remove with care

HOLMESBURG AMATEUR RADIO CLUB, INC.
(a non-profit corporation)
P.O. BOX 6253 ~ PHILADELPHIA, PA. 19136
(Affiliated with the West Link Radio Network, Inc.)

FIRST CLASS MAIL

MEETING NOTICE

FEB. 7
10 AM

Personal For:

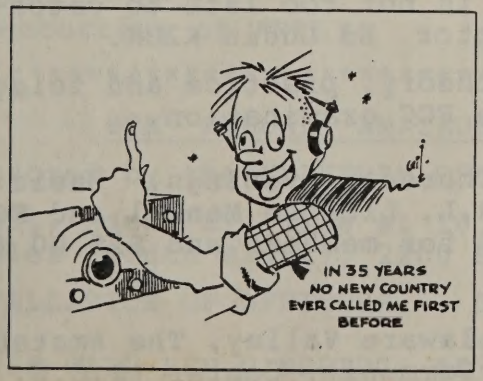
TIME VALUE

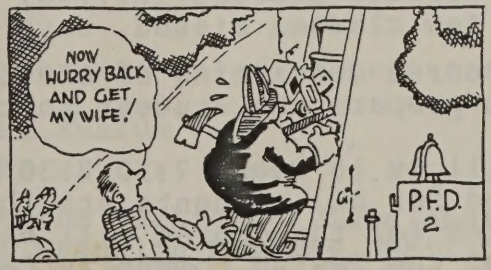
NEWSLETTER

FEB. 86

CLUB MEETING FEB. 7

BILL FERGUSON, WA3BXW WILL BE TALKING TO US ABOUT HIS COMPLEX REPEATER SYSTEM ON 444.200 MHZ
COFFEE AND DONUTS TOO.





May, 1935

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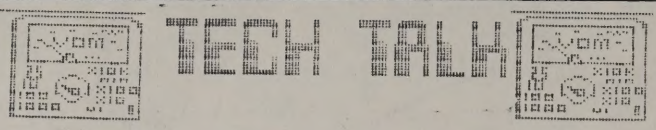

TECHNICAL COMMITTEE REPORT

Since we last reported, a lot of things have been happening. First of all, our amplifier got ill around 15 December. It was sent back to TPL and should be reinstalled by the end of January. There is a modification being installed along with the repair that will enable us to switch the amplifier in and out. This will disable the amplifier for test purposes or in case of an amplifier failure, we can bypass it.

The new repeater was installed on 17 January 1988. Initial indications are that everything is functioning well. It seems we picked up an increase in receiver sensitivity. You should have received your operating instructions for the new system. Each member is requested to complete the form for your auto-dial number. When the number has been programmed into the system you will be receiving your personal access code. You will notice from time to time different announcements being broadcast over the repeater and possibly, different courtesey tones. This does not mean the Patch Codes have been changed. As more options become available to the members, you will receive additional mailings. Any comments or suggestions or preferred messages you would like to be announced, please send them into the P.O.Box. Request should be in writing.

The Spectrum SCR 2000X is in the stand-by mode at the site. The monies for the purchase of the new equipment were available through the efforts of all the members who participated in the club-sponsored raffles and through your dues. We appreciate your cooperation.

73's
Ron, WB3BDC

****

TECHNICIAN, GENERAL AND ADVANCED LICENSING COURSE

Classes have already started (1.7.88) but it is not too late to catch-up on the first few classes missed, says instructor Ed Ludin K2UK.

This year's course consisting of electronic theory, practice and telegraphy sufficient to prepare the student to take the FCC examination.

The course will be 18 weeks 7:30-9:30 P.M., Thursday evenings. Basic text books required for all students are the A.R.R.L. License Manual and FCC Rule Book. Fee for the course will be $15.00 for members and $25.00 for non-members of the Jewish Community Center.

