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NORTH AMERICAN SHORTWAVE ASSOCIATION

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Official Publication

***** "FRENDEX" *****

VOL. III NO. 2 - Mar. 1964.

HEADQUARTERS

1503 FIFTH AVENUE A2

ALTOONA, PENNA. 16602

MEMBERSHIP DUES TO BE INCREASED !!!!!

Whether or not it is known by the average member of organizations such as this with which we are here concerned, it is fact that success depends largely on expenses and operations being kept within a balanced budget. Most clubs which have failed in past, have ignored or shunned this fact; Today they no longer exist! So let us then say we have learned via the mistakes of others and in doing thus, we wish to profit in ways beneficial to our club; Our motto and our hobby. We effort to succeed not suddenly, not swiftly, but slowly and surely. So let us now strive for solidarity/soundness.

This edition of FrenDx is the largest published to date; It is an example of those editions to come in the future. Evident here is the fact that more and more members are taking a part, are reporting more often, are submitting nx, items and articles to be contained. Sections are expanding, new sections are being considered and planned. This is all well and good, BUT it is wise to keep in mind that the larger these editions are or become, the more they add to expenses and we must be thusly prepared.

INDISPENSABLE??

Sometime when you're feeling important, Sometime when your ego's in bloom, Sometime when you take it for granted you're the best qualified OM in the room; Sometime when you feel that your passing would leave an unfillable hole, Follow this simple instruction and see how it humbles your soul. Take a bucket and fill it with water, Put your hand in it up to your wrist, Pull it out and the hole that's remaining is a measure of how you'll be missed.

And so, beginning the month of May, current year, dues shall be set as follows: To residents of North America - \$3.00 per year; To residents in all other parts of the world - \$4.50 a year. This additional income will allow us to expand as well as improve future editions. It will allow us to do so without fear of financial falterings. Our budget can be increased, our operations can be widened. The club will benefit overall and so will each and everyone of its members.

B.I.

UP TO DATE MIMCO FUND DATA

The following is the latest official listing of all donors/contributors to mimeo fund: Jim Creek \$1.50, Lavoyd Kuney \$5.00, Frank Stone \$5.50, John Long \$1.50, Rudy Welk \$1.00, Rheal Lavoie \$2.50, Frank Peters \$10.00, Clayton Woodward \$3.50, Jonathan Gentry \$1.00, Ed & Stel Barkowski \$5.00, L.P. Imler \$5.00, Steve Raiche \$5.00, Phil Flickinger \$1.50, Tom Bispham \$1.25, Peter Drew \$1.10, Doug Benson \$5.00, Neal Gregory \$2.50, Dick Little \$1.00, Larry Marshall \$5.00, Harvey Young \$1.00, Hector Julio Pressa \$5.00, Ken Austin \$5.00, Alan Herrington \$1.00, Paul Bassiri \$1.00, Jerry Sullivant \$1.00, Walt Smart \$1.00, Ted Templeton \$2.00, Dave Alessi \$2.00, Ron Luyster \$1.00, Frank Lendziozek \$1.00, Joe Fela \$5.00, Nick Vrettos \$5.00, John Arthur \$5.00, WPE \$10.00.... The following OM have pledged but have not fulfilled same to date: John Ball, Dorsey Wood, Bob Newham, Rick Roll, Phil Fielding. Donations/contributions accepted in any amount, anytime! Etc.

INTRODUCING NEW MEMBERS OF NASA

Richard Jenneman/WPE9GCZ, RR2-Box 104, Stanley, Wisc. 54768...Dick is currently a sr. in highschool. He is 17 and operates a mail-order business on the side. Is a stamp collector and a cardswapper. His equipment consists of an RCA/Echophone rx fed by a longwire 200', E/W, and a ABSC xmtr. He joined via former FSDXC.

Michael Ware, Rt.1-Box 20, Quitman, Texas. 75783..An OM of 15, Mike is a freshman in highschool who is interested in electronics, sports and playing the guitar. His DX interest is in the SWBC bands where he listens with a Knight R-55 and a SpanMaster. Antennae used are a fan-shaped dipole and a longwire. He plans to tapespond soon and also start cardswapping when his call letters come from PE. Mike joined via Larry M.

Herbert Keesecker/WPE8FAX, RD.1, Cortland, Ohio. 44410..Being employed as a tank truck driver, you can well imagine why this OM of 34 likes to relax at DXing during his leisure. He uses a SX-62A and a Monitoradio-BC-1206-CM in his listening den. An SWL-7, a loop and a longwire make up his antenna farm. Too, Herb partakes of the card and tape swaps, his recorder being a Lafayette RX-130. He came to NASA via Larry Marshall.

Tom Friberg/WPE7EXP, 4436 41 S.W., Seattle, Washington. 98116..Tom first heard of our club de EI. He is a highschool student interested in electronics and chemicals. He speaks/writes Spanish and prefers DXing both BCB and SWBC with his Knight rx, a StarRoamer model. Other gear he has are two 100mw CR xmtrs. Northwestern Tom is 16.

Robert Reinhard/WPE3EXG, 122 Catalpa St., Middletown, Penna. 17057..Another DXer who digs both BCB and SWBC, Bob is 16 and attends Bishop McDevitt Highschool. He is much interested in electronics and art. At his listening post he dials with an S-120 to which he has added an inverted "L", 35' antenna. Bob cardswaps and he came to NASA via Radio Nederland. (Who sez we aint known??? Hi!)

Peter Glenn/WPE2JMT-WN2JWR, 12 Prospect St., Morristown, New Jersey. 07960.., Pete, an OM of 19, works as a printing pressman and is interested in both AROing and SWLing. He also dabbles in model railroading. His shack gear consists of: Lafayette KT-30 (he sez its a custom built masterpiece!) a 40m xmtr(?), a signal generator and a Wollensak yakbox. Antennae are a 100' longwire, 65' longwire, 40m-dipole. Sez he is a 100% cardswapper and an occasional tapesponder. Pete first hrd of our club via his (our) friend Paul Bassiri now in the French AirForce.

Robert Rooney/WPE3AE, 435 Bartlett Avenue, Ridley Park, Penna. 19078...Coming to us through the now disbanded FSDXC, Bob is 23 and a student at Temple University. In excess of DXing (BCB and SWBC), he is interested in photography, stamps and hi-fi. His gear: S-38D, Emud-196, SpaceSpanner. Antennae: built-in for the Emud and indoor for others. Mr. Bob is an active cardswapper.

Rodger McNicoll/VE3-10334, 44 Smithfield Drive, Toronto, Ont., Canada...Hockey, stamp collecting, cardswapping, certificate hunting and SWLing/DXing make up the interests of Rog who is a highschool senior at 17. His listening is done on the ARO bands and he dials a Heath "Comanche", with a longwire antenna. This OM is a surefire-deluxe cardswapper and is the present Awards Editor for the CDXC, our brother-club. Rog had first hrd of us de John Harvey, but he joined via WPE3BWL.

Richard Zweier/WPE3FJX, 439 Cumberland Street, Lebanon, Penna. 17042...Planning to become either a grocer or an electrician, Dick, an OM of 13, a Junior High student likes fishing and collecting coins (Lincoln head pennies). He DX the BCB and SWBC on an RCA-59VI six tuber to which a "V" shaped 120' and loop antenna are connected. Credit for his joining NASA is given Don Erickson.

