.

All these and more are available in or near the Canal Zone, the 10-by-50 mile strip between the Atlantic and Pacific Oceans in the Republic of Panama, about 9 degrees north of the Equator.

The Canal Zone's climate is tropical, since it lies so close to the Equator. The temperature is high but relatively even throughout the year, with the mean ranging from 73 to 87 on the Pacific side. Extreme temperatures are 63 in January and 97 in April. The humidity, however, is high, especially during the rainy season, May through December. But on the whole, the climate is pleasant, with cool evenings throughout the year. Hurricanes, typhoons, tornadoes and earthquakes are unknown. The dry season trade winds make the warmer sunny rain-free days pleasant from January through April.

The headquarters of U.S. Naval Communication Station Balboa is located about one block inside the combined 15th Naval District/U.S. Army Fort Amador main gate, on the desirable Pacific side of the Isthmus of Panama, and within a stone's throw of the banks of the Panama Canal. The Canal Zone town-sites of Balboa and Ancon literally start just outside the main gate, and the capital of the Republic of Panama, Panama City, is a little over a mile distant.

Panama City has a long and colorful history, both before and after its well known attack and destruction in 1671 by the English pirate Henry Morgan. Today many interesting historical spots may be visited, including Fort San Lorenzo, Morgan's first target in Panama, where the ruins are still standing. The Fort is a short drive from Fort Sherman on the Atlantic side of the Isthmus. Closer by, about five miles from the center of Panama City, on the shores of Panama Bay, are



NAVCOMMSTA Balboa's headquarters and communication center.

the ruins of the original city called Panama Viejo (Old Panama), now a popular tourist spot where typical Panamanian music and dances in native costumes are presented during the dry season.

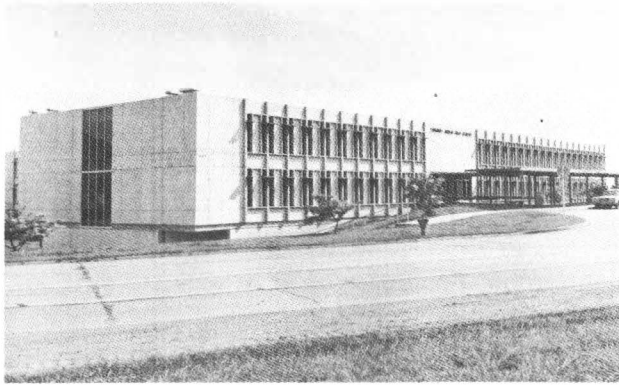
The word Panama is an old Indian word meaning "abundance of fish," and is most appropriate.

Panama was discovered in 1501 by Rodrigo de Bastidas, one of the captains who accompanied Columbus on his second voyage to America. At that time there were more than 60 different Indian tribes living on the Isthmus. In 1513, Vasco Nunez de Balboa discovered the Pacific Ocean. And in 1519 Panama City was founded by Pedrarias Davila, who was appointed its first Governor. Panama then became the center of exploration and expansion in America. The conquest of Peru by Francisco Pizarro was initiated in Panama. The expeditions of Hernando de Soto, who discovered the Mississippi, and Sebastian Benalcazar, founder of Quito, Ecuador, also were launched from Panama. Panama remained loyal to Spain until 1821 when she declared her secession. The population of the Republic of Panama in the 1960 census was 1,075,541, and is estimated to be considerably greater today.

NAVCOMMSTA Balboa also is close to the port of Balboa on the Pacific side, and ships of all nations may be seen visiting the port or going through the Panama Canal night

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and day. Recent famous visitors were the Queen Mary on her last voyage, and the newly reactivated battleship NEW JERSEY. Visits by men-of-war of all nations are frequent occurrences.



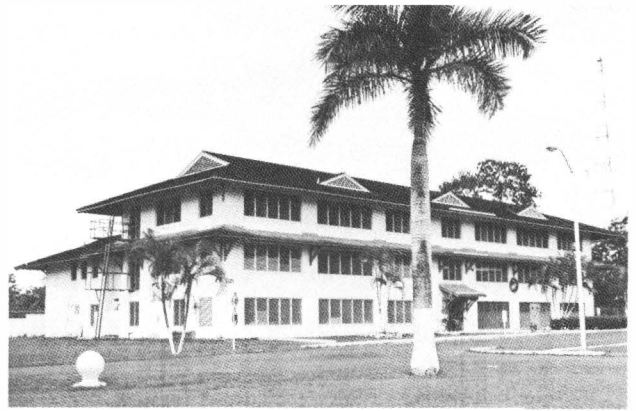
Part of the new junior high school at Curundu.

Schools in the Canal Zone are well equipped, and most are air conditioned. The recently completed Curundu Junior High is of the most modern construction and completely air conditioned, with wall-to-wall carpeting in classrooms and hallways making it an unusually quiet facility. Schooling through high school is free to dependents of assigned military (sponsored) personnel and U.S. civilian employees. The cost is borne by the government.

The Canal Zone College offers two year courses leading to Associate in Arts degrees. College tuition for sponsored full-time students is \$200 per year plus book costs of \$50 to \$80 per year. Part-time sponsored students may attend for as little as \$21 per course per semester plus costs of books. Tuition aid is available for military members.

At present there is sufficient housing for all eligible Naval personnel with only a handful of lower pay grades, not authorized housing, living off-station in the Republic of Panama or in vacation quarters in the Canal Zone.