The Course is sponsored by the Chaverim of Delaware Valley, The Amateur Radio Association which co-sponsors with the Community Center (J.C.C.), the Abraham Z. Cutler Memorial Amateur Radio Station located at the Center.

The instructors will be Barney Milstein KD2VB, Bob Krukowski WA2UDO, Ray Schnapp WB2NBJ, Harry Wolf ND2P and Ed Ludin K2UK. Register at the J.C.C. 2395 W. Marlton Pike, Cherry Hill, NJ 08002. Phone - 609-662-8800.

Looking for 41D.

DELAWARE VALLEY COUNCIL

INTERFERENCE MEETING

Edith Rosner, W3AAU

.....

There were about 18 Delaware Valley clubs that sat down for some answers from the "powers that be" on 14 December 1987 at the Aviation Supply Office. The powers were represented by: James Sheehan, Chief, Civil Division, U.S.Attorney's Office, Phila.
Ennis Coleman, K3EL, Engineer in Charge, Third District FCC Field Operations (Langhorne)
Philip Stein, K2RCG, an Official Observer appointee, Southern New Jersey section, ARRL (He did not officially represent ARRL.)

The bottom line is that if we, the Ham Community, can't or won't help ourselves no one else will help us. The way things are, the 00 has no legal authority. His job is to tell you when you goof. You can get a love note in the mail that your signal stinks and please, please do something about it. The laws have no money, no staff and too many more important priorities. So we're on our own!

The only way, it seems, to get their attention and eventual action is to form an active local interference committee. Since such a committee necessarily covers a wide area, it is beyong the scope of any single club. This is where the Council can be important as the coordinating organization. So the Council wants some interested hams to sign up. You are needed.

The job is not easy. Once the violator has been identified and positive proof is obtained individual letters and petitions will be needed to be directed to the authorities- and, please note, volume will be required.

If you are willing to pitch in please call W3AAU, 215-464-2665 or your club's Delegate (K3TX, 946-1040) and a signup form will be sent to you.

Jay, WA3IFY did a video of the event until his shoulder gave out; it is available on loan to clubs, and there is an audio tape (90 minutes) available, $5 each payable to the Council.

(Photo-courtesy of ARRL)

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8TH ANNUAL AMATEUR RADIO SOCIAL

Sponsored by the CHAVERIM OF DELAWARE VALLEY, INC.

Sunday, March 27, 1988 at 10 a.m. at the Parktowne Place Apartment Complex (South Bldg.), 2200 Benjamin Franklin Parkway, Philadelphia

INSTALLATION OF OFFICERS... DOORPRIZES... BUFFET BRUNCH(all you can eat)

PLEASE CALL BEN GINSBERG AB3Z at 215.455.3894 for further information.

COME AND ENJOY YOURSELF!!!!

Reprinted with permission from the
MAIN LINE SUNDAY, December 27, 1987

Profile Kay Craigie:

Dialing Into The World Through Her Ham Radio

By REBECCA RUBIN
Staff Writer

In the den of Kay Craigie's Devon home there are as many control panels and flashing lights as in the *Star Trek* Starship Enterprise.

During a recent interview, Craigie, an amateur radio operator, fiddled with the dials on one of her ham radios until a southern style voice came through the static saying "well hello there, Elmer."

For the past five years, Craigie, 40, who has just been elected to a second term as Eastern Pennsylvania Section Manager for the American Radio Relay League, has carried on a love affair with ham radios.

"Through ham radios my life has changed a great deal," says Craigie. "I've met hundreds of people I would never otherwise have known."

The American Radio Relay League is part of the national organization of Amateur Radio Operators who are licensed by the Federal Communications Commission.

Like every other ham radio operator around the world Craigie has her own radio call sign — KC3LM — which is imprinted on an old car license plate on the wall of her ham radio control room.

These call signs, which Craigie says are as "unique as your social security number" are assigned by the government to identify the amateur radio stations.

Conversations between operators can range from technical talk about things like radio antennas or plain conversation about the weather.

