THE DELAWARE-LEHIGH AMATEUR RADIO CLUB, INC.

NEWS

RD #4
GREYSTONE BUILDING
NAZARETH, PA
18064

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** APRIL 1988 **
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APRIL 7=====APRIL 7=====APRIL 7=====APRIL 7=====APRIL 7=====APRIL 7=====APRIL 7=====APRIL 7

NEW USE OF FM RADIO YIELDS LOW-COST COMMUNICATIONS

EX-EASTONIAN TO SPEAK ON NEW USES OF FM SUBCARRIERS

Bruce Goodman, President of Washington, D.C.-- based MultiComm Telecommunications Corp., a subsidiary of the Amway Corporation and formerly Sr. Vice President for the Mutual Broadcasting System will describe the newest use of the air waves--MultiComm uses FM subcarrier channels and very small aperture terminals (VSATs) to distribute printed data throughout the country. Addressable, coded, and flexible, the service is incredibly inexpensive--a page of information can be sent from Philadelphia to Los Angeles for less than the cost to Xerox that page. In just a few years MultiComm has added customers as diverse as the Christian Science Monitor, Paine Webber, Eastern Airlines and the Republican Party and distributes information to locations ranging from the Soviet Unions's Tass News Agency to the White House. Mr. Goodman will describe this technological innovation designed for business executives through the use of video tape and slides.....

Editors Note. (Bruce is Bill Goodman, K3ANS's brother.) Bill really doing a super job in setting up programs.

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PLAN NOW FOR THE PA QSO PARTY! DO YOUR PART!

VE TESTING PAYING OFF

KC3II, chairman of the VE testing program of the Delaware Lehigh Amateur Radio Club reports the following statistics regarding the March 4th test.

10 Candidates
7 Upgrades
2 Credits Issued

Among club members who upgraded were:

Bill, WA3OKD to Extra
Bill, K3ANS to Advanced
Dave, N3EYT to Advanced
Chris, KA3SIT To General

The next session will be held on April 8th with VE Team 4 in attendance.

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TRIP TO SATELLITE STATION PLANNED

Program Chairman Bill Goodman has announced a tentative visit by any interested members of the DLARC and friends to the AT&T Satellite Station for Saturday June 4th.

Dave, K2BPP will be our host and tour guide. Dave, no stranger to our club has been the speaker at two of our banquets and gave a demonstration of TV Satellite reception at a recent meeting.

<W3PYF>

BLAME IT ON PHIL
by Wendell, W3IRX

Part 2

Continuing last months column on some of the other areas in the shack that needed protection from electrical pulses, I found just what I was looking for in an article entitled A HAM SHACK AC-OUTLET STRIP WITH FILTERING. I felt this was an excellent project because it not only included line to line pulse protection but line to ground pulse protection as well. This is provided by the inclusion of three MOVs in the circuit. In addition, this unit includes a "brute force filter" consisting of coils wound on ferrite rods bypassed to ground on each side of a Pi configuration. The beauty of this design is that it not only prevents a lot of garbage from coming into your radio gear but it helps prevent some interference from going the other way. I followed the article pretty much as written, including the acquisition of parts, and was so pleased with the results that I> built two more of them for use with the other electronics in home--VCR, TV, stereo, etc.

Continuing from last month, we will tell of the rest of the areas of concern for protecting the shack.

The fifth concern was protection of the coax coming into the house from the antennas. I hope everyone knows the treatment for this source. In my case, I inserted an Alpha Delta Transi-Trap in the coax line as it entered the shack. Ideally, the protective device should be inserted into the coax outside the house and grounded there to a ground rod. But, I just can't bring myself to cut that coax.

Sixth, since the Greek God responsible for lightning bolts has already received my donation of a modem and a serial port, I had to decide what to do in this area if I wanted to prevent a recurrence from destructive stuff coming in on the phone line. Since the majority of telephone connected devices coming on the market are solid state, I would suppose that this type of spike damage will increase greatly. Especially in rural areas where customers and lines are so spread out. Once again, Heathkit came to the rescue with another inexpensive kit called, appropriately, "THE TELEPHONE AND MODEM SPIKE AND SURGE PROTECTOR, Model SK-201." This gadget utilizes six MOVs to protect a 4-wire phone connection and to be effective, it must have a connection to earth ground.