Married personnel are housed in several areas including the 15th Naval District Annex at Fort Amador, U.S. Naval Station Rodman, U.S. Naval Radio Station (R) Farfan and U.S. Naval Radio Station (T) Summit. All family housing is under the control of U.S. Naval Station Rodman.



Barracks and enlisted mess at NAVRADSTA (T) Summit.



Officers' quarters in Farfan RADSTA's housing area.

Quarters in this tropical land are built for the climate. Many quarters have large airy porch areas. Many are literally built on concrete piles 8 to 10 feet up off the ground, with the paved area beneath used for parking, washing facilities and a play area for the children. Many of the older quarters have louvers rather than glass windows; the more recent ones have glass. All are well-screened, and many occupants install air conditioning, which makes tropical living most enjoyable. Electric power is the U.S. standard 110 volt, 60 cycle. Electric ranges and electric refrigerators are supplied in quarters. Washing machines are not supplied and are a must. They should be shipped with your household goods or purchased here in the Exchange.

Facilities for religious activities in the area are plentiful. Services are available at Army, Navy and Air Force installations or at churches in Balboa, Ancon, Cocoli, or the

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adjacent Panama City. The Navy holds services at the Rodman Chapel, and bus service is provided from the various housing areas for Sunday school classes.



Interior of "The Anchorage", enlisted men's club at NAVSTA Rodman.

For a change from the warm climate of the Zone, visits to one of the many highland areas in Panama are popular. The best known, El Valle, is located in an extinct volcano cone about 70 miles from Balboa, near the Panama Pacific Ocean beach communities of Rio Mar, Santa Clara, Gorgona and Coronado.

Cerro Campana, another highland area, is much closer, but the road up the steep winding hills is generally in poor condition and hard on tires. There are small motels or beach houses in all these beach and highland areas for overnight or longer stays.



Protected bathing beach area, Fort Kobbe, at low tide.

The Inter-American Highway is now completely paved from Costa Rica to Panama City and provides easy access to the many

smaller interior towns of Panama. Off the Inter-American Highway, rural roads vary from good paved macadam to rough gravel.

Taboga Island, in the Bay of Panama, is rapidly becoming a popular recreational attraction. The island has excellent beaches and is surrounded by some of the best fishing waters in Panama Bay. There are no autos on the island. Two excellent hotels accommodate the tourists, particularly on weekends when the island is crowded. Launches leave daily from Pier 18, Balboa, and transport visitors to the island for a modest charge.

Boquete, in the heart of Panama's coffee country, is another likely source of recreation. Boquete is located on the slope of an extinct 11,000 foot Chiriqui volcano. Excellent climate and good hotel accommodations characterize the resort.

Naval Communications have been firmly entrenched in the Canal Zone since the United States took over and completed the Panama Canal.

In fact, all radio communications in the Republic of Panama were under Navy control until the early thirties, when the government of Panama took over control of radio communication in the Republic.

NAVCOMMSTA Balboa is the descendant of a line of U. S. Navy Communication facilities. The first was Radio Colon, which was authorized in 1904 and began limited operations in 1905. Radio Colon maintained communications with Washington via Key West, Florida. Radio Balboa began operations in 1913.

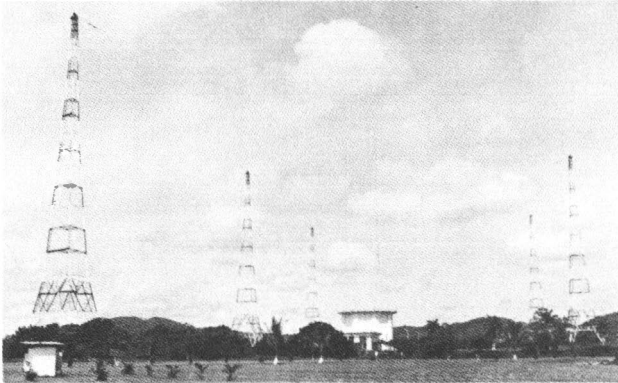
Present facilities of NAVCOMMSTA Balboa include a transmitter site at Summit on the Continental Divide, a receiver site at Farfan, and the Communication Center and Command Administrative Offices at Fifteenth Naval District Annex, Fort Amador.

The transmitter site at Summit encompasses about 710 acres of land and consists of three basic areas: very low frequency, low frequency and high frequency. The very low frequency (VLF) area consists of an antenna supported by six 600 foot towers and buildings which house the million-watt AN/

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FRT-73 VLF transmitter and associated equipment.

The low frequency area consists of the LF transmitter and 800 foot radiator tower and associated helix. The building which houses this LF transmitter also houses six high frequency transmitters, and the required antennas are located in the general area. Most of the transmitters in this area are used in connection with the Fleet Broadcast.



View of VLF antennas at NAVRADSTA (T) Summit shows five of the six 600 foot towers; AN/FRT-73 transmitter building is in background.

The third area, the high frequency area, contains the building housing most of the station's transmitters. These are utilized for ship-to-shore, air-to-ground, and tactical point-to-point use in either CW, radioteletype, facsimile or single sideband modes during scheduled operations or contingencies.

The receiver site at Farfan consists of about 760 acres of land. The receivers are located in one concrete building of World War II bombproof type construction. Farfan operates a CW broadcast and guards ship/shore/ship CW circuits for both Navy and commercial ships. The commercial radio circuits handle Panama Canal transit traffic and traffic for merchant shipping passing through the area of coverage. The commercial traffic is relayed to and from the Port Captains at Balboa and Cristobal at the two ends of the Panama Canal, or via commercial cable and radio telegraph companies, to shipping companies within and without the Canal Zone. Charges are levied for this coastal station service.