In fact Craigie says that instead of using the telephone she often uses the ham radio to talk long distance with her father in Georgia.

And Craigie is proud of her collection of hundreds of postcards, displayed in her den, from radio contacts around the world, including New Zealand, Australia and the Caymen Islands.

(Eve Morgantesia Photo)

"Part of the fun is you don't know who you will be talking to," says Craigie. "You could put out a call and you could be talking to someone from the local area or could be talking to someone from Argentina.

"One of our main principles," she says, "is to improve international goodwill."

And ham radios, says Craigie, have "given me the opportunity to give something back to the community."

As an American Radio Relay League Manager Craigie is responsible for an eight-branched program of volunteer services.

There are about 4,000 amateur radio operators in the Philadelphia area, and 450,000 nationwide, many of whom volunteer their services for emergency radio communications for government and charitable relief organizations.

"Ham radios can be used if there is a tornado or a flood or brush fire and normal telephone communications are knocked out or overloaded," says Craige.

Ham radio operators were used during the Three mile Island accident in 1979, she says, "when communications were overloaded and everyone in the civilized world was trying to find out if Aunt Jane was okay."

On hand day or night, ham radio operators can save lives by providing communication — a tradition since 1917, says Craigie.

Another important dimension of amateur radio, Craigie adds, "is that people with all kind of handicaps...are ham radio operators.

"Instead of being shut up in a room, or shut up inside their own bodies," she says, "they have the world to communicate with.

"And ham radios are not just opening the world up for them. Through emergency communi- cation handicapped people can give something back to society."

KAY CRAIGIE WOULD LIKE US TO NOTE:

When you renew your Technician class license, keep the old license in a safe place if it's dated before March 21, 1987. That's your only proof you have credit for the new General class theory test, in case you decide to upgrade someday. If you took the old Tech/General theory test before March 21, 1987, but your actual license is dated after then, hang onto your Certificate of Successful Completion for the old Element 3. Without such proof, the VE's must make you take the General theory test. They can't take your word for it!

****

FOR SALE:

KENWOOD RECEIVER MOD 2000 MINT CONDITION - $375.00 OR BEST OFFER

CALL JAY WA3IFY AT 215.289.4531 or 215.423.6658

I have been relating this tale of woe over the air to Paul, N2FOB for several weeks, and during this discussion it became apparent that the story was fit to print... There's a moral there somewhere... Sometimes you can't win, you can't even break even. Don't marry a non-ham. You have had all these feelings...

Well, my episode started at a local ham fest (I think it was in August). I had been looking for a 440 MHz amplifier. Well, as I cruised the aisles, what do I spy, but a nice shiny Mirage D24. Just the type of amp I was looking for. And the man, who was a dealer in VHF gear assured me, the amp had only been used by three little old technicians on Sundays (during VHF contests, no doubt). In fact, if there was any doubt, the unit still had the warrantee card! Just the power input/output I was looking for, under warrantee, the right price, what more could I ask?? Well, after mulling it over three passes down the same row, asking an expert's opinion (N2FOB), I decided to take the plunge. (The $100.00 plunge)

Well, it didn't work. The dealers in Mauritius (I think he went down with the Titanic). Well, no problem. I still have the warranty card. So I filled it out, and sent it to Gilroy, California, just as the card said. And I waited, and then sent in the amplifier for service. And I waited.... And I waited.... And I waited. Mid-October I said ("Self-it is time to call Mirage and find out where that amplifier is"). So I called Mirage and was happy and relieved to be told that the amplifier had been received, repaired, and was to be shipped out to me the next day. End of problems, right? Sure.....

It turns out that UPS service only slows down when you are waiting for something. The week I was home it didn't come.... The week I was in Florida looking at corroded water wells it came. Delivered by UPS to my wife, the non-ham ("what's a Mirage?") With a charge to be paid ($28.00) My wife never pays for mirages, she expects them free. My wife doesn't ask me what a Mirage is that costs $28.00, when I call home for two straight nights after UPS has tried unsucessfully to deliver my precious amplifier.