This is where the ground installed in step one becomes useful. On the rear apron of my equipment table I installed a copper bar running the full length of the table and installed a threaded stud every six inches so that all the boxes on the table connect to this bar with copper braid. This includes the coax protector, the outlet protection box, the phone line protector as well as all the R.F. components in the shack. This copper bar, in turn, is connected by a heavy stranded cable to three ground rods outside the house. This also solves the requirements for an R.F. ground for the radio equipment.

Sounds pretty complete, doesn't it? Well it isn't because I still have to something about the rotator cable going up to the tower. In this case I am going to install properly rated MOVs on each lead to ground on the control box in the shack. Also, to be really safe, MOVs should be installed on the same leads at the rotator end, unless shielded cable had been used. I had a hit on my rotator control box a couple of years ago and it took out the instrument transformer and a fuse. So, I know this is an exposure.

Of course you do have your tower grounded, don't you? Lightning is, as are all things emanating from mother nature, totally unpredictable. It doesn't need to strike directly. If it does, there is little that any device available to us can do to protect our gear. Most lightning damage is caused by spikes, surges, transients and other blips inductively coupled into power and phone lines from strikes many miles away. When you consider that a lightning stroke allows the passage of currents as high as 200-kiloamps from the ground to the sky, you can understand how such induction can occur.

I hope this information, while not new and not original with me, will motivate you to get busy protecting your equipment.

Remember Punxsutawney Phil and I warned you.

de Wendell, W3IRX

FROM THE PREZ
by Bob, KU3K

Well here it is April, can you believe it! I can't tell you how glad I am that summer is just around the corner cuz I love warm weather. Warmer weather also brings out the outdoor ham in me..After all, Don't we have lots of antenna projects just waiting, and is not the merry month of June the time for merry making and Field Day altho not necessarily at the same time! Well anyway I really would like to get serious for just a moment.

I think now would be a good time to sit down and plan your multi-op work projects and let the club know when you would like to raise that tower, or set up the shack, anything that requires H-E-L-P. Let me or someone on the Board know because I'm going to start making up a calendar for the warmer months and see if we can't get a bunch of work parties organized!! It's not going to be easy and I think anyone asking for help should be willing to give the same for others. I think if we pull together we can really make some headway in what I feel is an important part of what this club should be all about. Well, the results of the \PA QSO party are in and our Club made a respectable showing. Our scores reflect 9th overall with the W3OK club station in operation rating 6th in Multi-singe. (Multi People, single transmitter). My thanks to KC3II and gang for getting "OK" on the air! Congrats are also due the three top scores from club members, K3ANS, W3TDF, and N3EOF (QRP). I guess my only disappointment is that only 10- percent of our club participated which is not the lowest percentage showing in the state, but down there with the worst! To all who participated I know you had fun and my hats off to one and all. Maybe next year our participation percentage will be 50 percent. WELL, I CAN DREAM...

de Bob, KU3K

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WANTED

If anyone has a Commodore 1541 Disk Drive for sale please contact Dave, WA3HVR at 437-1410.

MNY TALKS
by Secretary KA3MNY

The March 3rd, meeting of the DLARC was held with 55 in attendance. All were welcomed by our president KU3K and all visitors were invited to membership if they felt so inclined.

All visitors were invited to pick u a copy of the newsletter to better acquaint themselves with the activities of the club.

The reading of the minutes and the treasurers report were dispensed with in order to provide more time for the packet demonstration that was to be the program for the evening.

The president announced that KU3K and KA3EED will co-chair "field-day"

Thanks were expressed at this time to all who participated in the Pa QSO Party. We were pleased to be in 9th place but hope to improve that this year by greater participation. Special congratulations to Bill K3ANS for top single operator, W3TDF Ray was second and N3EOF was third. Special congratulations to Mark N3EOF for this 3rd place in the QRP division.

The president then read a letter he had mailed to the coordinating committees of our areas regarding a repeater which was to be coming on line in the Wilmington area. He expressed our great concern to them on the interference that could be caused by such an action.

W2SPK, KU3K and W3PYF will be representing the board at a meeting being held in Allentown by Hugh Turnbull the Atlantic division director on the weekend of March 12 and 13.

A donation was received from the Lehigh Wheelman association in memory of Herb Taylor K3CIS a recently deceased member. This is the group for which we provide communications when they have their 100 mile race.