The Inter-American Naval Telecommu-

nications Network (IANTN) also terminates at Farfan. These circuits were initiated in 1960 through bilateral agreements and include CW circuits to Bogota and Cartagena, Colombia; Caracas, Venezuela; Montevideo, Uruguay; and Recife, Brazil, and radioteletype and/or CW circuits to Quito, Ecuador; Guayaquil, Ecuador; Santiago, Chile; Lima, Peru; and Buenos Aires, Argentina.

The Communications Center at Fort Amador is the nerve center of the station with the Facilities Control Center, Fleet Center, Crypto Center and the Message Center. Various administrative functions occupy the second floor of the building, also of World War II bombproof type construction.



Entrance gate at NAVRADSTA (T) Summit.

U.S. Naval Radio Station (T) Summit is about 13 miles by concrete road from the COMMSTA headquarters. Summit is a separate station and includes its own swimming pool, theater, dispensary, mess, Navy Exchange and Club, recreation rooms with pool and ping-pong tables, library, tennis courts, outdoor basketball court, softball field, and bohio. A new hobby shop now being completed will contain complete woodworking and auto repair facilities with the latest equipment. Frequent bus service is available to Balboa, Panama City and all nearby points.

U.S. Naval Radio Station (R) Farfan is about six miles by concrete road from COMMSTA headquarters and is located a short distance inside the main gate to Fort Kobbe/Howard Air Force Base complex. Farfan, like Summit, also is almost self-sufficient, having its own swimming pool, bohio, Navy Exchange-Club, dispensary, ball field, movie

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theater, tennis court, library, outdoor basketball and volley ball court, horseshoe pits, recreation room with pool and table tennis tables and amateur radio facilities, and an auto repair and woodworking shop.



Receiver building at NAVRADSTA (R) Farfan.



Bohio and recreation area at Farfan, with swimming pool in background. Bohio has steeply sloped roof of woven palm fronds which easily sheds heavy tropical rains.

Single and unaccompanied enlisted men are housed in large airy barracks at Farfan and Summit.

The Farfan enlisted mess serves outstanding meals and was selected as the 15th Naval District nominee for best small mess ashore in the 1968 Ney Memorial Awards program.

At Farfan, the men are housed in two barracks, one for Farfan personnel and one

for those working at NAVCOMMSTA Balboa headquarters and the communications center.

A bus is provided at each change of shift for those personnel going to and coming from headquarters. Frequent bus service is available to the local bases and communities.



Swimming pool at NAVRADSTA (R) Farfan.

Dogs and cats brought into the Canal Zone are required to be kept in quarantine for one month at Corozal, less than 15 minutes' driving time from Fort Amador. Boarding cost of 50 cents to \$1.00 per day, depending on weight, must be borne by the owner of the pet.



U. S. Army Commissary at Corozal.

The Navy Exchanges, as well as the exchanges of the other military services, carry a good selection of merchandise at low exchange prices. Items not found in the exchanges usually may be purchased in the stores of the Panama Canal Company at state-side prices or less.

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Navy Exchange branch at Fort Amador is well stocked.

Two large U. S. Army operated commissaries where food and household staples may be purchased at the customary low prices are conveniently located on the Pacific side of the Isthmus.



COMMUNICATION FREQUENCY MONITOR DEVELOPED FOR NAVY

After fleet exercises disclosed that communication circuit reliability could be improved by using an on-line monitor to help radio operators maintain frequency accuracy of receivers, transmitters, and terminal equipment, the Navy awarded a contract for development of the first model of the Communication Frequency Monitor.

The model was designed and developed by Page Communications Engineers, Inc. in association with personnel of the Naval Research Laboratory, Washington, D.C.

When contractor's tests of units comprising the system are completed, further testing is scheduled before installation on board an operational ship. The Laboratory will undertake system testing involving several interface units, as well as HF radio equipments. When these tests end, the Communication Frequency Monitor will be delivered to the Navy Electronic Laboratory Center, San Diego, Calif., where it will be installed temporarily on board the test facilities ship BUNKER HILL. Here it will undergo additional tests with other monitoring systems presently being developed by NELC.

Primary function of the monitor is to perform an on-line measurement of the frequency tuning accuracy of HF radio equipment, as well as the accuracy of FSK mark and space frequency components associated with the modulated spectrum of the radio

equipment. The system interfaces with 20 HF radio transmitters and 40 HF radio receivers, and provides a frequency accuracy measurement to within plus-or-minus 1 Hz. The secondary function of the CFM provides a capability to monitor relative transmitter output power, receiver operating sensitivity, and relative FSK channel levels. In addition, it allows an aural monitoring capability for the composite audio spectrum and for each individual signal parameter that undergoes a frequency measurement.

Design of the monitor provides the operator with full control over all its numerous functions. The operator's tasks, however, have been eased by providing the CFM with core memory storage of RF and audio channel frequency assignments. The memory unit can be operator programmed either manually through keyboard selections, or automatically from a previously prepared teletypewriter tape. Additionally, the operator can check the memory content automatically by generating a new tape containing the memory data and its address. This tape then can be compared to the entry tape. The CFM provides a tape input/output interface for either serial or parallel Teletype operation. A Teletype format interface was selected since Teletype equipment is common to the Navy's inventory, and no special skills or additional training are required for Navy personnel to program and maintain the equipment.