The rest is still unfolding. UPS didn't try to deliver a third time (would you try three times to be harrassed by my wife?). So my amplifier is again winging its way back to Morgan Hill, California. You may say, "but you sent the warranty card to Gilroy, California.." Yes, my friend... The mystery of the repair charge is now solved... Mirage moved a few years ago... So my warranty registration was about as well taken care of as the Bay of Pigs Invasion. And my wife, eager to help once she learned what a mirage was, made careful arrangements to have the amplifier held and not shipped right back, knowing that we would be out of town about the time UPS would again timidly knock on the door trying to deliver the prize possession. I'm told it was or will ship sometime soon....

Perhaps we will get 440 lifted from us before it arrives...

LEAGUE LOBBYIST:

The ARRL has hired a professional Washington lobbyist to try to save the the 220 Mhz amateur band. So says Fred Maia, W5YI in a front page story appearing in the December 1st issue of his W5YI newsletter.

Maia reported that the League has retained the Washington, DC firm of Chwat, Weingard and Associates to represent the interests of amateur radio in quashing Docket 87-14. W5YI quotes the October 24 issue of the Congressional Quaterly as saying that Chwat, Weingard filed as a lobbyist for the American Radio Relay League August 10th. The lobby interest was stated as "general legislative and regulatory interests relating to FCC Docket 87-14-- the 220 to 222 Mhz issue.

What is most interesting is that this move by the ARRL to seek professional guidance in killing off 87-14, marks the first time we know of that the League has used the same tactics in fighting a menace to ham radio as those in business or government have used to try to take advantage of our service for their own personal or political gain.
de WA3IFY
tnx Westlink.

BRIDGEWORK NECESSARY:

Thirty five thousand dollars will have to be spent to keep a new Bay City, Michigan bridge from opening when CB operators, passing over it talk to a "good buddy" on their transceivers. The October 6th issue of the Bay City Times reported that even walkie talkies had the potential to cause the Liberty Bridge to open because its computerized control system had not been designed for RFI immunity.

The opening of the $ 28 million bridge, already a year behind schedule, will not be further delayed. Instead, the correction will be made at a later date.
de WA3IFY
tnx Westlink.

IMPROVED TEST METHOD:

A vivid physical demonstration was given of the newest method for passing the exam.
1) Letter each finger A,B,C,D.
2) Hit fingers against edge of table
3) Fingers that hurt the most is the right answer.
4) If all hurt equally answer is "all of the above".
5) If none hurt, answer is "none of the above".
6)If fingers fall off prior to completing the exam, come back in 30 days and try again.

There is a 16.87% pass rate with this system. It is called the New Improved Bash Test Method.
de WA3IFY
tnx Worldradio.

Noise Interference and its Causes

In its simplest form, noise interference consists of *unwanted electrical signals*. In general, these signals can be picked up and transmitted by electrical power lines, power supply cords on equipment, and static electricity.

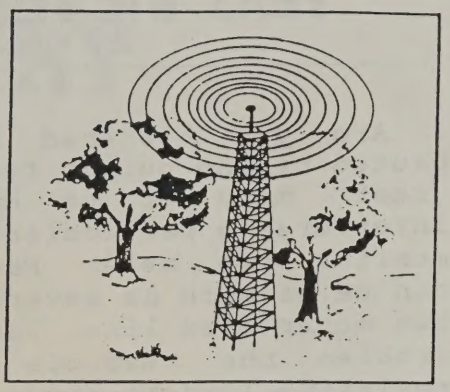
Noise interference, although similar in many respects to spikes, occurs at a *lower voltage magnitude* and is not generally as destructive to equipment. Noise does, however, degrade performance of solid state equipment and, like voltage spikes, may generate erroneous data outputs or wipe out programming or valuable stored data.

