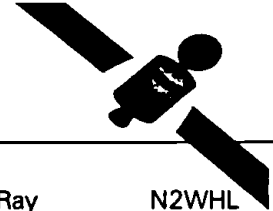




W2MMD



Gloucester County Amateur Radio Club

1996 Officers

President	Bob Krukowski	WA2UDO
Vice President	Art Strong	KA2DOT
Treasurer	Al Arrison	KB2AYU
Recording Sec.	Sam Rosenberg	N2DWK
Corres. Sec.	Jack Stauffer, Jr.	KA7LAX

Directors

Three-Year	Walt Seitz	KB2JCG
	Pete Butler	KA2DZF
Two-Year	Joe Wells	N2KLE
	Goldie Rosenberg	N2YNB
One-Year	Open	
	Open	

Trustees

Four-Year	Stu Cleveland	N2WUP
Three-Year	Barbara Bielecki	N2SBP
Two-Year	Chris Chamberlin	N2IVN
One-Year	Charlie Olinda	N2SRQ

GCARC Meetings

General Membership:
8 p.m., 1st Wednesday every month, Depford Elks Lodge, Highland Ave., one block from Egg Harbor Road.

Board of Directors:
8 p.m., 3rd Wednesday every month, GCARC site, Harrison Twp. 4-H Grounds (approximately one mile south of Mullica Hill on Rt. 77).

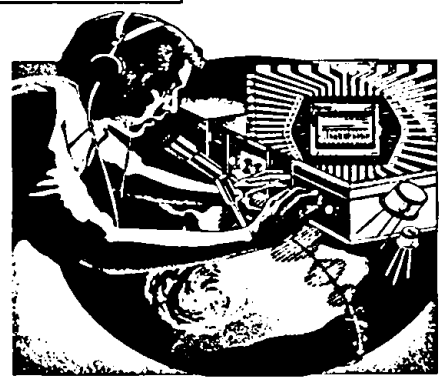
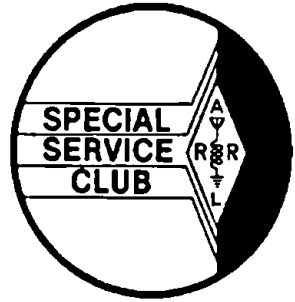
Club Repeaters
147.780/180 Mhz 223.06/224.66 Mhz
447.100/442.100 Mhz (CTCSS 131.8)

1996 Committee Chairpersons

Advertising	Ray	N2WHL
ARES/RACES	Chic	WA2USI
Awards	Jack	K2ZA
Banquet	Bob	WA2UDO
Budget *	Bob	WA2UDO
Callbook Info.	John	K2JF
Clubhouse Site *	Stu	N2WUP
Constitution *	Ken	KN2U
Crosstalk	Greg	WN2T
	Don	N2WFM
	Kyle	KB2RVY
	Charlie	K2POD
Data Processing	Open	
DX	Open	
Field Day *	Art	KA2DOT
Hamfest *	Open	
Help	Ken	KN2U
Hospitality *	Donna	
Legislation	Open	
Membership *	Sonny	WB2DXB
Nets	Dave	N2TVR
Nominations	Bob	WA2UDO
Publicity *	Ray	N2WHL
Repeaters *	Chuck	WA2TML
Scholarships	Greg	WN2T
Special Services	Al	N2FJQ
Special Events	Walt	WB2OYQ
Sunshine	Miriam	KB2EUA
Testing	Bill	NT2N
Technical	Open	
Training	Chic	WA2USI
TVI	John	K2JF
4-H Parking	Open	

(* Standing Committee)

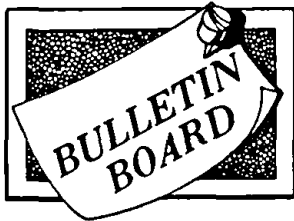
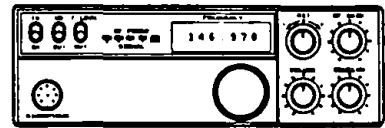
NETS
ARES/RACES - Sundays, 2200 Hrs
(147.780/180 & 223.06/224.66 Repeaters)
10 Meter - Sundays following the
ARES/RACES net (28.350 Mhz)