COAST GUARD CUTTER GLACIER IN SATELLITE COMMUNICATION EXPERIMENT

The Coast Guard icebreaker GLACIER (WAGB-4), largest U.S. icebreaker and veteran of 13 South Pole voyages, will carry special communications equipment to the Antarctic Sea this winter in a program designed to test and improve satellite communications equipment in three areas: telecommunications, navigation and weather.

On board GLACIER will be a satellite communications terminal designed and produced for the Navy by Electronic Communications, Inc. of St. Petersburg, Fla. It will be a duplicate of satellite terminals developed for use in the forthcoming Department of Defense LES-6 (Lincoln Experimental Satellite) communications relay program.

The Coast Guard has been engaged in satellite communication experiments since February 1967. During the spring of that year, the U.S. Coast Guard Cutter KLAMATH transmitted the first ship-to-shore, voice and radio-teletype message by satellite. Another first was achieved this summer when USCGC CASCO transmitted radio-teletype signals from Ocean Station Bravo in the Atlantic to the USS JOSEPHUS DANIELS (DLG-27) off Cape Horn and later in the Pacific.

The 310-foot GLACIER has been modified to serve both as an icebreaker and an oceanographic vessel. In company with two other icebreakers, her initial mission will be to penetrate McMurdo Sound at the beginning of the antarctic summer to resupply U.S. Naval Support Forces, Antarctica (Task Force 43).

She will carry some 16 scientists and full equipment to take deep core samples from the Antarctic bottom, engage in bottom photography, obtain specimens of Antarctic marine life, and perform other oceanographic assignments.

GLACIER will then conduct the second comprehensive survey of the Weddell Sea; the first was in the early part of this year. GLACIER will make maximum use of her satellite navigational system for positioning in this unknown sea. She will also use her satellite weather receiver to observe the sea's weather and ice conditions.



USCG GLACIER (WAGB-4) - USCG photo

Utilizing NASA satellites ATS-B and ATS-C, the Coast Guard is researching the development of small, economical satellite communication equipment.

When launched sometime this fall, LES-6 (Lincoln Experimental Satellite) will provide an operational test of satellite relay for communications between widely dispersed tactical units, including aircraft, surface ships, submarines and ground vehicles. The satellite was designed and built by MIT's Lincoln Laboratories in Cambridge, Mass.

Equipment on GLACIER will work through the LES-6 satellite with communication facilities of the Naval Electronic Systems Command in the Washington, D.C. area.

While the broad objective of the GLACIER tests is to prove the feasibility of satellite communications with units in the antarctic region, the immediate purpose is to evaluate propagation characteristics from arctic regions where auroral and other electromagnetic disturbances frequently play havoc with conventional communication links.

The satellite communications terminal on board GLACIER will have the capability of handling 100 words-per-minute two-way teletype traffic utilizing ECI-developed digital modulation techniques. The installation will include a 60-watt UHF transmitter, a power amplifier to generate a 1-kilowatt output, a receiver, modulator-demodulator, antenna, control unit, page printer, keyboard, tape reader and tape reprocessor.

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The terminal is an improved and modified version of equipment previously employed by the Navy in the highly successful LES-5 satellite communication relay test program. That program demonstrated technical feasibility of ultra high frequency satellite relay for tactical communications; LES-6 will provide additional technical and operational testing.

The 60-watt UHF transmitter on GLACIER will be all-solid-state, smaller, lighter and affording higher reliability than that used in the LES-5 program. Its companion receiver

also will be all-solid-state in design.

Under the command of Captain Eugene E. McCorry, USCG, GLACIER was scheduled to depart Long Beach, Calif. this fall. The 9-month cruise will include a stop at New Zealand en route to Antarctica, a northward voyage to South America, and a return trip to the South Pole regions.

GLACIER has taken part in antarctic exploration programs annually since the inception of Operation Deep Freeze in 1953.

CAPE'S SATCOM ANTENNA GETS RADOME COVER

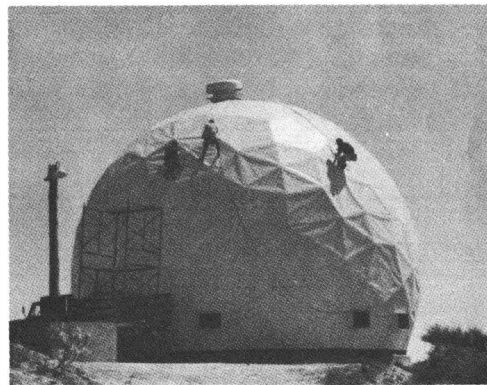
Construction continues at U.S. Naval Communication Station Harold E. Holt. A radome cover for the satellite communications SATCOM antenna is the latest project completed.

SATCOM communicates with ships and shore bases in the Pacific housing similar equipment. Without the cover the antenna had to be turned off and locked into position during sand storms common in the North West Cape area.

The cover, built by a Concord, Mass., firm, is 60 feet in diameter, is made of fiber glass with aluminum framing, and cost \$55,000.

The SATCOM terminal at the Western Australia COMMSTA transmits and receives voice, teletype and coded digital information to and from any other stations of the global military communications network, provided each station is simultaneously tracking the repeater satellite. One officer and 22 men operate the terminal.