Noise interference is generally classified in three ways:

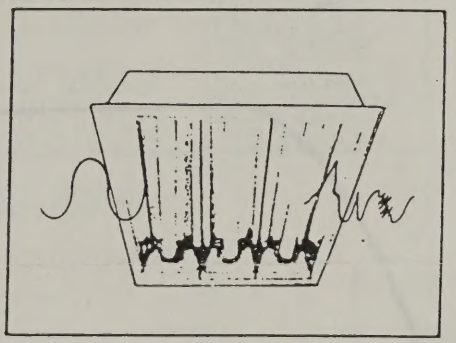
- *Electromagnetic Interference* (EMI) caused by a varying magnetic field
- *Radio Frequency Interference* (RFI) caused by signal pickup in lines acting as antennas
- *Electromagnetic Pulse* (EMP), a signal pulse of energy created by a collapsing magnetic field such as lightning. The magnitude can vary from insignificant to devastating.

Causes of Noise Interference

1. The same causes of voltage spikes can (at a lower voltage magnitude) cause noise interference.
2. Other major electrical noise generators include:
   - Fluorescent lights
   - Operating computers and business machines
   - Electrical devices such as light sockets, wall receptacles, plugs, and loose electrical connections
   - Automobile ignition systems
   - Radio transmission of all types
   - Television transmission
   - Transformers
   - Sunspot activity.



Electrical noise generators which can cause noise interference include radio transmission of all types . . .



. . . and fluorescent lights.

No part of the United States is immune to lightning; however lightning generally is more common in tropic and temperate zones than in colder climes. The numbers on the isograms indicate the average annual days with thunderstorms for that area. Alaska averages 1 to 6 days and Hawaii 5 to 9. Lightning is most likely to occur in June, July, and August.

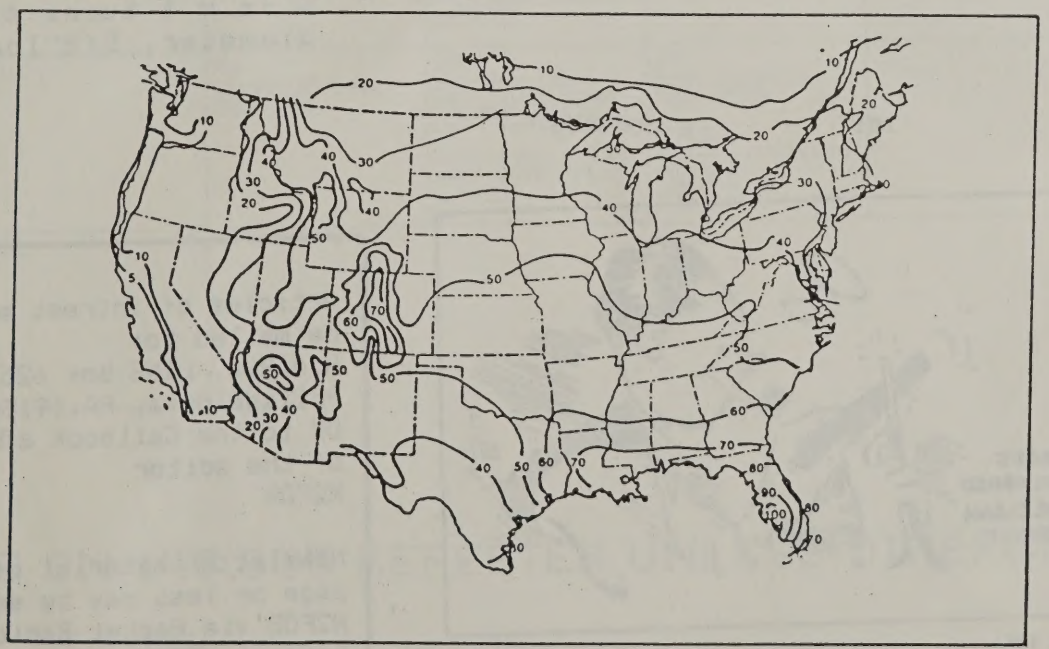
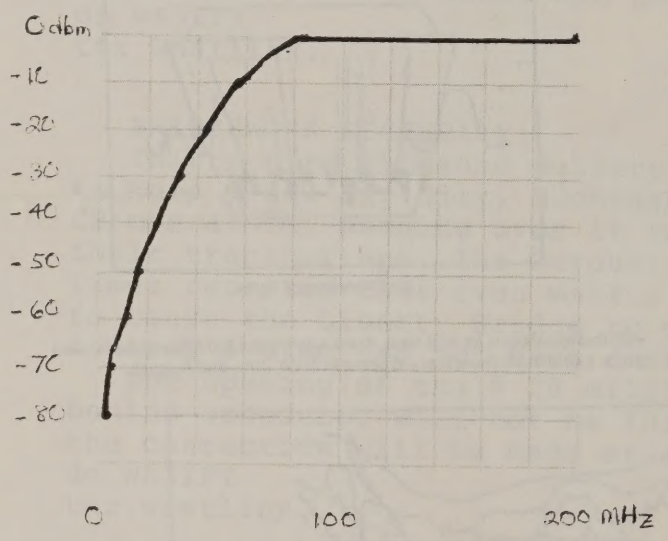