New members proposed and accepted were Paul (Pete) Derr, W3ROH; Bob Johnson, WA3OJG and Robin Mosley who is awaiting his USA call after his "G" call.

W3TDF reported that the club banquet would be held on May 20th. Winners in the drawing were: W3APE, K3CP and KA3PZI.

de KA3MNY, Secretary

FROM THE OLD MAN
by Clarence, W3PYF

This month in our newsletter we have an article which took a lot of work. K3YD did a super job in getting together all the specs on most of the Beams, Rotators and Baluns. The computer time he must have put in is evident by the completeness of his story. Our thanks to "Yankee Doodle".

This issue contains a roster of the membership as of March 8th, I hope that no one who is a paid up member has been missed, but if there is anyone, I will be glad to put it in the next issue as a separate item. The list was supplied to me by KB3RI, and I am sure that it is up to date. For your information, the membership enclosed in the newsletter is sent only to MEMBERS not to the additional mailings of the letter. This way it will not be used as a mailing list for commercial purposes. The addresses and autodial numbers are strictly for your use and not to be given to anyone else.

My compliments to Bill, K3ANS for his efforts in keeping the programs flying. It really paid off last meeting and this meeting should be of interest to all.

Amy, KA3IJL continues to be the star in (*) 1 calls to Northampton County. She came upon the accident on route 22 near the airport interchange after a truck hit two homes and practically demolished them, killing the driver. Great work Amy.

I have a note from Russ, WA3LGG, who says that when travelling west on I78 between Hamburg and Harrisburg in the area of the "Midway" Exit, he has seen what he thinks is an amateur antenna of some kind, near an old gas station. If anyone knows what it is, let me know and I'll print it in the next newsletter.

Ray, W3TDF chairman, says, this years club banquet will be the best yet. Stay in touch with him to be sure that you can get a seat at the May 20th get together at the Candlelight Inn.

If any member knows who the amateur is that is hanging up the phones, pushing touch tone keys and making all kinds of noises on OUR repeater, please let President KU3K know, a large reward is promised. To the "TURKEY".

With my being out of town during the EMA exercise, I want to thank Roy, KA3MNY and Dick, KA3MOU for taking over at EMA headquarters and Bart, W2SPK at the National Weather Bureau at the ABE airport. Roy reports that 29 members of the EMA network called in during the drill.

LETS DO IT!...When you hear a strange call on the repeater, and don't recognize it, why not give that person a call and welcome him or her to our frequency. If it looks as though they may be in the area for some length of time, give them the (*1) code in case they have an emergency, and then invite them to join us at a meeting. This is what Amateur Radio is all about.

It is interesting to note that during the 1986 PA QSO party, over 100,000 contacts were made by all of the entries combined representing 11 million points in total score. 10,000 contacts were on 80/160 meters CW, 15,000 on other CW bands and over 70,000 SSB and FM two ways. a total of only 317 novice QSO's were logged. 108 out of state stations submitted logs down from 114 last year but many did not submit logs as we noted more than 50 out of state stations giving out numbers higher than 25. All in all a very active weekend. The 1988 contest will be on October 8 and 9. Lets go for it this year and bring DLARC closer to the top then 9th.

de W3PYF

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145.11 & 443.450 NOW TIED TOGETHER

During the course of the month, the EMA repeaters 145.11 and 443.45 are now tied together and operating very well from the tower just outside of the EMA Headquarters.

When you are just rag chewing or have a long comute, why not try them out. The timer is 3 minutes long and it will help if you get carried away. The power and sensitivity of the 145.11 unit has been upgraded tremendously. Try it, you may like it.

<W3PYF>

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REMEMBER, WHEN YOU JOIN ARRL OR RENEW YOUR ARRL MEMBERSHIP, DO IT THROUGH THE CLUB. IT COSTS NO MORE AND IT HELPS OUR TREASURY.

The following is a story which I felt would be of interest to those of you who would like to try something new in Amateur Radio. Written in 12 sections by John, WB3ELA it tells in a simple way some of the things about the Amateur Radio Satellites that are flying now.

W3PYF, Editor

SATELLITE PRIMER (PART 1)
by John, WB3ELA

Many people have had an interest in the Amateur satellites but have felt overwhelmed by the technicalities involved.