Since its commissioning in September 1967, the communication station has added a guard house at the main gate of area "B", the administrative area, and a 4,000 pound, free-standing reinforced concrete cross next to the base chapel. A fully air-conditioned, 85-man enlisted barracks is under construction.



Workmen put finishing touches on fiber glass radome cover for SATCOM antenna at NAVCOMMSTA Harold E. Holt, North West Cape, Western Australia. Radome provides protection from high winds and sand storms.

DCA HOLDS COMMANDER'S CONFERENCE

Some 20 Field Commanders of the Defense Communications Agency (DCA) attended the Agency's 1968 Commanders' Conference at DCA Headquarters, Arlington, Va., September 9-13.

The conference was conducted to exchange information on important projects of the Defense Communications System, the National Military Command System, and the Defense Satellite System. DCA staff members and Field Commanders met in seminars to discuss problems and concepts associated

with implementation of switched networks, the communications satellite program, and the overall management of defense communications.

Naval officers attending included Captain F. R. Hoepfner, DCA/Alaska; Captain H. D. Murphree, DCA Operations Center/National Communications System Operations Center; Commander R. H. Engelbrecht, DCA/Southeast Asia; and Commander R. J. D. Williams, DCA/United Kingdom.

VLF TRANSMITTERS MAKE OMEGA SYSTEM RELIABLE

Very low frequency (VLF) radio transmitters are key units in the world-wide OMEGA navigation system which, when completed, will provide continuous all-weather navigational information for aircraft and ocean-going vessels, and enable them to chart their positions within a nautical mile or two.

The system is based on 15 years of research and development by the Navy. Four prototype stations, recently granted operational status, provide navigation coverage of the North Atlantic, the continental United States and the East Central Pacific. Stations in the present network include those at Trinidad, at Forestport, N. Y. (possibly due for relocation to the midwest), in the Haiku Valley on Oahu in Hawaii, and a test station at Bratland, Norway, operated by the Norwegian government.

These stations must be improved and four additional ones built to complete the world-wide system. Then navigators aboard aircraft or ocean-going vessels equipped with OMEGA receivers will be able to determine their positions with a high degree of accuracy. OMEGA will serve navigators of all nations. Eventually, the Coast Guard will operate the U. S. stations.

The four additional transmitter sites are needed in the Tasman Sea, the Western Pacific, the Western Indian Ocean and Southern South America. Discussions about possible sites have been held with the governments of Australia, New Zealand, Chile, Argentina and Japan. All are conducting location studies, and those countries finally selected will participate fully in the OMEGA program, Navy officials said. Selection of the four remaining sites is expected by the end of the year.

The two LORAN systems presently in use - LORAN A and LORAN C - lack world-wide capability. (LORAN is an acronym for Long Range Radio Navigation). There are 39 Loran A stations in the Atlantic and 40 in the Pacific, plus 30 stations in the LORAN C system. OMEGA can provide world-wide service with only eight stations, and for this reason will be far less expensive to construct and to oper-

ate than LORAN.

OMEGA stations transmit VLF radio signals with timing errors of two microseconds or less per day. Timing accuracy, excellent dissemination of VLF signals, and the requirement of continuous transmission enables use of OMEGA as a standard frequency distribution system as well as a navigation system.

OMEGA differs basically from LORAN by operating in the VLF band. Advantages of the VLF signals which make OMEGA reliable are that they travel very long distances, thus making it possible to provide world-wide coverage with only eight stations; they penetrate sea water to a depth of about 50 feet; and the sky waves are dependable in varied climatic conditions.

OMEGA stations transmit a signal of given frequency for about one of every 10 seconds. Only one of the stations transmits on a given frequency at the same time, but the signals from all stations are synchronized by highly accurate atomic clocks. The phase of the signals from the various stations will not vary from one another by more than one microsecond a day.

Aboard the receiving ship or aircraft, lines are drawn on a map through the points where the signals from two stations are in phase. These lines form a grid of hyperbolic curves. The receiver determines the difference in phase of the signals received from the two stations, and from this data the navigator determines a line of position within an eight mile lane. By using another line of position from data received from a different pair of OMEGA stations, the navigator can fix his position within one or two nautical miles.

Favored sites for OMEGA transmitters are in valleys which can be spanned by antenna elements of specified length. Such installations are less expensive and can be constructed more rapidly than those which require high towers.

The antenna at the Haiku station spans 7,200 feet across the crater of an extinct

Continued on next page

volcano, with height at mid-span of 1,240 feet. The length of the antenna elements and height at mid-span are related to the power of the signal transmitted.

Navy officials said modifications are required at Haiku to improve power capacity. Two antenna spans are to be added to

the present four, and the ground plane (a copper grid beneath the antenna) will be replaced. At Haiku the ground plane is elevated on poles to reduce the problems created by rapid growth of vegetation, which tends to reduce the radiation capability of the station. (Pacific Division, Naval Facilities Engineering Command)

'Gladys' Didn't Catch Them Napping:

NAVY-MARINE CORPS MARS OPERATORS WERE BUSY DURING HURRICANE THREAT

Alert Navy-Marine Corps MARS (Military Affiliate Radio System) radio operators in the area threatened by Hurricane Gladys were quick to respond when called to set up an emergency communication network.