GCARC
JULY 1996



CROSSTALK



1996 MS-150 City to Shore Bike Tour

Russ Stafford, AA3CH, and Larry Kane, KYW-TV Anchorman, invite all hams to participate in the 1996 Multiple Sclerosis MS-150 City to Shore Bike Tour on Saturday and Sunday, September 28 and 29. Volunteers are needed on both days from approximately 5:30 a.m. until 5:30 p.m.

To sign up as a communications volunteer, or to request more information, please contact Russ Stafford, Volunteer Communications Coordinator, at the following numbers:

or on the Internet at russ@hdj.com;
or on packet at AA3CH@AA3CH.
#SEPA.PA.USA.NOAM.

Sporadic E A familiar Mystery!

Of all the propagation modes affecting the bands above 50 MHz, sporadic E is probably the best known (but the least understood). It's common during the summer months on 6 meters, sometimes for days at a time, but occurs about 2% of the time on 2 meters. When there's a big sporadic E opening, 6 meters can sound like 20 meter in the middle of a contest. We just had an opening and 6 meter QSO party on June 9 & 10. Wall-to-wall stations! Unlike the various forms of tropospheric propagation, sporadic E takes place much higher in the Earth's atmosphere - at altitudes measured

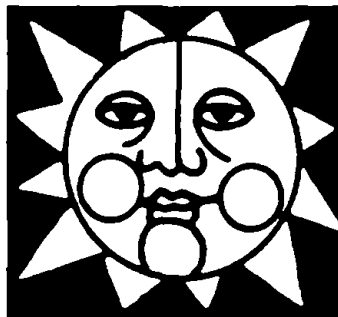
in miles rather than in thousands of feet. This upper portion of our atmosphere is called the ionosphere because the air there (what little there is) becomes ionized by the sun's ultraviolet radiation. What is ionization? It's nothing more than the process of separating electrons from their atoms, leaving the atoms with a positive charge. An ionized gas (such as a gas in the ionosphere) can absorb or reflect radio waves trying to pass through it. Whether the waves are reflected or absorbed depends on the degree of ionization, the frequency (wavelength) of the radio waves, and the angle at which they arrive.

The ionosphere is made up of several layers. The lowest called the "D region," usually ranges from 45 to 55 miles above the earth (its boundaries are rather diffuse however). The D region is not useful for reflecting radio frequencies used by amateurs, but plays a role in propagating very low frequency (VLF) signals from about 10 to 1000 kHz. At higher frequencies, it has little effect. Because of the relatively dense atmosphere at the low altitudes occupied by the D region, collisions between ionized particles are frequent. Therefore, the ionization disappears rapidly when the sun's ultraviolet radiation is blocked at sundown. This eliminates the absorption and allows signals

absorbed during the daytime to pass through and be reflected by the next higher portion of the ionosphere, the E layer.

The E layer is located at about 70 miles above the earth and is more like a shiny mirror than is the D

layer. It's a much more efficient reflector of



medium and high-frequency radio waves. It's the E layer that's responsible for almost all of the nighttime propagation on the AM broadcast band and the lower-frequency amateur bands.

Barring a major geomagnetic storm, the E layer is always there, attested to by the fact that there are few nights when at least some distant AM broadcast stations cannot be heard. The altitude of the E layer determines the single-hop distance over which radio waves can be propagated — about 1500 miles.

The E layer ionization is essentially continuous. It is not intense enough to reflect VHF signals, and generally plays a mi-

nor role on frequencies much above 10 MHz. At times, however - and this is where the mystery comes in - the E layer becomes heavily ionized, generally in moderately small patches usually referred to as "clouds." No one knows exactly how "sporadic" ionization takes place, but one theory holds that it's caused by an upper-atmosphere wind shear that sweeps the regular E layer ionization into concentrated, highly ionized clouds. Just why this process occurs mainly during certain times of the year has yet to be explained. Some believe

it is due to the position of the Earth in its relationship to the Sun at certain times of the year (Longest day June 21, Shortest day December 23 in the Northern hemisphere).