I'd like to give you some views from someone who felt that "Gosh/Golly/Wow/But too much for me" attitude until I got hold of a fine paper called "A Beginner's Guide to OSCAR 10 by Mike Crisler, N4IFD. which gave a step by step approach to building a satellite station. I got this as part of my membership kit when I joined AMSAT.

Now hold it! I don't want you to think I'm going to feed you a lot of gee-whiz stuff that's going to cost you a lot of money. Sure, money helps, and it would be easy to go out and buy a satellite station that would do everything for you, but there aren't many of us that can do that. What I'm going to do is show you how to enjoy the satellites with what you have now, and then you can build up to a full blown station in the future if you want.

One of the major problems has just been solved for you. That is, FINDING the darn things! The new program that was put on the WB3JOE BBS runs every night and posts a file in the AMSAT directory called BBSKED.DAT. This file lists several satellites when they are over the horizon and available to be worked.

When I say "worked", I mean several things. First, some of them (Salyut-7, MIR) are large enough to be visible in the night sky. What a way to impress your friends - "Oh, yes, do you see that bright dot? That's the Russians going overhead!" Second, Most of the satellites have some kind of radio output whether it be CW or RTTY or PACKET Telemetry. I'll never forget the first time I actually heard Oscar 12's CW beacon! I thought I'd gone to Nirvana! My family thought I'd completely flipped! Man, that's DX that's REALLY "Out of This World!".

de WB3ELA, John
[Broomall, PA]

<TO BE CONTINUED, NEXT MONTH>

FOR SALE

DUAL BANDER, Yaseau FT2700RH. 2 meter and 450 Mobile unit. 25 watts or 3 output. Both Bands, Super Deal...Call Rod W3GYJ 867-3653.

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Kantronics Interface, "Ham Soft" for Vic 20. Vic20 that needs service, Power Supply, all cables, manuals, complete. If interested, send QSL card with phone number and best offer to: Russ, WA3LGG, 1541 South Street #3, Allentown, PA 18102.

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Complete Heath Station
- Heath SB100
- Heath SB600 Speaker and Power Supply
- Heath HN3 Dummy Load
- Heath HM102RF Power Meter
- LRE99-4609 Microphone
- Solid State VOM IM25
- Beam Antenna

ENTIRE WORKS $250.00.....Contact Mr. Daryl Mancinelli at 759-8886 evenings or at Minsi Trail Boy Scout Headquarters at 264-8851.

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NO 1 CLUB 100 COUNTRY AWARD

Well, Bill Goodman did it! According to Barry, KU3X, co-chairman of the awards committee, K3ANS made the first 100 Country DLARC award, helped by the effort he put into the recent DX contest. Now it is time for the rest of you DXers to qualify for this great award.

Designed and printed by K3NZ, it is a beautiful award, and anyone should be proud to hang it on his or her wall.

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JOIN THE ARRL--IT IS NOT JUST A SUBSCRIPTION TO A MAGAZINE. IT IS OUR SURVIVAL IN THE CHALLENGES TO OUR FREQUENCIES.

~~DIGITAL~~ ANALOG COMMUNICATIONS

by
Joel A. B. Elston, K9TBD

Operational amplifiers are a real boon to analog designers since they have incredible characteristics. Comparing and operational amplifier to transistor circuits, the "op amp" has nearly infinite gain, infinite input impedance, zero output impedance, and differential (inverting and non-inverting) inputs, whereas the transistor has finite gain and impedances and is single ended.

With the above characteristics of op amps, design formulae are greatly simplified compared to transistor designs. The number of components to implement the op amp circuits is less than transistor equivalent circuits, and these days the op amps are cheap and operate at quite high frequencies.

There are two basic circuits that may be used for op amps and they are the inverting and non-inverting configurations. Both configurations may be visualized as having a resistor called the feedback resistor connected from the output back to the negative (-) terminal and one other resistor called the input resistor tied to the same (-) terminal. In the inverting configuration, the input is supplied to the input resistor and the (+) terminal is grounded. In the non-inverting configuration, input resistor is grounded and the input is supplied to the (+) terminal.