Barry Kneabone/WPE1FLD, RD.2, Wrentham, Mass. 02093...Using an RE-30 for monitoring ARO, BCB and SWBC, this OM comes to us via PE and Communications HandBook. Barry is 14 and a student at King Philip Regional Highschool. He swaps cards and also collects coins (dont we all do the latter? Hi!) For an antenna hooked to the above named rx, he has a 125' longwire.

AND HELLO AGAIN!!!

Welcome back to renewals; Clayton Woodward-Alaska, John Long-Penna., Jim Creek-N.Mex. and Rheal Lavoie-Canada. Tis always a good feeling to have such FB oldtimers return.

ELECTION/NOHINATION NOTES

Quite concernable here is the fact that out of the twenty members who were nominated to run for board of director offices, only half showed interest by informing us as to whether or not they chose to be listed as candidates. Fortunately however, those who did inform us, were most sincere, very considerate and had the best interest of the club in mind. Some accepted the "honor" to run, others declined to do so.

A question that bears much cogitation here is...should an OM who is on the editorial staff, be eligible for a board of director office or should one OM be permitted to hold more than one position? Most do not seem to realize that there is much work in connection with the B.O.D.; Those elected to such posts will need to give quite a bit of their time, effort. So, is it wise that they take on two jobs even though they are seemingly capable and most willing? A directorship is an "unsung" post, yet it is of gross importance to the future of the club, right from the very offset. The OM who are elected hereto will guide/govern the club. It is they who will make the rules, draft the constitution, handle inter/intra club relations, all publicity. These are but a few of their duties. And so it is asked that all members and all who have been nominated for B.O.D. offices, give this serious thought before the election so that the end result will be beneficial to the club. As some of you know and as others of you will find out, a position, whether it be an editorship or a directorship in the club, is not always fun...its work, mighty tedious work at times!

Another point on the upcoming election for board of directors is this: Many members have written here saying they are at a loss as to whom they will vote for because they know few or none of the OM who are candidates. So it is now requested that all nominee's submit to hdq, a brief summary of views, ideas, wants, etc., held by you re the hobby. In addition, give a few facts of your club interests, insights, etc.; A few bits of your personal data so that all members can better get to know you and read what you propose to do for NASA/the hobby, if/when you are elected. These should not be submitted on a campaign-like basis, but rather on a level of autobiography. They should be written with a purpose of introducing yourself to those members you do not know...with a purpose of letting them know you and your club activities. They will give the membership a far better idea of whom to vote for. Please submit your copy to hdq before April 10th! All will be contained in the April edition of Friend!

DE HANK BENNETT-PE

Hank was good enough to reply to our bit, "Probing PE" in last month's Friend; Here is what he had to say.... "I am in no way connected with the monitor registrations for PE. These are handled at the New York office. I can only suggest that further probe be made there. Mail sent to me re these registrations have, in the past, been forwarded, but in future, will be returned to sender for reasons of incorrect addressing.

Also, would you please advise your members that phase 2 of the awards program will be instituted shortly. They are for 20, 30, 40 or 50 states. The same general rules apply, i.e., the applicant must have a WPE call; The application must contain a listing of states heard and verified, with dates for each, location and freq. States should be listed alphabetically. The 50¢ fee is required."

LAFF ALONG NIT ME!

Fer zale; Schmitzen-Mietzer modellen 911, kosten 4.95 kitten or 267.05 gewiren. Das receive ist gefiven tuben und ist a degeneraten typen. Der fronten paneal controlens ist - 1 gemainen tunen knob, 1 bandschreden knob, 1 onen/offen knob, 1 louden und soffen knob, und alzo 1 earfonen gerolugen. Wen onen-offen knob ist onen, der receive ist spitzen und sparken und blowen der fuzen. Der rectalfier tuben ist poppen und der dialenlighten ist blinken. Then tunen knob ist turnen, der springenwerk ist schneemin und der schromet is gebroken. Ist grabben der receive und flingen out der vindow midoudt onen in der vindow. Das receive ist schtunken. (Much tnx to Frank Peters for this "gem". Translated into English, it sounds like it might refer to ye olde NC-173 used here at this shockin' shaaken.)

WHEELS IN MOTION!

Actions are being initiated to get basic plans under way for the proposed Alliance of North American DX Clubs. Communications are being/have been sent to officials of all clubs concerned. Our own Don Jensen is the acting Exec. Secretary; He has most considerately volunteered his services as such. We wish him well and know he will a job well done. NASA of course will support and cooperate with Don and the Alliance in hopes the future will bring success in that our hobby is direly in need of some such organization; One that can/will, in many ways, promote "Unity & Friendship". The road ahead will be rough, the task is surely to be tedious and progress mostways slow, yet if all DX clubs on this continent can agree to make this "trip" together, for mutual benefit, the road will become smooth, the task trivial and progress vry much expedited.

TRUE NASA SPIRIT!

In a past issue of Friendx we had stated a need for an editor of the SWBC section; Here then, partially quoted, is response rcvd from a certain member:

"I see that you are in need of an editor for the SWBC section. Although I am only thirteen years old, in the eighth grade, not an real experienced DXer, I would like to offer my services."

Needless to say, Hdq was pleased to rcve this letter and it was answered in a most appropriate way. It is seldom that we get such sincere mail here as this OM meant his offer, but we are thankful that evry once in awhile a bit of like "sunshine" does. This young man did not get the pest in point, but he did get and he will ever have the plaudits of the club for his vry fine showing of "heart" in our motto. An OM need not be an oldtimer, a wordly DXer or an educated scholar to find success in this hobby of ours....all he needs is a want to share with others, the pleasures of a pleasing pasttime, and to do it from heart moreso than head.

MAIL QRM!

A few bugs have cropped up re monies sent here of late...so pse, for your own good, always remit via check, money-order and never via cash!

TO WHOM IT MAY CONCERN

I have been asked to give reasons for the FSDXC disbanding; They are chiefly: I am currently in highschool and the job of publishing a monthly bulletin was too much for one person. Postal service was and is poor. Section editors, in most cases, were also in school and did not have sufficient time or experience to handle duties. And editor turnover was a problem. There was not sufficient support from the members to carry a small club through the difficult first year. All members who paid their dues are now being reimbursed as fast as possible. If you yourself, or anyone else, has not rcvd money and had less than one dollar coming, pse let me know; It is possible that I made a mistake. Thank you. Don Erickson/WPE6DIQ, 24360 Myers St., Sunnymead, Calif. 92388

ALL CONTESTS QRT!!!

All section editors and members pse take note that no contests will be officially approved by Hdqs until such time as a formal notice is given, approval granted. This is brought about due the fact we are efforting to have trophies for prizes and also because it is deemed wise to have all contests governed by appropriately setup rules. Overlooked in past, by NASA and most evry other club, is the fact that contests best be club sponsored rather than merely by a certain/specific section or editor. (This does not include the CDXC/NASA SWBC asked for next month, nor the personally projected contest being initiated by our Reel Ramblings editor, Dave Alessi!)

!CHEERS/BOUQUETS!