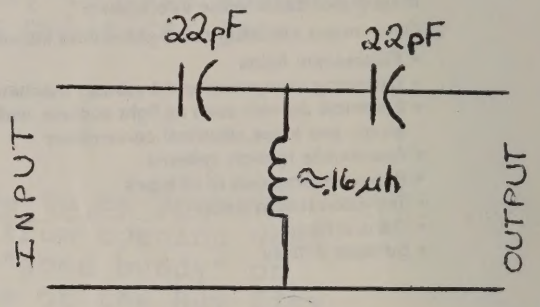
Figure 17
This map shows the number of days a year lightning storms affect all areas of the country.

TWO METER BANDPASS FILTER

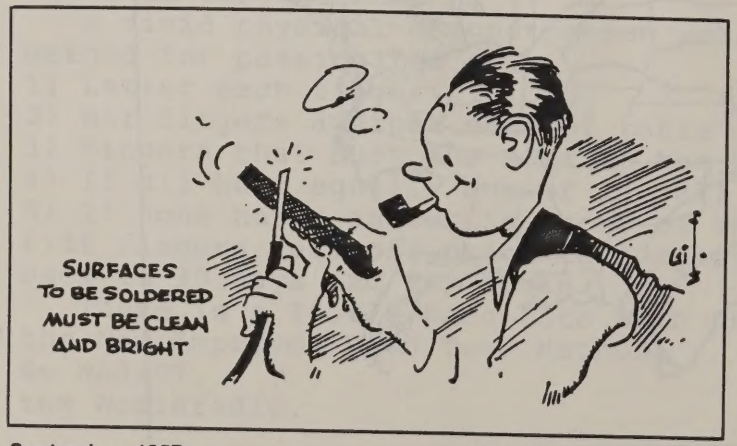
BY JOE PEARLSTEIN, WA3ILJ

Are you bothered by interference on your two meter rig caused by the output from your low band transmitter? A great many of us Hams are plagued by this type of interference particularly if we run high power and try to monitor two meter Packet simulataneously. At times there can be as much as several volts of stray R.F. energy on your two meter coax line. The filter shown below eliminates the problem the responce of the filter into a fifty ohm resistive load is shown below. (Measurement taken with a Tektronic 7213 and tracking generator). Use a small RF tight minibox for construction





Caps are silvered micas. L is = 4 turns #18.1/4" diameter, 5/8"long.