Volunteer members in the Sixth Navy MARS District -- North and South Carolina, Georgia, Florida, Alabama, Mississippi, Tennessee and the Caribbean area -- were notified by the district director to start activating the network at 9:45 a. m. (EDST) on October 17. Within six hours, MARS members reported that 45 stations had emergency power available, 82 were capable of mobile operation, and 60 were ready with telephone patch capabilities. Additionally, 12 tri-service transfer networks had been activated among Army, Navy and Air Force MARS stations.

The emergency net was deactivated at 6:30 p. m. on October 19, but a number of stations remained on stand-by until the storm posed no further threat.

During the three-day emergency, a total of 370 stations checked into the net, with 49 operating continuously and 122 on stand-by listening watches. Two stations went off the air temporarily because of antenna damage, and two others had to resort to emergency power. Navy MARS stations near the Naval Air Stations at Jacksonville, Fla. and Memphis, Tenn. exchanged information on local weather and aircraft landing conditions.

The Sixth district Navy MARS director -- Chief Radioman (SS) Earl W. Crawford, USN, a veteran of 21 years' experience in Navy communications -- provided periodic situation reports which were passed to Naval Communications Command headquarters at Bailey's Crossroads, Va. from the Navy-Marine Corps MARS headquarters station (NAV), Arlington, Va.

Volunteer Navy-Marine Corps operators, amateur radio licensees affiliated with the MARS program, have the mission of providing communications available to both military commanders and civil officials during emergencies. The system serves as a valuable back-up for the Navy's regular communication service -- which, in the specific case of Gladys, sustained no disabling damage.

HELP WANTED!

The Editor, NAVCOMM Bulletin has a need for Welcome Aboard booklets and historical background material from all NAVCOMMSTAs and NAVCOMMUs. Briefing folders for COMNAVCOMM visits and frequent staff studies require acquisition of detailed data on every element of the Naval Communications System.

Your help in acquiring this material is earnestly solicited.

NAVY COMMUNICATIONS 50 YEARS AGO (III)

To date, our series of articles on 1918 Navy communications has shown you the rate structure in those days, and the duties of the CO of a COMMSTA.

This time let's see what was said about Naval dispatches (we call them messages today). You might find it amusing to see how the rules have changed by looking at the present day instructions in the ACP-121 and/or 124 series. Everything was CW in 1918, remember. Here's the way they did it (incidentally you'll see the word "tune" used; today we call it "frequency"):

NAVAL DISPATCHES

A. DEFINITION AND CONTRAST WITH RADIO SIGNALS.

A Naval Dispatch is a message in naval form, the text of which is preceded by the "letters follow" (---.), and consists of code words or plain language.

The form of a Naval Dispatch is the same as that of a Radio Signal, with the following exceptions:

(a) The text of the dispatch is invariably spelled out and the first word of the text is described by the "letters follow" (---.).

(b) Naval Dispatches contain check, reference number, and sometimes serial number, none of which are used in Radio Signals.

(c) The use of "Rush" is permitted when transmitted either by radio or, by wire or other means.

(d) Multiple addresses are repeated at the end of the text; they do not have the call prefix before each call.

The handling of naval dispatches differs from that prescribed for Radio Signals in the following particulars:

(a) Naval Dispatches are sent on working waves, not calling. (They are ordinarily longer than radio signals, and too much interference would be created on the calling wave.)

This procedure is also different for Naval Dispatches between ships on primary system and on secondary system and between ship and shore or two shore stations, on primary system and on secondary system.

(b) This usually necessitates calling on the calling tune and getting an answer before beginning to transmit the dispatch on the working tune.

(c) A signal of execution is not required unless the dispatch contains the word "preparatory".

(d) Naval Dispatches are not sent simultaneously by visual and flags, nor repeated upon receipt by visual and flags, nor reported to the officer of the deck by voice tube immediately upon receipt, as prescribed for radio signals unless very urgent.

(e) Except between ships, Naval Dispatches may be sent in a series and answered for at one time, not by call letters alone, but also by serial number.

B. DISCUSSION OF DETAILS OF NAVAL DISPATCH

1. FORM OF NAVAL DISPATCH

(a) Check. The check is required in a naval dispatch to make certain whether or not the entire dispatch has been received. The rules as to counting words apply also in Naval form. For instance, if a reference number contains six figures, it counts as two words. The check covers the address (i.e., the naval radio call of addressee), the origin, and text, including the reference number, but does not include the serial number, the check itself, or the "ans" with which a dispatch may terminate. In a relay naval dispatch, the calls preceding the relay signal are not counted in the check. When sent in code everything in the text between the "letters follow" and the "ans", (except multiple addresses) including the check, is repeated, i.e., sent twice (except when communication is certain), but is counted only once in check. The check is spelled out, e.g., "eight", instead of being sent as a numeral, as is done

Continued on next page

in radiograms. The check is placed at the end of the naval dispatch (instead of the beginning, as in radiograms); it must come immediately before the reference number.

Before beginning to transmit a naval dispatch, the operator shall count up and insert the proper check.

(b) Reference number. Reference numbers shall be used as described for radiogram communication.

(c) Serial number. Serial numbers are not used in naval dispatches used exclusively within the fleet; i. e., dispatches from ship to ship, but are used in dispatches between ship and shore or between two stations on shore. These serial numbers are assigned in a manner similar to numbers assigned to commercial messages. When a ship, station or flag officer is assigned more than one call, a separate series shall be used for each call, taking care that the choice of calls is continually varied. Otherwise the calls assigned to flagships will become known to the enemy by the volume of traffic handled.