To Doug Benson for his worthiest of efforts in his new editorship; To Larry Marshall and Dave Alessi who are making Friendship Corner more versatile/readable than ever; To Steve Raiche and his new format; To NNick Vrettos - Space Whirler; To Ron and Tom de NewsRoom; To Lil Dickie and Mr. Al our HamBand eds; And to all OM who have reported, supported, assisted in making this edition of Friendx our biggest yet. Oh yes, and a "smelly" petunia to me too! (That oughta include evryone, eh? Hi!)

NASA

NASA

NEWSROOM

NASA

NASA

Ron Luyster, Editor
Tom Cardullo. Asst.

Route 1,
117 Orchard Ave.

Flushing, Ohio
Emerson, N.J.

NASA

Page 1

NASA

****NEWS BRIEFS.....The Marshall Space Flight Center had an interesting and productive year, says the Associated Press. Among the accomplishments were proof that the Centaur rocket could use a liquid hydrogen-oxygen engine ignitable in outer space, test firing of the big F-1 engine (1.5 million lbs of thrust) and the extended ground test of the monster J-2 engine. In addition, Saturn vehicle SA-4, the fourth successful launch in a row of the missile, flew in March.....

.....Encouraging results have been obtained, says a report from Toronto, in experimental efforts to spot Canadian forest fires through the use of microwave and infrared detectors mounted in orbiting satellites.

.....Half the citizens of Truth or Consequences, New Mexico, want the name changed back to Hot Springs. The new name was adopted in 1950 in honor of Ralph Edwards' then-radio program....

.....And there's the story of the BBC announcer in London who offered a motorist \$50,000 (American) for his license plate. It seems that, in Britain, a car owner can keep the same plate for life, and the announcer wanted the plate "A1".....

.....Astronaut Alan Sheppard and two other men have purchased 93 percent of the stock in a bank at Baytown, Texas, 35 miles from Houston...

.....Four Canadian scientific rockets will be fired from the California desert between 1965-1970. NASA and the CDRB reached the agreement in the second week in January.....

.....Valentina Tereshkova Nikolayev, the worlds only women cosmonaut, is expecting a baby in July or August. She married Cosmonaut Adrian Nikolayev in November. The infant will be the first whose mother and father have both been exposed to cosmic rays and other influences outside the Earth's atmosphere. Rumor has it that the Russians are going to dub the child a "Cosmobabe"....

.....New York City educational station WNDT has applied for permission to operate a second program on a UHF channel, specifically aimed at high school drop-outs. New Yorkers might see the program on Ch. 14..

.....On a local TVer here recently, the usual question-and-answer session of a competition nature was broken up by the question "What would I have if I collected QSLs?" The answer given by a budding panelist; "Boils". (Credit all above to Associated Press & Doug Benson.)

****Even the man at the mike must sigh occasionally for relief from radio's routine of disc-playing, news and commercials(We shore do..DB). Else how could we explain a Newark, NJ radio station's non-stop reading of the Bible..ALL 66 books, 1189 chapters, 776,000 words and 31,173 verses of it? Going on for 18 hours a day, the performance ran for a week. To make it even more unusual, 1376 persons-none of whom was a clergyman-were asked to read about 25 verses. They made their contributions on strips of magnetic tape which were spliced together to make what the New York Times called "a marathon of mispronunciations". The station manager said the idea was to capture the typical voices of America. (Excerpt from an editorial in the St. Louis Post Dispatch via member Doug Benson.)....

.....Now on to Page Two.....

****TV and Radio In East and West Germany....Germany's highest concentration of television receivers is in West Berlin with 18.6 sets per 100 persons, compared with a West German average of 14.2 sets per 100 persons, and 3.6 sets per 100 inhabitants of Soviet East Germany. There are just over 30 radio receivers per 100 West German inhabitants, while there are just over 15 per 100 persons in the Soviet occupied German zone. (this info via member Richard Cohen/WPELEWL)

****Giant In the Mountains.....An isolated valley in Mountainous West Virginia is the location for what is now the world's largest movable radio-telescope dish antenna. Using this 300-foot monster, astronomers say they can get as much information about the planets of our solar system in one day than was formerly possible in thirty. Radio telescopes gather in faint radio impulses from the stars and planets, instead of gathering light as optical telescopes do. Thus they are able to see many things that entirely escape the optical type. (de Rick Jenneman)..

****AROUND THE CLUBS.....According to the "messenger", bulletin of the CIDXC, they are now in the process of electing a new executive staff. A fee of 25¢ is charged for each nomination to prevent members nominating themselves and to keep nominations at a minimum. Also, nominees may purchase space in their club bulletin or a possible special bulletin dealing strictly with the election. Ad space may be used for campaigning.The NYC Chapter of the ASWLC informs us they have had no word from club headquarters since October last. They are presently considering taking a vote re whether or not to secede. It should be pointed out that even without word or help from main ASWLC headquarters, the NYC ASWLC has been trying vainly to hold forth. They have/had programs over WRUL; hold meetings regularly and keep up-to-date DX-wise.The NRRC puts its new constitution into effect this month. Altho tis basically as before, there have been a few alterations which are expected to enable the club to be run more effectively. (Club News via WPE3BWL)

****More News BriefsNew Transistors.....RCA has introduced three new silicon-power transistors into the market that sell "at a fraction" of the price of other transistors. The transistors are designed for up to 115 watts maximum dissipation and maximum collector currents to 15 amperes. (de "Broadcasting" magazine)

.....Quick-Process Film....Eastman Kodak, in a news conference held on February 7 in New York, presented its new easily-portable "Viscomat" device that is designed to serve TV stations, among others, in quickly processing 16-mm motion picture film. According to knowledgeable sources, the new equipment will permit a negative to be turned out in two minutes and from which the user then can make a positive (for spot, news, and sports events). Along with the developing device, Eastman Kodaks package includes a new camera which is mounted on a tripod and has a zoom lens. The film has a magnetic strip for audio. ("Broadcasting" magazine) (Credit the above two items to member Paul Kirkpatrick-WPE3BQL).

.....That's about it for this time. Hope to be hearing from more of you with more news items. Tnx to those reporting this time!

(On to Tom.....)

*****NEW CLUB QTH - North American Shortwave Association has a new QTH. Officially, the new QTH is: NASA Headquarters
(Send in ANY/ALL News!) 1503 Fifth Avenue
Altoona, Penna. 16602

*****UNIVAC'S GONE - The world's first data processing computer, UNIVAC I, Serial No. 1, finished its final computation for its owners, the Bureau of Census (a branch of the US Dept. of Commerce). The monstrous machine was officially given to the Smithsonian Institute in Washington, D.C. The retirement of Univac #1 took place nearly 12½ years after it went into operation. I quote the opinions of the original author: "Now, I for one, favor the idea of retiring the dusty bones of distant Pharaohs to deep recesses of museums, but UNIVAC I still has a useful life. There are many colleges throughout that the land that teach prospective engineers all about computers and the like without having the likes of one on the campus to show the students, or give them the opportunity to work on one. UNIVAC is not that ancient that students could not learn by using it. I wonder if the retirement of UNIVAC I was nothing more than a public relations man's dream come true." (End-quote) If it is permissible for me to register my opinion, I'd like to say that I agree with Mr. Sienkiewicz (the author of the quote). I believe that many small colleges and colleges without computers of their own might benefit from the use of an otherwise obsolete machines of industry. If there are such computers around, and I'm sure that there must be, it might be well to notify colleges of this fact. I know that some colleges are now using modern industrial computers on evenings and Saturdays, when they would otherwise be wasted. (Tnx to Radio-TV Experi.)