September, 1957

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Articles of intrest may be mailed to:
H.A.R.C. LINE box 6253
Philadelphia, PA.19136
OR to the Callbook address of the editor
N2FOB

Newsletter material of a page or less may be sent to N2FOB via Packet Radio. Address N2FOB @ WB2MNF

FEBRUARY

1988

SUN	MON	TUE	WED	THU	FRI	SAT
	1 PHIL-MONT VEC TESTING FRANKLIN INST. RECORDED INFO. 1-215-448-1199	2 CHAYERIM NET 9:00 PM.	3 WASIFT CW PRACTICE 7:30 H.A.R.C.NET 8:00 SUBURBAN A.R.C NET 9:00 PM. 224.10	4 D.Y. COUNCIL NET 8:00 PM. PENN WIRELESS VEC TESTING CONTACT: DAVE HELLER 215-756-3333	5 DELAWARE-LEHIGH A.R.C VEC TESTING CONTACT: DON HOLMES 215-252-5696 BOB KRATZ 215-2509800	6
7 H.A.R.C. GENERAL MEETING 1900 HRS 2TH DISTRICT POLICE STATION, PHILA. AMSAT NET 8:00	8	9 CHAYERIM NET 9:00 PM.	10 WASIFT CW PRACTICE 7:30 H.A.R.C.NET 8:00 SUBURAN A.R.C. NET 9:00 PM. 224.10	11 D.Y. COUNCIL NET 8:00 PM.	12	13
14 AMSAT NET 8:00 PM. 147.36 LINKED WITH 224.50	15	16 CHAYERIM NET 9:00 PM.	17 WASIFT CW PRACTICE 7:30 H.A.R.C.NET 8:00 SUBURAN A.R.C. NET 9:00 PM. 224.10	18 D.Y.COUNCIL NET 8:00 PM.	19	20 MID-ATLANTIC A.R.C. VEC TESTING INFO. BOB HAASE 1-215-299-1919
21 AMSAT NET 8:00 PM. 147.36 LINKED WITH 224.50	22	23 CHAYERIM NET 9:00 PM.	24 WASIFT CW PRACTICE 7:30 H.A.R.C.NET 8:00 SUBURAN A.R.C. NET 9:00 PM. 224.10	25 D.Y. COUNCIL NET 8:00 H.A.R.C. BOARD MEETING MEMBERS WELCOME	26	27
28 AMSAT NET 8:00 PM. 147.36 LINKED WITH 224.50	29					

ALL NETS ON 146.685 REPEATER UNLESS OTHERWISE NOTED.

Voltage Spikes and Their Causes

Electrical disturbances are most commonly created by equipment-generated signals. Natural forces, such as lightning and sunspots, can also cause disturbances. Disturbances for a normal 110/120 volt electrical circuit can be generally classified into two types: 1) *voltage spikes* and 2) *noise interference* (commonly known as "hash"). (Figure 14)