The equations relating the output to the input are quite simple for the ideal case.

$$\frac{V_o}{V_i} = -\frac{R_f}{R_i} = G^-; \frac{V_o}{V_i} = +\frac{R_i + R_f}{R_i} = G^+$$

$$R_i = input; R_f = feedback; V_i = input; V_o = output$$

The G's represent the inverting and non-inverting system gains respectively.
As can be seen from examining these two equations, the non-inverting case is better since you get a little more gain from the same pair of resistors. In addition (since the input impedance of an op amp is infinite), the non-inverting input impedance is infinite but the inverting input is equal to the input resistor. If non-ideal amplifier gain (A) is to be taken into consideration each of the equations is multiplied by a factor (K) which is given by the relation:

$$K = \frac{1}{1 + G^+ / A}$$

Inspecting the (K) factor equation above says that if the desired gain is much less than the amplifier gain the total gain is very close to the original equations.

A simple example of the use of a single op amp for a microphone amplifier. If the feedback resistor is chosen as 100 times the input resistor you will get 40 dB of gain. If the feedback resistor is adjustable then you can set the gain to whatever is desired. In this example (either inverting or non-inverting the feedback resistor could be 100k and the input resistor 1k.

This document has been painfully prepared with Lotus Manuscript!

SPECIAL ANTENNA DATA ISSUE

I recently started gathering some data on Tri-Band Yagi antennas. The data gathering became such a project that I decided to share it here. Some explanations of the charts:

ON THE YAGI CHART

ELEMENTS: Traditional tri-banders were 3 (or 2 or 4) elements on a boom. All were trapped and active on all bands. Some newer designs have elements active only on some bands, like 5 on 10 M., and 4 ea. on 15 and 20M. This allows more-optimum element-spacing on each band.

BOOM LENGTH/TURNING RADIUS: Give an idea of the physical size for small garden locations. More importantly, they give an idea of the capture area--the amount of aluminum up there to catch signals.

CLAIMED MAX. GAIN AND F/B RATIO:Straight from the advertising department! This is always best case and probably is measured on different bands. Buyer beware!

AREA AND WEIGHT:Important statistics in selecting and tower and rotor. Match your rotor to your beam.

STAINLESS HARDWARE: Usually desired--especially in areas subject to industrial pollution or acid rain. We qualify. Helps keep the antenna from becoming a semi-conductor device.

BALUN: KU3X swears that we need one--with his big signal, who will argue!

ABOUT ROTORS--This is one place where we tend to "Buy American." Hy-Gain has most of the market, especially for BIG antennas, the Alliance seems to be OK for small arrays--like a tri-bander. The preferred mounting method is IN the tower; reduce wind load ratings 40% to 50% for mast mounting.

ABOUT BALUNS--The important data seems to be power rating and type (ferrite vs. non-ferrite). Baluns can and do burn up--particularly if you run a BIG-A-WATT, or like continuous duty modes like RTTY or AM. The ferrite baluns provide excellent isolation but can cause problems if you use an antenna tuner for full band coverage--they work well with the more broad-banded antennas. Both types are popular. About Palomar--these guys make dozens of baluns with various turns-ratios and power ratings. I'm still waiting for their catalog, or I'd include some of their info.

Any tri-bander is a compromise antenna. It won't play as well as a mono-bander at the same height 'cause of size reduction, losses in traps, and compromise spacing. However the worst case loss is typically 2 dB. The very small beams like the Butternut or Mini-Quad represent an additional compromise and may be 2dB less than a typical tribander with the same element count. However, any of these antennas has an important advantage over a dipole or vertical. It is typically mounted high and in the clear, has some directivity and some rear/side rejection. These make any beam a desirable addition to our stations.

ROTOR DATA

BRAND	MODEL	# BEARINGS	Max. Wind Area in Tower	Max. Wind Area on mast	Am. Net $
Alliance	HD73	100	10.7 S.F.	??	**$109.95**
Hy-Gain	CD45II	50	8.5 S.F.	5 S.F.	**$199.95**
	HAM IV	98	15 S.F.	??	**$289.95**
	T2X	138	20 S.F.	??	**$339.95**