*****THINGS to WATCH for in 1964 - According to Popular Electronics' Semiconductor Editor, Lou Gardner, watch for the following innovations in 1964: (1) development of a transistorized anti-collision radar system for passenger cars; (2) two new transistorized TV sets by major firms; (3) development of a completely transistorized color TV receiver; (4) introduction of special "experimenter" parts and kits from several major firms (taking after GE); (5) production of moderately-priced solid-state LASERS; (6) use of integrated micro-miniature circuits in consumer products; (7) development of a semiconductor air-conditioner for autos; (8) a tunnel-diode for under \$1.00; (9) development and production of a semiconductor phono-cartridge. (Tnx to Pop 'Tronics)

*****TV SEEKS TO AID SCHOOL DROPOUTS - Educational television station WNDT, Channel 13, has asked for permission to operate another channel with programs to aid school dropouts and adult illiterates. The new station would be on Channel 14, an ultra high frequency (UHF) channel. Samuel B. Gould, President of Educational Broadcasting Corporation, said yesterday the Federal Communications Commission has been asked to waive a distance rule for the new Channel 14. Its transmitter on top of the Empire State Building would be 2½ miles too close to station WWOR, Channel 14, in Worcester, Mass., than the required 150-mile separation of stations. (AP News

- ***** FCC CRACKS DOWN ON VIOLATORS - (A quote from Radio-TV Experimenter.) "Lately, there have been an increasing number of press releases from the FCC crossing my desk listing names of CB'ers who are about to lose their licenses as well as \$100. Almost to the man, each license holder failed to respond to official notices. I personally believe that if each licensee had answered all citations as soon as they were explaining that they were sorry for what they did and will not do it again, the FCC would be more than happy to forget about the complaint. However, if you fail to answer their letters (even if you are innocent of the charges) you can lose your license and \$100. to boot. So get on the ball when you get that complaint from the FCC if you want to stay on the air. (Editor's note: As evidenced by the above quote and by the increasing number of license suspensions, people don't think the FCC means business. I can assure you that their notices mean as much as a notice from the Internal Revenue Department. If you don't heed their notices, you might be out as much money as if you ignored a tax notice!)
- ***** FCC AGAIN - UHF Policy: As things are set now, all television sets that are produced after April 30, 1964 must be capable of receiving all TV channels (VHF and UHF). The FCC really means it, and television set manufacturers are just beginning to realize this.
- ***** WWVH ALTERS SCHEDULE - The National Bureau of Standards time and frequency standard in Hawaii, WWVH, has canceled the 34-minute silent period at 1900 (their time) daily. The quiet period from 15-19 minutes past each hour will continue. WWVH operates on 5, 10, 15 mcs. (Good opportunity to log Hawaii from the East Coast, they put out blockbuster sigs when WWV, in Denver, Colo. is off the air)
- (Credit Radio-TV Experimenter for the above items)
- ***** FCC CHARGES - (and not like a capacitor!) Perhaps many of you know all about the new policy of charging for licenses, but there might be those of you who don't know the full details of the new system. This article cleared matters up for me, I hope it helps some of you. "Even before they went into effect, the new procedures for obtaining a Novice, Technician or Conditional class licenses have been modified by the FCC. As the rules now stand, when you are ready for the exam, you select a volunteer for the test. He must be at least 21 years old and must hold an amateur license of General Class or higher, a commercial radiotelegraph license, or be employed in the service of the United States as the operator of a manually operated radiotelegraph station. Also, you must write to the FCC field office nearest you QTH and request Form 610. When you receive the form, your examiner will give you the code test. When and if you pass, the examiner will mail in the filled-in form, a signed statement from the examiner stating his qualifications and your \$4. license fee to the FCC. In the case of a novice license, there is no fee.
- (Credit to Popular Electronics)

That's it for another month.

73, Tom is R.

SECTION

Doug Benson, Ed. 2709 Balltown Road, Schenectady, New York 12309 USA.

'Tis the season for the snow to melt, for the Sun to begin shining once again, and for Friends to bow in with its new editor. Right here, we'd like to solicit your help, your cooperation, and your items for publication. Our thanks for help go to Don Jensen, Bill Eddings, Frank Peters, Louie Stober and Paul Moyer. Paul is not as yet a member of the club, but has seen fit to supply us with many good reports. Thanks, Paul. That's "Unity and Friendship" for sure. Reports for March follow, followed by the Specils column, which will contain hot catches, frequency changes, and new information.

- 3222 Kcs Mauritania, Nouakchott s/on at 0630 in lingo. QRM'd (Peters)
 3255 Liberia, ELBC at 0730 in English. QRM'd and not hrd daily.
 4843 Congo, Brazzaville R. Congo in French w/news 0530 (both Peters)
 4845 Brazil, Teresina R. Diff. Teresina s/on 0800. Strong. (Peters)
 4855 Nigeria, Enugu in English at 2130. S/off 2200. Good. (Peters)
 4865 Azores, Ponta Delgado at 2215 hours. Often S-9 sigs. (Peters)
 4875 Dahomey, Cotonou Radio heard at 0530 hours. (Peters)
 4890 Senegal, Dakar Radio with French news at 2215 (Peters)
 New Guinea, ABC's domestic service hrd w/pop music 1320,
 closedown 1400 (Moyer) With BBC and local news 1300 (Ed.)
 No frequency given in 3 IDs. (Stober)
 4885 Kenya, Nairobi at 1804 with BBC news (Newhart)
 4920 Australia VLM4, Brisbane at 0830 with booming sig (Stober)
 4923 Ecuador, Radio Quito HCQR, La Voz de Capital at 0330 hrs.
 WRH sez this only 500 watts. S/off at 0435 GMT (Stober)
 4940 Ivory Coast Radio, Abidjan, at 2200 GMT in French (Peters)
 5040 Kcs Colombia Radio El Sol at 0400 in lingo (Peters)
 5050 Tanganyika Radio, Dar-es-Salaam at 1730 hours with news
 in Kiswahili (Newhart) Did you understand it Bob? (Ed.)
 5047 Togoland, Lome at 2200 in French (Peters) At 0600 signon with
 French news, then music at 0630 (Ed.)
 5960 Dakar Radio, Senegal at 0830 with commentary, 0838 nonstop
 Organ music. Church Service 0900 Sunday. (Ed.) French.
 6035 Kcs England BBC with the Arabic service at 0500 (Peters)
 6035 Honduras, R. Tegulcigalpa s/on at 1200 with a full ID (Moyer)
 6080 Germany RBI International Radio, East Germany here at 0345
 and 0445 GMT for WCNA (Gary Payne)
 6112 Emisoras Nac. at Santo Domingo at 1200 with QRM from
 Radio Comayaguella, Honduras on 6110 Kcs (Moyer)
 6150 Australia, Melbourne fair at 1030 GMT.
 South Africa, Paradys here at 0345 hours. Comm'l Service in
 both Africans and English (both items Peters)
 6165 Mexico XEWW with SBC underneath at sign-on. 0330 GMT (Peters)
 6170 UNID here jaming Arabic on frequency. Ideas? (Ed.)
 6185 Nigeria, Ibadan (WNBS) commercial service in English 0615 Peters
 6195 Colombia, Cali, Voz de Cali, HJEZ being hrd well (in Oregon)
 between 0400 and 0500 GMT sign-off. Good sigs. (Stober)
 6230 Hungary, Budapest Radio at 2200 GMT in English (Peters)

ALL TIMES IN THE SWBC REPORT SECTION ARE IN GMT.
 PLEASE REPORT IN THAT TIME ONLY WHEN SENDING REPORTS. TNX.
 Reports continued on next pages.....