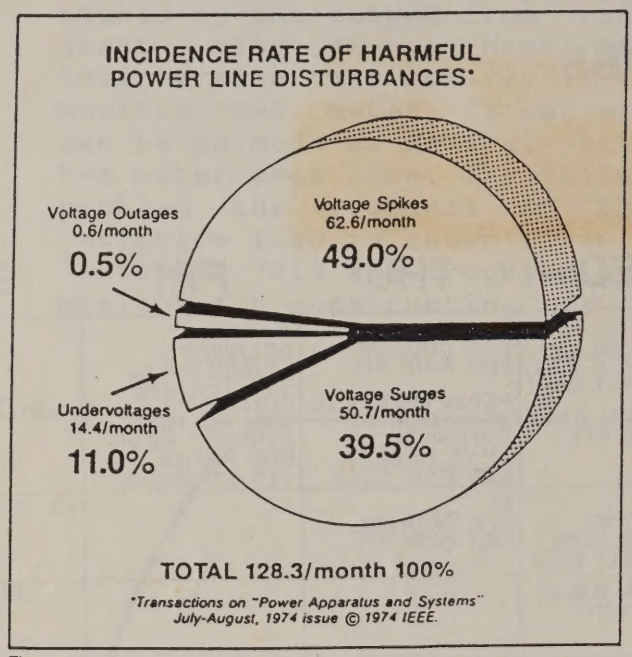


Figure 14

VOLTAGE SPIKES

Spikes are overvoltages which can be further classified into *transients* (high voltage — 6000 volts or greater — of short duration, less than 100 microseconds, 100 × 10^{-6} sec.) and power *surges* (up to 3000 volts, but of longer duration). Overvoltage conditions of up to 1000 volts are common, daily occurrences in most 110/120 volt rated industrial and commercial electrical circuits. Residential homes also experience these conditions, but at a reduced frequency and severity. Whether an incoming power line carries a *transient* or a *surge*, the potential for damage is the same. It takes only one voltage spike to create any one or more of the following problems in a solid state electronic device:

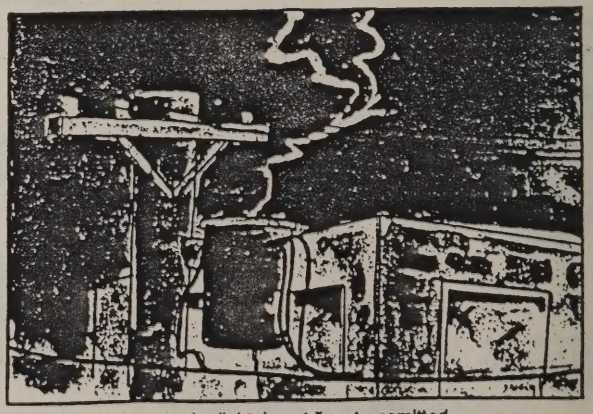
- *Melting of "hot spots" in semiconductor devices,* thereby destroying the circuitry
- *Thermal runaway of transistors,* destroying their function
- *Welding, pitting and metal transfer of electromechanical contacts* (for example, switches)
- *Corrosion of contacts*
- *Insulation breakdowns* causing arcing of components and subsequent failure
- *Shortening of component life* resulting in unexpected, expensive downtime and equipment replacement or repair (for example, spikes are easily transmitted through soldering irons during assembly of printed-circuit boards resulting in early equipment failure)
- *Wiping out of data stored in memory or producing output errors* in solid state operated devices, which may interpret smaller voltage spikes as legitimate input signals.

Causes of Voltage Spikes

Voltage spikes are generated in a number of ways which can vary in frequency and intensity:

1. *The number one, day-to-day cause* of a spike is the switching on and off of an electrical motor (inductive load switching), particularly while the motor is driving equipment. Air conditioners, electric power tools, furnace ignition, electrostatic copy machines, arc welders, elevators or any brush-type motors are particularly guilty of creating voltage spikes. The problems created by inductive load switching are very common in industrial plants.
2. The energizing or de-energizing of electrical relays, transformers or solenoids. Interestingly, these spikes are caused in electronic systems which are most *vulnerable* to them, such as computer disc drives.
3. Power line *over* voltages created by electric utility switching of lines and generators are common occurrences under heavy load conditions in urban areas.
4. When *under* voltages (brownouts and blackouts) are corrected, there is usually a high voltage surge immediately following.
5. Lightning — A direct lightning hit, of course, is catastrophic but of very low probability. The *most frequent danger,* however, is that a distant lightning strike several miles away may be transmitted through utility power lines and show up as a large voltage spike all along the line. *Figure 17* is a map of the United States showing which areas of the country are most vulnerable to lightning strikes.
6. Power overloads, short circuits or sudden grounding of an electrical circuit.

Voltage spikes may be caused by inductive load switching (switching an electrical motor on and off), in electrostatic copy machines . . .



. . . or by lightning strikes transmitted through utility power lines.