(d) Use of "Rush". Since all messages in wartime must be in naval form between ships and ships and shore, it becomes necessary to indicate specially important ones. In such cases "Rush" is to be inserted in the text as the first word, immediately after the "letters follow". The word "Rush" must never be coded or enciphered. The use of "Rush" in messages sent by broadcast from shore to ship during wartime is limited to certain officials. In especially urgent cases, "Rush" Naval Dispatches may be sent entirely on the calling tune, as are Radio Signals.

(e) Relayed Naval Dispatches. In naval dispatches to be relayed whether through ship or shore station, by radio, wire, or visual, the signal "---" is used to separate the preliminary call from the address of the message to be relayed. In order to establish communication, usually a station must be called, and reply secured, before transmitting the dispatch. After reply is secured, the call of the relaying station is again made, preceded by call prefix and followed immediately by the interval, the origin, the "relay signal" (----), the call of the addressee, interval, etc. The relaying station then calls

the addressee. After communication is established, that part of the dispatch after the "----" is transmitted exactly as received. If it is necessary for the originating station to indicate the route, this may be done most conveniently by using one of the special signals in Chapter 13.

(f) Multiple Addresses. The naval radio calls of addresses in multiple address Naval Dispatches are sent together without the call prefix or the interval immediately after the "----" and are also repeated at the end of the text, before the check and reference number.

(g) Service messages may be sent in Naval Dispatch form only when it is impossible to express the meaning by one of the special signals in Chapter 13.

2. HANDLING OF NAVAL DISPATCH.

a. Establishing Communication.

Since communication is not on the calling, but on the working tune, it is necessary for a call to be made, and answer secured, before the message is transmitted, unless communication is certain. The tunes will depend on whether the communication is between ships, or between ships and shore, and will be as follows:

Between ships:

Primary system
Call on 4000
Answer on 3600
Transmit on 3600
Secondary system
(1) Ships acting singly
Call on 952
Answer on 952, designating tune
Transmit on designated tune
(2) Ships in fleet
Either
Call traffic ships on 925
Traffic ship answers on 925, designating tune;
All subsequent working done on that tune;
- or -

Force commanders shall assign schedule of force tunes upon one of which all calling and sending shall be done in each force. To

Continued on next page.

call a ship in another force simply use other force's tune.

Ship calling shore

(1) Primary system

Call on 4000

Answer on working wave

Transmit on 3600

(2) Secondary system

Call on 952

Answer on working wave, designating tune.

Transmit on designated tune.

Shore to ship

Broadcast on tunes either primary or secondary. If 'Rush', all work may be done on calling tunes.

In designating tunes, stations reply as follows: Supposing A7B has called A2C; answer is simply "A7B A2C ---.o", designating tune o.

b. Acknowledging Receipt

(a) When a naval dispatch has no serial

number, acknowledgment of receipt (by operator) is made by sending simply the reference number and the naval radio call of the receiving ship, thus: "08014 A2C". If the message has been sent to a number of ships, only the first in the prescribed order will repeat the reference number; the others will simply send their calls in the proper order. The order of acknowledging, etc., shall be the same as for radio signals.

(b) When naval dispatch has serial number, it will be answered by sending: Call of origin, serial number (spelled out), call of receiving ship, as "L6K five D2C". If a series has been sent, the following answer is considered correct and sufficient: "L6K five to eight D2C"; this will be considered to mean five to eight inclusive. The rules regarding the meaning of "ans" and "ack" as stated under Radio Signals apply also in naval dispatches. (end of quoted material)

Next time we'll look at the "organization for operation" as it was called, a set of circuit systems called super-primary, primary and secondary.

NAVAL COMMUNICATION STATION KEY WEST ESTABLISHED

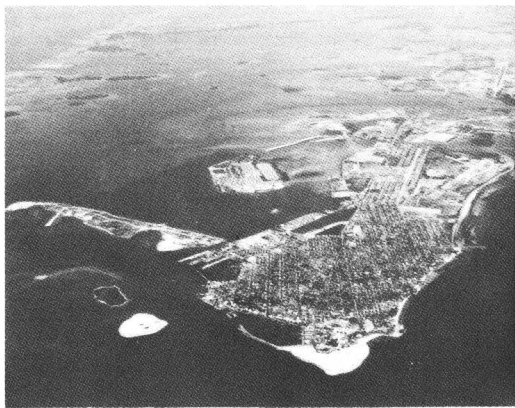
Naval Communication Unit Key West, Fla., first established on 1 July 1964, was officially redesignated as Naval Communication Station Key West four years and one day later, on 2 July this year. Rapid growth, occasioned by increases in the complexity of operations and the volume of traffic, led to the Key West facility's new status.

NAVCOMMSTA Key West maintains and operates communication guard centers in support of the Commander of Key West Forces, the Commander of the Naval Base, the Commander of the Fleet Air Squadron, and other component activities of the U. S. Naval Station, as well as the Naval Air Station at Boca Chica Key and its annex. Via various radio networks, the COMMSTA also provides ship/shore communications to units in the local operating area, and communication services to all Armed Forces in the Key West area as required.

NAVCOMMSTA Key West components include a message center, administrative offices, mobile receiver vans, and a transmitter maintenance facility - all on the Naval Station - and a message center and transmitter site at the Boca Chica air station.

The vans serve as the temporary receiving facility until the new receiver site is established at Boca Chica, at the present transmitter site (Building 1004). On tap for the near future is activation of the new transmitter site on Saddle Bunch Key, where preliminary tests of newly installed gear are currently being conducted.