- 7035 Kcs. Peking in Chinese at 2230 GMT(Peters)
- 7075 UAR Cairo in Arabic also at 2230 hours(Peters)
- 7125 Formosa, Taipeh BCC at 1045 GMT with an S-7 signal but with poor quality noted. English, S-off 1055(Stober, Jordan, Amman Radio logged in arabic at 0430. IS at 0425 hours. Plenty QRM. (Peters)
- 7155 Ryukyu Islands; VOA Okinawa logged at 1230 hrs. (Stober)
- 7160 Canary Islands, "R. La Voz de la isla de Palma" comes through heavy QRM and QRM untill 2257 signoff. Mostly clear IDs and music.(Ed.)
- 7385
- 9009 Kcs Israel Kol Zion hrd in English at 1600 s-on(Stober)
- 9475 UAR Cairo logged in Chicago in Eng. at 2200(Peters)
- 9495 UAR Cairo logged also in Arabic at this time(Peters)
- 9562 Peru, Lima hrd at 0200 GMT after RFT sign-off on 9560 Kilocycles.(Peters) Is Radio Nacionale.(Ed.)
- 9610 Norway, Oslo hrd in lingo at 1700 hours. (Peters)
- 9650 Guinea, Conakry La Voix de la Revolucione hrd untill VOA signs on at 2300 hours. Programs folk music.(Moyer)
- 9700 Chile, Santiago CE970 hrd well at 0315 hours. Listen for the "Pomp and circumstance" music played often.(Stober)
- 9720 Senegal, Dakar in French at 2200. Good sig, clr IDs. (above item also from Frank Peters of Chicago).
- 9760M Germany Radio Liberty at 0300 GMT with long musicbox TS, then anthem and news in Russkie. Jammed. (Ed.)
- 9725 Singapore, BBCFES hrd well at 1000 GMT.(Stober).
- 11705 Sweden Stockholm in lingo at 1700.(Peters).Program info Frank?(Ed.)
- 11740 Vatican Radio beamed to SE Asia..opens with Church news 1600, closes at 1613. Dual 15120.(Stober, Ed.)
- 11750 Guatemala Radio Modelo at Retalhuleu here and heard with only 500 watts of QRP. (Moyer)
- 11760 Mozambique Radio Clube... at 1100 with pop music (even some..whew..rock)news, ads, in English.(Ed.)
- 11795 Germany, DW hrd in English beamed to Africa at 1615 with fair signals in Oregon.(Stober)
- 11800 Ghana, Accra Radio hrd at 2100 untill s/off 2135. (Above via Moyer and Stober)
- 11805 Brazil Radio Globo hrd at 2030 hrs w/Accra QRM.(Moyer)
- 11820 Mexico XEBR Hermosillo at 1700 in lingo. QRM from Abidjan Radio(Peters) Abidjan at 1830 with ten mins of news in English, then music(Stober)England BBC's VOA relay via Grey Stars Network heard in Bulgarian from 1630-1700 hours(Stober) Good catch in Ore.,Ed.
- 11825 USA WINB Penn. in English at 2100. It too is QRM'd by Abidjan radio(Peters)
- 11830 Rep. of Congo, Leopoldville in French at 2130 at s-off time. Also hrd in different service on 11755.(Peters)
- 11835 Haiti Radio 4VEH Cap Haitien(religious)at 1900. (Peters)
- 11845 France RTF in Arabic and French 1715 w/docu, then chants. 5-time pips on half-hour. IDs in Arabic. (Ed.)
- 11900 South Africa Parady's w/African Svec in both Eng and Africaans untill 2300 closedown. (Moyer)
- 11930 Portugal Lisbon CSA72 readable on the WCNA at 1830 hours in English(Stober).
- 15435 Ethiopia RVOG at 1830 with comments, play 1845, church news 1900, world news 1915. Off 1925. (Ed.)

Specils Section...new stations, changes in frequencies, etc.

- 3376 Guinea, Conakry R. La Voix la Revol., in French 0630(Moyer)
- 4750 Indonesia YDQ a 3 Kw outlet at Makassar, Sulawesi hrd at 1400 hours GMT with news, music, chants. Is home svce.
- 4770 Liberia ELWA hrd 0730-0815 hours. Power 10 Kw. (Both items from Louie Stober. You bet ELWA good catch out west, Lou!)
- 4855 Colombia HJFN Radio Neiva with poor signal at 0453 s-off. Power listed as under 1000 watts. (Stober)
- 4975 UNID. Brazilian here at 0400 and later. Who? (Peters) WRH64 says both stations here very low-powered. Ennyone help?
- 4985 Malaysia, Radio Malaysia at Kuala Lumpur (evidently this was Radio Malaya before the name change) at 1400 with comments, poetry(poetry???)music in English. (Stober)
- 5016 Port. Guinea, Bissau logged at 2200(Peters)
- 6037 Costa Rica TIFC is here at nite plus their 31M freq. (Stober)
- 6170 French Guiana Cayenne at 1015 GMT in French. Good sig, but fades gradually. News at 1030. ID is "Ici Radio-television Francaise, Guyane". (Peters) Long time no reports on this...
- 11865 Japan the FEN is now here for their transmissions at 0215 and 0545 GMT. Move from 11740. (Stober)

And as you can note, we also list unusual catches here! DB

Reporters this month include Gary Payne, Paul Moyer, Louie Stober, Frank Peters, Bob Newhart, Tom Bispham. Will you be in the list next month? We sure hope so.

SWBC Odds and ends and Misc. News from our members

RIAS in West Berlin on the nite of Feb. first shut down their Longwave outlet into Communist East Germany. The short and medmum-wave transmissions will continue as usual...A tape from a freind in Austria noted that jamming is not now as prevalant as it had once been. Perhaps a sign of the times?(Moyer)...Radio Budapest's latest publication sez that ASWLC is the biggest such organization in North America....They also want histories of all clubs for air useage. HCJB notes new antenna may be used soon to beam transmissions into Brazil....the BBC recently helped a child who sent them a request for two righthand gloves to match a pair of "lefties" he had received. They aired it....The Nat. Bureau of Standards time station WWVH at Mau, Hawaii has eliminated their 34-minute silent period at 1900. The silent period from 15 to 19 minutes past, each hour will be continued (via R-TV Experimenter).. For the hams in our midst..the new QTH for Hungarian QSL Bureau is now Box 214, Budapest V.... Quote from the news dept: When aspiring presidential hopeful Barry Goldwater was asked what his first act would be if elected President, he quipped "I'd raise an amateur radio antenna on the roof of the white house". It's no secret, of course, that he is a ham operator....The Voice of Germany now has a pilot transmitter set up at Kigali, Ruanda: Sked reads 0430-0725 on 7225, 0955-1055 on 7225, 1555-1715 on 7260 Kcs., 1715-2020 on 7260, and on again 7260 from 2020-2150 hours GMT (Thanks to Bernie Sash of Brooklyn)....Another letter from Bernie drops this bombshell..he notes that Honduras has announced the capture of a high-powered transmitter camouflaged on (they claim) their North Coast, and which was in direct contact with Cuba, Russia and China: Bernie sez this may explain some of the clandestines...Mebbe so, freinds, IF you bleive it, hi.... Any news items from you for this section? DB