BALUN DATA

BRAND	MODEL	TYPE	f-range(MHz)	Pwr. rating	Am. Net $	NOTES:
Bencher	ZW-1A	non-ferrite	3.5-30	5kwPEP	**$29.95**	boom kit +$6.95
Cushcraft	AFB-2	FERRITE	1.8-30	legal	**$39.95**	
Hustler	BLN	??	3-30	1KW	**$14.95**	
Hy-Gain	BN-86	FERRITE	3-30	LEGAL	**$32.95**	w/ boom clamp
KDK	3-60 4:1	FERRITE	3-60	5kwPEP	**$76.95**	
KDK	3-60 1:1	FERRITE	3-60	4kwPEP	**$53.95**	
Palomar Eng.	various	FERRITE	various	various	**various**	write for specs
Telrex	2K81B	non-ferrite	3.5-30	2kwPEP	**$75.00**	
Telrex	4K81B	non-ferrite	3.5-30	4kwPEP	**$100.00**	
Unadilla	W2VS	non-ferrite	1.8-30	2kwPEP	**$19.95**	
Unadilla	W2AU	FERRITE	3-40	2kwPEP	**$17.95**	
Van Gorden	HI-Q 1:1	??	3-40	legal	**$14.95**	

YANKEE DOODLING© by K3YD
Multi-Band YAGI Antenna Data Sheet

BRAND	MODEL	(20/15/10) ELEMENTS	BOOM	Turning Radius	CLAIMED MAX. Gain	CLAIMED F/B ratio	Area[s.f.]	Weight[lb.]	Stainless hardware	Balun	List	Net
BUTTERNUT	HF5B	2	6'	7'	5	18	3.5	19	???	no	$295.00	**$199.95**
CUSHCRAFT	A-3*	3	14'	15.5'	8	25	4.4	27	+$39.95	no	$320.00	**$229.95**
	A-4*	3/3/3	18'	18.4'	9	25	5.5	37	+$49.95	no	$430.00	**$299.95**
HUSTLER	3-TBA	3	12'	14'	8	25	4.2	40	YES	no	$349.95	**$239.95**
HY-GAIN	TH2MK3s	2	6'	14.3'	5.5	20	3.3	22[1]	YES	no	$319.50	**$229.95**
	Explorer 14*	3/3/3	14'	17.25'	8.8	27	7.5	50[1]	YES	YES	$577.50	**$399.95**
	TH5MK2s	4/4/4	19'	18.4'	9	27	7.4	77[1]	YES	YES	$729.50	**$499.95**
	TH7DX	4/5/5	24'	20'	9.6	27	9.4	82[1]	YES	YES	$849.50	**$589.50**
	TH3JRs[5]	3	12'	14.3'	8	25	3.4	20[1]	YES	no	$349.50	**$249.95**
KLM	KT34A	4	16'	16'	7	20	6	45	YES	YES	$484.00	**$449.95**
	KT34XA	5/5/6	32'	21.5'	11.3	20	9	68	YES	YES	$697.00	**$639.95**
MINI-PROD.	HQ-1	2	4.5'	6.2'	6.5	12-17	3	15	YES	no	$259.95	**$199.95**
MOSLEY	TA-33*	3	14'	15.5'	8	20	5.7	37	YES	no	$380.45	**$269.95**
	CL-33	3	18'	16'	8	20	6	42	YES	no	$427.15	**$299.95**
	TA-36*	3/3/4	24'	19.25'	9	20	10.7	69	YES	no	$493.50	**$389.95**
	CL-36	3/3/4	24'	19.25'	9	20	10.7	69	YES	no	$573.85	**$399.95**
	PR057*[4]	3/3/4	24'	19.67'	10.9	20-25	12	81	YES	no	$708.35	**$499.95**
	TA-33Jr[5]	3	12	14.75'	8	20	4.3	20	YES	no	$293.35	**$209.95**
TELREX[2]	TB4EC	2/2/2	8'	17'	5.5	14	4	30	YES	YES	$465.00	**$335.00**
	TB5EM[3]	3/3/3	18'	20'	8.5	28	7	49	YES	YES	$800.00	**$580.00**
	TB6EM	3 / 3 / 4	26'	22'	10	30	10	85	YES	YES	$965.00	**$695.00**

NOTES:

A "*" Indicates a 40 M. add-on modification, typically a loaded dipole element, is available

[1] Hy-Gain wgts. are shipping, subtract 3-4 lb. for installed wgt. [2] Telrex tri-banders have individual reflectors for each band

[3] TB5EM is rated 4KWP, TB5ES is rated legal limit, otherwise same, @ $500. [4] Includes 3-el for 12 meters; 3-el on 17 meters

[5] JR. antennas are typically rated @ 300-400 W. input CW, 600-1000 W. input SSB; they will not take a KW+ output!