Commander John R. Moore, USN, is Commanding Officer of the station. His Executive Officer is Lieutenant Robert C. Hamner, USN, who recently returned from a tour in Vietnam. Present command personnel allowance is 13 officers, 204 enlisted men and 30 civilians.



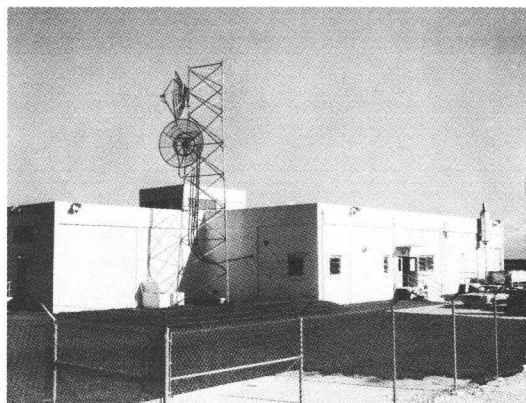
Aerial view of home of NAVCOMMSTA Key West shows Naval Station complex and Naval Station and Naval Air Station Annexes, lower middle, and the Naval Air Station Boca Chica Key, upper right.



Key West Naval Station Administration Building has been location of communication message center since 1943. It was first a department of the Naval Station, then a division of NAVCOMMU Key West; now, a division of NAVCOMMSTA. Two radio towers in background, built in 1914, are now equipped with new microwave system.



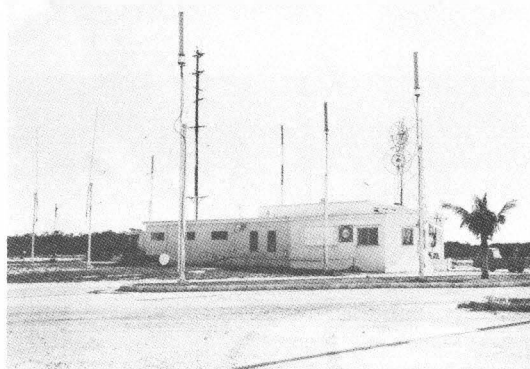
Building 57, one of the oldest continually used U.S. Navy radio transmitting buildings in the world, has undergone many modifications since its construction in 1912. Since 1966 it has also housed a teletypewriter and radio transmitter maintenance section.



New Saddle Bunch transmitter site will become operational soon. Installed electronic gear is now being tested.



Receiver vans located on Naval Station serve as temporary radio receiving facility until the receiver site is established at Boca Chica Naval Air Station.



Building 1004, slated to become the new receiver site in 1969, is serving as NAVCOMMSTA Key West's transmitting facility until the new Saddle Bunch transmitter site becomes operational.

NEWS

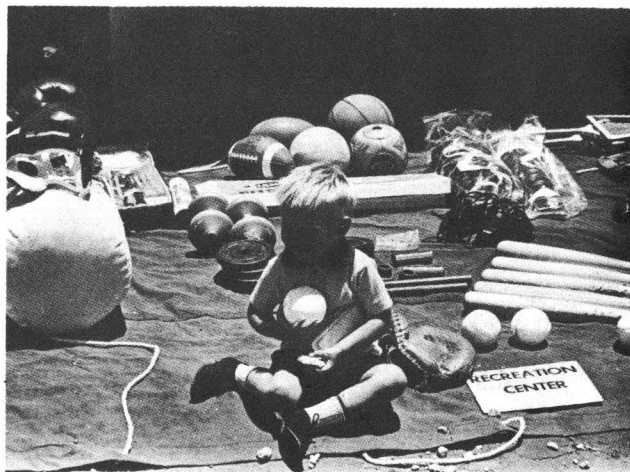
PHOTOS



THURSO, SCOTLAND - (Above) Official party for 6 September Change of Command ceremonies at U.S. Naval Radio Station Thurso is led by piper John MacRae. In foreground, from left, are Lieutenant Commander Stephen Cleaver, USN, Thurso's new Officer in Charge; Admiral Waldemar F. A. Wendt, USN, Commander in Chief, U.S. Naval Forces, Europe; and Lieutenant Commander Louis H. Marcoux, USN, outgoing Officer in Charge. Behind them is Captain R. E. Ward, USN, Commanding Officer of Thurso's parent station, NAVCOMMSTA Londonderry, Northern Ireland. (Below) Admiral Wendt presents a command seal to Dr. W. R. N. Sutherland, Provost (mayor) of Thurso.



ROTA, SPAIN - Arriving for visit to NAVCOMMSTA Spain on 23 October, Rear Admiral F. J. Fitzpatrick, USN (third from left), Commander, Naval Communications Command - with Lieutenant Colonel R. B. Beaumont, USA, DCA-Spain/Italy/Africa (far left), and Captain E. H. Farrell, USN, Depty COMNAVCOMM - is greeted at airfield by Captain L. W. Mather, USN, CO, NAVSTA Rota; Captain W. T. Hunt, USN, COMMSTA CO; and Commander B. T. Sanders, COMMSTA XO.



EXMOUTH, Western Australia - A softball and cookie were enough to make young Alan Pickford one of the happiest of visitors to NAVCOMMSTA Harold E. Holt during "open house" festivities on Navy Day, 27 October. Alan is the son of Jim Pickford, an Australian employee of the base's public works division. Sporting equipment is among the gear provided by Special Services for COMMSTA personnel.