"DX Detectives" by Bernie Sash

The members of the New York City chapter of the ASWLC first monitored an odd clandestine station on June 12, 1963 on 5510 Kcs at 0100 GMT. It played several minutes of music and then began reading groups of numbers in English, such as 8650, 4573, 0953, etc. We soon found that it was on every week at the same time and frequency on Wednesday (Tuesday East Coast time). The announcer had an American accent, and the station never ID'd.

In the following weeks we wrote letters to the FCC, FBI, Pentagon, ASA (Army Security Agency) the Army, Navy, Air Force, and indirectly to the RCAF. During its xmsn we telephoned the Governors Island base, MARS, the Coast Guard and the Brooklyn Navy Yard. In every case they passed the buck or brushed us off. (Those are Bernie's words, Ed.) Finally, during a phone conversation with Bennett Field I first began to wonder. First they told us they would listen, then called us back ten minutes later saying they were passing the info on to the FCC, who were now monitoring it. A week later we got a letter from the FCC saying they had known about it for several months and gave no other info. A month later the station was off the air. After that, we heard similar stations with 4 or 5 digits, in Spanish, possibly Russian, and of course English. (Bernie Sash)

We publish the above on the theory that, since Ye Ed found it of interest, you might too. We express no opinions on the comments made above, but print it merely as a comment from a member of one of our better clubs, and in the interests of "Unity and Fréindship". If any members have comments to make or info to offer, pse write to me, and I'll forward to Bernie. (Ed.)

You Ask and We Answer with "Questions and Answers"

From Pennsylvania: "I want my QSL cards to last a long time. What's the best way to protect them?"

Our answer: Your local hobby shop can provide you with gummed clear plastic sheets, with which to laminate them.

From Pennsylvania; "Which bands would you consider the best now for DX reception?"

Answer: Assuming you mean broadcast reception, I'd rate 49, 60 and 31 Meters best in that order. 19 and 25 are still holding up, and will continue to, but the best surprise catches are to be had on the lower frequencies.

From California: "Someone told me he has heard of an SWL beam antenna. Is there such an antenna? Cost?"

Answer: I've never heard of one, unless your freind meant the type of antenna called the Cubicle Quad. It's a sad fact but true that listeners just dont spend money on such extravagant items, and I cannot picture any company allocating development monies to it. Of course, and ham beam can still be used for your listening. D. Benson

Radio Omega, a Belgian-run station is beaming programs (relig.) to countries behind the Iron Curtain. It broadcasts for two half-hour periods per day. The actual broadcasting, according to the station, is done through "another outlet". Omega's progrms are non-political, and are never (they say) jammed. (ap)

YOUR news items, comments and all are welcomed here! More....

Additions and changes in last month's DX Program List

WRUL Radio New York DX Program for SWLs at 1540 GLT Tuesday
and at 1940 hours Saturday

Denmark RadioIs DX Bulletin is carried to North America on
9520 Kcs Tuesdays at 0130, Thursdays at 0145

Radio Budapest, Hungary Tuesday to North America at 0045, 0315
Saturdays to NA at 0045 and 0315

Switzerland, Berne On 9665, 9535, 6165 Kcs Saturdays at 0130
with the Shortwave Merry-go-Round

Sweden, Stockholm Tuesdays at 17840 Kcs at 1400 GLT

Ecuador, HCJB Quito DX Party Line 1st and 4th Monday of the
month at 0230-0300 GLT.

That brings out listing of Shortwave DX Programs up-to-date. DEB

News items from arnd the World

EPI, Emettuer Protestant International, P. O. Box 392, Berne, Switzerland reports that their application for franchise to the Swiss govt is being delayed. Plans have been drawn for the proposed station, and the land has been given free. The site for the new station will be 2710 feet above sea level, and they'll use omni-directional antenni for Europe, and curtain arrays for other areas of the world. EPI was formed more than 5 years ago, and anyone can become a member. Cash is urgently needed. (epi news)

From Paul Moyer in Canada comes news that there has been a recent political row there over the money allocated to the CBC's International Shortwave Service. According to information passed on by Paul, there are meetings now being held to determine what money should be allowed Radio Canada. There was some talk of suspending operations! This will certainly bear watching by all interested in worldwide shortwave broadcasting. (Ed.)

QSL information from Bernie Sash: Ascencion Island sent letter saying that they cannot verify reports from Cable and Wireless Ltd...All US Army stations can be verified by writing Department of the Army, US Army Conus Regional Comm. Command, Washington 25, D.C. However, Bernie says the card will not show power of emission or the frequency...Radio Lebanon does QSL, after all, says Bernie, with a smudged card after 16 months.

Thanks for the info! DEB

The Ascencion Island transmitters of the BBC are scheduled to be on the air soon, now....

Another quote from the news, credited to the Dallas Police radio...it seems that over the set came the following "And now a spot announcement. Go ahead, Spot.." followed by the bark of a dog!

Have you seen anything of interest in your local paper we could use? Send it along.

SBC Berne Switzerland dropped this aired Bombshell the other night...According to reliable sources, Communist China is planning to set up 200-kilowatt relay transmitters in Communist Albania, of all places.

Finally, we want to go on record as favoring 100% the action of Executive Editor William Eddings in rejecting the application for membership of that certain East German station. Many thanks to those who sent in info this month. Yours next month? Doug Benson

V.H.F. MARINE RADIO-TELEPHONE

Eleven channels in the 152-174 mc/s band is allocated on an international basis for marine communications. There is an all-station CALLING and SAFETY channel 156.8 which is also used for calling and distress messages which is a must, and which is used for the same purpose as 2182 kc in the medium frequency band.

Also 156.3 mc/s is for use anywhere in the globe for communications involving the ships safety.