Data reflects manufacturers claims, actual performance may vary. Prices shown are subject to change.

Gain and F/B ratios reflect BEST data, may be significantly less on other bands.



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CHINA (Zone 23) - Now to 1 June. As part of the China, Japan and Nepal Friendship-team atop Mt. Jolmolung in Xizang Province, operators from BY4AA will be on the peak signing BTØZML. The ground-support team in Lhasa will include operators from BY4ZS signing BTØLS. BY1PK will be the QSL-route for both stations. (The initial announcement promised daily operation on 14,190 KHz with an objective of 10-40 activity).

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FRANZ JOSEF LAND - RZ1OWA is regularly near 14,033 KHz from 0001 UTC with an outstanding signal. QSL to Box 47, Arkhangelsk, 163068, USSR.

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GIBRALTAR - ZB2EO on 21,007 KHz at 1830 UTC. John will QSY to provide you with a QSO on other bands. QSL to: P.O. Box 534, Gibraltar.

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GUINEA - Now to 31 March. 3XØA/A, on Cassa Island, by IK8DYD. Franco is on all bands with cw and ssb. QSL to his home CBA.

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INDONESIA - At presstime, we're all awaiting the imminent start of a 1 to 2-week operation by the Colvins, with Iris signing YBØAQL and Lloyd signing YBØAQM on all bands with cw and ssb. Their requests for licenses in A5, HS, S2, XZ and 9V had not been acknowledged as of this date. They'll be heading-home in early April and will be appearing at the Dayton and Visalia Conventions. QSL via YASME.

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LEBANON - OD5VT maintains a daily schedule of activity near 21,275 KHz from 1200 UTC and on 3780 KHz from 2200 UTC. QSL Adel via HB9CRV.

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LORD HOWE I. - 20-27 March. Callsign(s) to be issued on arrival. The team includes JG3KUT, JH4NMT, JH9s GRK, GRM & JFH and QSL Manager JI3ERV. As an entry in the CQ WW WPX Phone Contest on 26/27 March, they will be on 10-160. Prior to the Contest they'll be on all bands (including the WARC-bands) with cw and ssb, plus 6-meters.

***

MALI - TZ6MG on 14,185-195 KHz most days from 2300 UTC. QSL Dennis to P.O. Box 2095, 8203 AB Lelystad, Netherlands.

***

MONGOLIA - OK1XC/JT is back in action, often near 14,006 KHz from 2330 UTC. QSL to his home CBA after his return there in early May.

***

RWANDA - 9X5AA is a frequent target on Snooky's net, 14,183 KHz at 2000 UTC. QSL to: US Embassy, P.O. Box 28, Kigali.

***

SAHARA DEM. REPUBLIC - SØRASD on 21,243 KHz at 1700 and 21,255 KHz after 1800 UTC. The operator gives his name as Mahafud. QSL via EA2JG.

***

SENEGAL - 6W6JX is in the vicinity of 28,555 KHz daily from 1500 UTC. QSL: F6FNU.

***

TURKEY - TA2L likes 21,255 KHz from 0001 UTC. QSL Ustun to P.O. Box 430, Kizilay, Ankara, Turkey.

***

WAKE I. - KH9AC is always on 3790-92 KHz from about 1230 UTC. QSL via WK6T.

***

W. SAMOA - 5W1GP is always near 7078 QSX around 7185 KHz from 1600 UTC. This is JA6HOR, who is stationed on the Island. QSL to: P.O. Box 1625, Apia, W. Samoa.

THE DELAWARE-LEHIGH AMATEUR RADIO CLUB, INC.

NEWS

RD #4
GREYSTONE BUILDING
NAZARETH, PA
18064

All Amateur Radio Operators are invited to
participate in the DLARC Nets
on 146.70 W3OK/rpt.
The Nets are held on Sundays at 9:30 AM
and on Wednesdays at 7:00 PM.
The alternate repeater for these Nets
is 145.11 W3PYF/rpt.

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The DLARC NEWS is the Official Publication
of the Delaware-Lehigh Amateur Radio Club Inc.

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1988

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CLUB MEETING NIGHT

All regular meetings of the D.L.A.R.C. are held
on the first Thursday of each month at 7:30 PM
in the Greystone Building at Gracedale.
Phone....759-2600

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Any comments or articles contributed to
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01/01/89

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17 USA Dog Sled 1920s

22 USA

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