Enough of what sporadic E is and what might cause it; the thing that interests VHFers is what it can do for us and how we can tell that its' taking place! On 6 meters, sporadic E has been observed during every month of the year, but it's most common from May



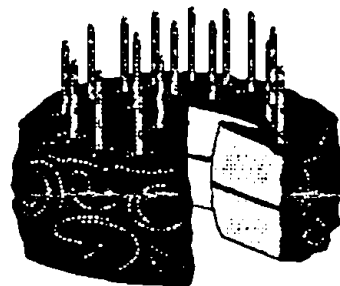
1. Hustler 220 mhz mobile whip. \$10.00.
2. Epson LQ-510 dot matrix printer. \$35.00 or BO.
3. Toshiba P-1340 dot matrix printer. \$35.00 or BO.

Ed - WA2PFC

Stuff for Xtalk?

Please send on packet to WN2T via "Pitman" (N2SRO) on 145.770 or E-Mail to: Pott@voicenet.com.
Deadline for July issue: July 28, 1996.

Happy Birthday for the month of July from all the members of GCARC!



CALL	FIRST	LAST	DAY
WA2BMQ	NORMAN	CONNELLY	2
N2KLE	JOSEPH	WELLS	3
N2FJQ	ALAN	TRUEBLOOD	4
N2SRQ	CHARLES	OLINDA	12
N2SS	ANTHONY	GARGANO	14
KC2PC	CHRIS	KELLY	16
N2YNB	GOLDIE	ROSENBERG	16
KF2AW	BOB	UDYK	17
KB2VSE	JOHN	LOGAN	18
KB2TKV	PAUL	CARR	20
KA2DOT	ART	STRONG	20
N2WHL	RAYMOND	FLANIGAN	21
WB2THM	LOUIS	MICELI	22
N2IVN	CHRISTIAN	CHAMBERLAIN	24
N2MWX	DENNIS	BALLANCE	25
N2HTS	CONRAD	SALATI	27
KA2FFP	JAMES	LARKIN	29

TKS DATABASE -
K2PQD CHARLIE

through August and, to a lesser extent, during December and January. The mid-morning hours and early evening are the most common times for sporadic E, but it can take place at any hour. Sporadic E propagation brings in strong signals, generally in the 800-1200 mile range. Multiple hops, however, can propagate 50-MHz signals to 2500 miles and more, resulting in numerous contacts between the two coasts.



complex mechanism. Sporadic E characteristics on 6 meters generally hold true on 2 meters, too. Multi-hop sporadic E at 2 meters is very rare, however. Sporadic E propagation is almost always reserved for bands below 148 MHz, although signals have been heard on 220 MHz and on 432 MHz, but not often.

Other than by staying glued to the radio, the best way to detect the possible presence of sporadic E is by observing TV channels 2 through 6 and listening to the FM broadcast band. If DX signals are

popping in on TV Channels, 6 meters is sure to be open, even if there no amateur activity heard from the affected area. The many beacons between 50.060 and 50.080 MHz; also, the European video at 50.000 MHz can be a big help in detecting an opening.

If you believe a sporadic E open is in progress, get on the air and start calling ! Remember to observe the 5 0 . 1 0 0 - 5 0 . 1 2 5 MHz DX Window and make your calls at 50.125 MHz or above (on CW, call below 50.100 MHz). If you have reason to believe that non-US stations may be present, feel free to use the DX window - but please don't use it for domestic QSO!