On the Great Lakes, privately owned and operated v.h.f. shore stations, in service more than 15 years, frequently intercommunicate across Lake Michigan, a distance of about 80 miles. The Gulf, Pacific and Atlantic Oceans, as well as the Great Lakes and Mississippi River, are quite well covered by v.h.f. shore stations. The chart below indicates frequencies and allocations.

| FREQUENCY MC. | | PRIMARY PURPOSE | AVAILABLE TO | COMMUNICATE WITH |
|-----------------------------------|---------|--------------------------------|-------------------------------------|---|
| TRANSMIT | RECEIVE | | | |
| 156.3 | 156.3 | SAFETY | ALL VESSELS | Ships |
| 156.4 | 156.4 | Business | Intra-Port Commercial vessels | Shore |
| 156.5 | 156.5 | Business | Intra-Port Commercial vessels | Commercial vessels Fishing Boats |
| 156.6 | 156.6 | Port Operation | All vessels | Shore |
| 156.7 | 156.7 | Radio Location | All vessels | Shore |
| 156.8 | 156.8 | Calling | All vessels | All stations |
| 156.9 | 156.9 | Operations | Pilot vessels | Ships & shore |
| 157.0 | 157.0 | Business Operations | Commercial Vessels | Shore: Ships when more than 150 miles from nearest land |
| 157.3 * | 161.9 | Public Correspondence | All vessels | Shore |
| 157.35 * | 161.95 | Public Correspondence | All vessels | Shore |
| 157.4 * | 162.0 | Public Correspondence | All vessels | Shore |
| ----- GREAT LAKES AREA ONLY ----- | | | | |
| 156.3 | 156.3 | Safety | All vessels | ships |
| 156.4 | 156.4 | Business | Ferries | Shore |
| 156.5 | 156.5 | Business | Commercial Vessels Fishing Boats | Shore |
| 156.6 | 156.6 | Docking Operations, Navigation | All vessels | Shore & Tugboats |
| 156.7 | 156.7 | Safety, Passage Through Locks | All vessels | Ships & Shore |
| 156.8 | 156.8 | Calling | All vessels | All stations |
| 156.9 | 156.9 | Business | Tugboats | Shore |
| 157.0 | 157.0 | Safety | Commercial Vessels | Ships |
| 157.3 | 161.9 | Public Correspondence | All vessels | Shore |
| 157.35 | 161.95 | Public Correspondence | All vessels | Shore |
| 157.4 | 162.0 | Public Correspondence | All vessels | Shore |

73 and good DX. Nick

"SPACE WHIRL"

EDITOR NICK N. VRETTOS

P.O. Box 217 Fort Leonard Wood, Mo. 65474

SPACE AGREEMENT AN IMPORTANT STEP.

THE EVOLUTION of human behavior in the disposition of new lands appeared to have reached another plateau. The United States and Soviet Union agree on a declaration of legal principles to govern exploration of the lands and space of the solar system. The agreement incorporates the main features of the Antarctic Treaty. It guarantees that exploration and use of outer space shall be carried on for the benefit of all mankind. It states that neither space nor celestial bodies are subject to national appropriation "by claim of sovereignty, by means of use or occupation or by any other means".

The agreement is not a treaty. It is a declaration of principle which is being considered by the United Nations Committee on Peaceful Uses of Outer Space. As such, it logically may form the basis of a space or solar system treaty.

Like the Antarctic treaty, the space agreement is one of the historic documents of our time. Whether the spacefaring powers, the United States and Russia, can get to the moon or not, they have at least agree not to fight about it.

SATELLITE SHORT WAVE RECEIVER-353A-VHF(Very high frequency) from 26 to 50 mc/s and from 108 to 174 mc/s. Produced by KUHN ELECTRONICS INC. Cincinnati, Ohio (45217). The cost of the receiver \$48.70 plus \$1.75 for shipping also sales tax. This receiver covers CB, Police, Amateur, Aircraft etc. Investigate first before you buy, send for their catalog, it might interest you on low cost converters.

IMP(Interplanetary Monitor Platform) Satellite:-Launched 26 Nov 1963:-by the U.S. Space Agency. It went into a wide orbit to investigate SOLAR RADIATION which poses a hazard to the moon bound astronauts. Its orbit ranging from 118 to 172.234 miles Weight of the IMP is 10.700 lbs.

The hydrogen rocket after putting the IMP Satellite into orbit-Its "Centaur" engine drove forward for more than 6 minutes to put the upper stage of the rocket in an orbit from 345 to 1035 miles above the earth. This turned the empty burned out rocket casing into a satellite, it carries a tiny beacon transmitter to tell the ground station of its location.

EXPLORER 19:-Launched 19 Dec 1963:-The folded plastic and aluminum balloon 12 feet in diameter and covered with white polka dots was ejected from the cannister 28 minutes after launch. Highest orbit 1490 miles and lowest 365 miles. Orbiting time 116 minutes. The other to go into orbit is the cannister, neither has internal illumination but should be visible as moving pinpoints of light when struck by rays from the sun just below the horizon. This would happen whenever their orbit carries them into dawn or twilight zones around the turning globe.

The balloon bigger and more subject to "drag" of sparsely scattered air molecules in space, should seem to slow down in relation to the cannister, its quit likely the satellite and its cannister will draw together although doubtful they will actually come in contact. This heavenly spectacle if it occurs will bring to mind the conjunction of Jupiter and Saturn in the year 6 and 7 BC. when the earth in its orbit arc - nd the sun overtook the other two planets. Both are expected to be visible to the naked eye for the next three to five years at their closes approach to earth 365 ma

SATELLITE ADDITIONAL FREQUENCIES:-SYCOM 2-136.770 mc/s. EXPLORER 16-136.860 mc/s:- TRANSIT 4A-136.200 mc/s:-TELSTAR 2-136.050 mc/s.

U.S.S.R SATELLITE LAUNCHED:- COSMOS 21-Launched 11 Nov 1963: Orbiting 142 miles at its highest and its lowest 121 miles. COSMOS 22:- Launched 16 Nov 1963-Orbiting 245 miles high 127 miles at its lowest. No freq. given.

UNITED STATES FIFTH SATURN 1-SPACE VEHICLE:- It was slated to be launched 18 Dec 63, has been postponed until January 1964. The craft is the most powerful and most instrumented. This will be the first for a complete Saturn vehicle with a live second stage and the capability of achieving orbit.

"Space Whirl"

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TWO FOLD DOWN SATELLITES TO BE LAUNCHED BY U.S. SPACE AGENCY.

The two giant satellites are slated to be launched in late 1964 and 1965, to record micrometeoroids streaking through space. Once in orbit, the 3400 lbs satellite will fold down two panel like butterfly wings to a span of more than 100 feet, they will present a broad target for micrometeoroids to hit and be counted by instruments. The satellite will help determine how big a threat these fast moving particles pose to men and machines traveling far into space.

SYCOM 3 Satellite:- to be launched sometime in April 1964:- The assignment is to launch the satellite into a stationary orbit 22,300 miles above the Pacific Ocean, the payload is to stand still squarely above the intersection of the equator and the international dateline to serve as a space communication link between the United States and wide area of Asia. Probably will televise the 1964 Olympic Games from Tokyo, Japan.

CANCELLATIONS:-

DYNA-SOAR MANNED SPACE GLIDER VEHICLE:

Secretary of Defence McNamara, cancelled the Dyna-Soar Space Vehicle. This cancellations will save about \$100,000,000 over the next 18 months.

SPACE LAB:- In place of Dyna-Soar, the Air Force got the go ahead signal to develop of an orbiting research laboratory design to keep a crew of spacemen aloft for weeks at a time.

RANGER LUNAR RECONNAISSANCE VEHICLE:-

Cancelled five of the nine Ranger vehicles, at a savings of \$90 million. The four remaining Rangers are slated to be launched this year 1964, This will place a greater reliance on the four Rangers, who are design to impact on the moon.

RELAYED BY TV SATELLITE:

By means of RELAY 1 Communication Satellite, 23 European nations received live television pictures of President Kennedys funeral. The countries included most of those in Western Europe and all of the Communist bloc nations except Albania. The transmission also went to one African nation, Algeria.