Many thanks to Bill Tynan W3XO, the ARRL Handbook, and Master Thesis for this information..... K2JF



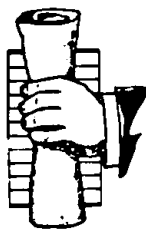
NEWS FROM THE CLUB HOUSE

I would like to thank Art (KA2DOT), Glenn (N2YIO), Gene (AA2YO), Jim (KA2OSV), Dennis (N2WIA), and John (K2JF) for their help on Sunday, May 19 cleaning up the clubhouse. We managed to clean up the kitchen, living room and the closet in the VHF room (center bedroom). On June 1, the work continued. We got the VHF and HF rooms cleaned up along with the shed.

Stuart Cleveland
N2WUP
Club Site Chairman

Congratulations!

The Scholarship Committee is pleased to announce that this year's recipient of the \$500 scholarship award is Ms. Marina Grebennioukova, a 1996 honors graduate of Clearview Regional High School. Marina will be studying electrical engineering at Capitol University in Laurel, MD.



Marina was selected from among eight well-qualified applicants -- the largest number we've had so far!

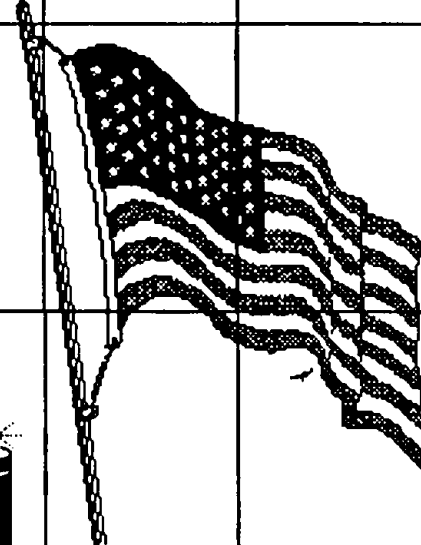
Thanks to John Fisher, Jim Mollica Sr., Bill Kardas, Stu Cleveland, John Mullens, Greg Potter, and Al Miller for their hard work!

Silent Key

It is with sadness that we note the passing of
of
William E. King,
N2STQ
May 15, 1996
at his daughter's home in Alabama

Tks K2JF for info.

July 1 - 30, 1996

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	<p>July 1</p> <p>RAC Canada Day Test</p>	<p>July 2</p>	<p>July 3</p> <p>GCARC General Membership Meeting 20:00</p>	<p>July 4</p>	<p>July 5</p>	<p>July 6</p> <p>Venezuelan Independence Day Test, Phone</p>
<p>July 7</p> <p>20:00 ARES/RACES 20:30 10 mtr Net - 28.350 Mhz</p>	<p>July 8</p>	<p>July 9</p>	<p>July 10</p>	<p>July 11</p>	<p>July 12</p>	<p>July 13</p> <p>IARU HF World Championship; QRP ARCI Summer Homebrew Sprint; CQ WW VHF Test</p>
<p>July 14</p> <p>20:00 ARES/RACES 20:30 10 mtr Net - 28.350 Mhz</p> <p>Fest-Kimberton, PA Fest-Augusta, NJ</p>	<p>July 15</p>	<p>July 16</p>	<p>July 17</p> <p>20:00 GCARC Board of Directors Mtg</p>	<p>July 18</p> <p>VE Exams Bellmawr @ 7 p.m (Doors open 6:15 p.m.)</p>	<p>July 19</p>	<p>July 20</p> <p>Fest-Huntingdon Mills, PA; Fest-Belvidere, NJ; Columbian Indep. Day Test; No. Amer. QSO Party, RTTY; QRP Test; SEANET Test, CW</p>
<p>July 21</p> <p>20:00 ARES/RACES 20:30 10 mtr Net - 28.350 Mhz</p>	<p>July 22</p>	<p>July 23</p>	<p>July 24</p>	<p>July 25</p>	<p>July 26</p>	<p>July 27</p> <p>Venezuelan Indep. Day Test, CW; RSGB Test</p>
<p>July 28</p> <p>20:00 ARES/RACES 20:30 10 mtr Net - 28.350 Mhz</p> <p>Fest-Timonium, MD</p>	<p>July 29</p>	<p>July 30</p>	<p>July 31</p>			
<p>Deadline August</p>	<p>XTALK</p>	