Cape Kennedy, Florida:- Starting 15 Dec 1963 the Launching center will be open every Sunday, between 1 PM and 4 PM for NON-STOP automobiles drive thru. The open house is expected to become a major Florida tourist attraction. The public can take a look at where its millions of missile and space dollars are going.

INMATES TEST LIFE ON A LIQUID DIET:- 18 men at the Californis Medical Facilities, are participating in a six-month test of straight liquid diet, composed of chemicals and water, as a study of the diets future in space travel. They have been on the food wagon since 3 Sept 1963, drinking four meals a day from a flask containing 48 chemicals. They are convicts selected from inmates of the Vacaville Prison, Vacaville, California. Its all in the interest of science.

MAIL ROCKET:- French and Italian engineers are working on a mail rocket that they hope will deliver letters to London, Paris, Frankfurt or Rome in 20 minutes.

A FIRST-SOVIET ROCKETRY FAILURE REPORTED IN BRAVORY STORY:- For the first time, failure of a unit in a Soviet rocket launching was reported in a newspaper here. It was reported on 20 Nov 63, in an account of heroism. All was ready for launching, the final button was pushed. It was suppose to release a plug in the side of the rocket to activate it. But the spring was not strong enough to flip out the plug. Meantime the mechanism within the rocket was working, using essential power. A Lt. Col Serebrennikov, he rushed out of the shelter and pulled out the plug. He had six seconds to get to a shelter trench. He dived in and then the rocket let go.

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PYGMIES CUT COST OF U.S. SPACE STUDY.

Satellites small enough to be held in the hand have collected information on space radiation and its effects on spacecraft parts and materials. Four of the satellites have been launched in the last year as hitchhikers aboard military satellites. The most recent was sent aloft from Cape Kennedy on Oct 16, 1963 aboard a rocket which also carried two satellites designed to detect nuclear explosions in space. Shaped like a pyramid, the small satellite is whirling in an orbit ranging from 200 to 60,000 miles above the earth. On this path it traveled in and out of the VanAllen radiation belts, which stretch from 400 to 40,000 miles high.

HEAVIEST $4\frac{1}{2}$ Pounds.

At $4\frac{1}{2}$ pounds, it is the heaviest of the four pygmies. The other weighed $1\frac{1}{2}$ pounds each. They are called tetrahedral research satellites getting the name from their four triangular shaped sides.

The major advantage of the satellite is that it offers a relatively economical means of making scientific and engineering measurements in space. Each can carry five experiments. The air force last year (1962) ordered six of the midgets at a cost of \$25,000 each. For comparison, the price tag on the two nuclear detection satellites launched in 1963 was \$350,000 each.

The first of the pygmies was launched Oct 25, 1962, to help map the artificial radiation band created by an American high-altitude nuclear explosion and to determine radiation damage to the solar cells mounted on its surface.

THREE AIMS IN RESEARCH.

The subsequent launchings were designed to chart other areas of radiation, continue the solar cell study, and record deterioration of certain material in space.

The manufacturer of the pygmies says they have provided considerable information and have added to the understanding of the energy distribution and intensity of space radiation, which will be useable in the design and construction of future manned and unmanned spacecraft. The solar cells study is considered the most significant. During the summer of 1962, the artificial radiation belt knocked several United States satellites out of commission by damaging their solar cells and transistors.

COMPARISON MADE EASY.

Solar cells, usually silicon crystal frosted with a chemical, convert sunlight to electrical energy to power a satellite's electrical systems and batteries. As many as several thousand will cover a large satellite. Each pygmy has 112. Transistors are made of the same semi-conducting materials of solar cells. Whatever reaction the solar cells experience therefore can be applied directly in predicting and avoiding transistor damage. The pygmies carry numerous shielded and unshielded solar cells for comparative purpose. Many are coated with different thicknesses of new protective materials. Before each satellite is put up, similar materials and components are tested under simulated space conditions in a laboratory. Comparison of laboratory results with actual flight then provided a more accurate basis for guessing how future spacecraft system will operate.

NAVY COMPUTER TO GUIDE SHIPS VIA SATELLITE:—The Navy is building a computer-transmitter center in Rosemont, Minnesota, which will stock a navigational satellite with data to help ships pinpoint their positions at sea. The \$1,000,000 complex is called a Satellite Injection Transmitter. It will compute orbit positions of future satellites and feed them within the satellite to a system, which will then broadcast the data to ships at sea. It will help navigators to overcome such handicap as the fog and overcast which prevents position reading from stars. Ships with radio directional findings equipment can check their position against angles which the satellite position is broadcast minute by minute from the satellite. Lt Richard H. Dodge, will command the Installation, under orders of the Navy Astronautics group at Point Nugu. A landmark feature of the transmitter will be a 60 foot paraboloidal antenna.

On page 4 of Space Whirl you will find a very interesting article. My guest is none other than our celebrated Chief Editor Bill Eddings.

"RADIO WAVES AND THE ATMOSPHERE"

by WPE3BWL

Our earth is surrounded by a blanket of oxygen, nitrogen and other gases which is its atmosphere. This atmosphere is thickest near the ground and becomes increasingly thinner the higher up above earth we go. The composition changes with altitude. At a height of 200 miles, the air is still affected by radiation from the sun; it causes the air particles to be electrified. Another electrified layer lies between 90 and 120 miles up and yet another at about 63 miles above the ground. These layers of electrified particles act as mirrors and reflect radio waves. The two top layers reflect the shorter waves and the lower layer at 63 miles acts as a mirror to the longer ones. There is also a layer which behaves in a rather irregular fashion; this lies at a height of about 30 miles. These electrified layers - known as the IONOSPHERE - are very important to radio communication on earth and also affect the radio waves which come from outer space. In ordinary radio communication the ionosphere acts like a mirror high in the sky which reflects back to earth the radio waves sent out by a radio station. This means that radio can cover the world, the short waves being bounced off the ionosphere back to earth, bounced to the ionosphere again, and so on right around the world. The ionosphere not only acts like a mirror to radio waves from earth, it also reflects back into space some of the radio waves which reach earth from outer space, from celestial bodies. Because of this we can say that the ionosphere acts like a screen to radio waves coming in to earth from outside, allowing only some to reach earth. The earth's atmosphere also acts as a filter. Nearer the ground than the ionosphere, oxygen and water vapors which absorb any really short radio waves coming from outer space. Because of these effects of the atmosphere and the ionosphere, it is possible to receive only certain of the wavelengths which reach earth from outer space. These wavelengths range from a little under a centimeter to a few meters, and this part of the wavelength band or "spectrum" of radiation is sometimes called the "radio window". There are a few narrow windows around four and eight millimeters. Besides reflecting away longer radio waves, the upper parts of the ionosphere sometimes affect those wavelengths which do not get through. This is due to "clouds" of electrified particles moving about, clouds which cannot, of course, be seen, but which are noticeable in radiotelescopes as a scintillation of radio waves from celestial bodies.

The Earth's Ionosphere

HIGH freq radio waves from outer space penetrate the ionosphere and are rcvd

LOW freq radio waves do not penetrate and are reflected off the different ionospheric layers

