

THE
**PARASITIC
EMISSION**

September 1975

Keef



**BACK TO SCHOOL
ISSUE**



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the PARASITIC EMISSION



VOLUME I; NUMBER 5

SEPTEMBER, 1975

BACK TO SCHOOL ISSUE

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The Parasitic Emission is published monthly for the Quad-County Amateur Radio Club as its communication to its members. The QCARC is a non-profit organization. The Parasitic Emission is free to members of the QCARC, 50¢ a copy to others. Subscription without joining the club is available for \$4.00 per year. Mailing address of the Parasitic Emission only is :

The Parasitic Emission
c/o Joe Shupienis
515 W. Washington Ave.
Du Bois, PA 15801

the editorial

by

Joe Shupienis, WA3IHK/WA3FOZ

Having nothing to gripe about this month, I guess I'll have to praise. Who? YOU! In March of this year, I finally decided that all the idle talk about a club by myself and others had gone on long enough. It was time for action.

The immediate result was the letter almost all of you received inviting you to the first meeting in April. The letter arrived with short notice because of several programming errors I made on the computer.

Nonetheless, 20 or so showed up at the first meeting. Their enthusiasm about forming a club was not short-lived. We have had a meeting every month since, our membership is continually growing larger and we are starting to acknowledge the fact that the club does indeed exist.

We have already started to perform club-like services for our members. We organized a Field Day effort that may well have taken first place in our category, have had an organized trip to the Warren Hamfest, have a site to build a club shack, have a newsletter each month and most importantly, have encouraged those who have become inactive to fire up their rigs again.

As a social club, we haven't done too poorly either. Most of us have met new people and made friends among the local boys and gals in the club. If things keep up like this we will have one of the more active clubs in this part of the state.

Let's keep a good thing going.

ps: Only one "semi-gripe" this month... It is disappointing to note the lack of enthusiasm over our last request for Emergency Coordinators in each of our counties. and the lack of interest in teaching code and theory classes. And the absence of articles to be published in this newsletter. Oh well... save those till next month and print them then.. if there are any. (hint)

73 Joe

meeting notice

The next meeting of the Quad-County Amateur Radio Club will be held in the Du Bois Area Senior High School on Friday, September 19, from 7:00 pm to 9:30. After the meeting, a program of interest to all radio operators will be presented. Please note the time change.

If the date and/or location are in severe conflict with the High School football game that evening, the above info will be changed. All paid members will be notified by phone, all others should listen to WCED's "Community Bulletin Board" program starting September 17.

august minutes

The August meeting of the QCARC was called to order by president Boucher at 7:30 pm on August 15.

The treasurer reported that the club has \$67.89 in checking. Projected expenses will be from \$80. to \$90 with just normal dues paying receipts.

K3TFL moved and WA3IHK seconded that code classes be started in the various towns and that the classes are to be advertized in the local papers and on radio. Passed.

WA3BUX was appointed net control for the club 2-meter FM net.

A suggestion was made that all club members' phone numbers be made available.

Much discussion then centered around the cost and production of the newsletter. Moved by WA3BUX and seconded by K3IQN that separate treasuries be established for the club and the newsletter. The club will allot \$6.00 (depending on membership) to WA3IHK for the publication each month. The rest of the expenses are to be paid by advertizing.

There is a possibility that the club may acquire a 90' tower on the Rockton Pike. IHK will follow up leads. Motioned by IHK that Exec Committee handle matter further. Seconded by K3TFL. Passed.

K3TFL talked about the acre we used for FD.

K3TFL moved and WA3WPR seconded that IHK contact W3HDE about a donation he made to the club.

4

Passed.

The need for a working Constitution and Bylaws was brought up by WA3IHK and W3GNR. All officers to meet at W3GNR's QTH the next Friday, August 22 at 7:30 pm.

President Boucher, W3GNR requested volunteers for EC for our several counties, but there were none. Next Meeting was scheduled for September 19. The Meeting was adjourned at 10:00.

Bill Zavatsky, K3QEQ
Recording Secretary.

code & theory classes

WA3IHK has prepared a manual and advertising copy for the code and theory class instructors. Get in touch with him if you are teaching one of the classes.

To date, only Punxsutawney and Du Bois have classes scheduled. If our ranks are to grow, we must get new blood in the hobby. Teaching one of these classes requires no special knowledge or skills, and the Manual and textbook answer every question you may have. It will only take one evening a week, and you could keep yet some more youngsters from becoming CBers.

Please give this matter your utmost consideration as it is important to the growth of our hobby.

advertisements

A BIG welcome to our first advertisers. Before sending away for a rig or other equipment, check with the people who have been interested enough in our area to help out with the production of this newsletter.

These businessmen all have faith in the hobbyists who obey the laws -- the Hams. Most of them are hams themselves. So help them enable us to keep this newsletter growing. Thanks.

SAY YOU SAW IT HERE IN THE

**PARASITIC
EMISSION**

USING MURPHY'S LAW

Λq

Edsel Murphy

Ed. note: (While it is our policy to print only those articles written by local hams, Mr. Murphy, the originator of these laws has assured me he is a local op EVERYWHERE)

Greetings to all you Quad-County boys. I'm sure you've heard of my famous law which states, "If anything can go wrong, it will."

This hypothesis became painfully true to me when my girlfriend's father (and his shotgun) informed me she was my bride to be...the sooner, the better! After many years of study, I have finally learned that all the aspects of my Law can be utilized to the advantage of hams, rather than to their detriment.

Just in case there are skeptics who doubt the concrete validity of my laws, take a few simple examples: Toast always falls on the buttered side. It always rains after you wash your car. You only get a flat tire when you're dressed to the teeth. Your neighbor's dog decorates your lawn, not his. Coincidence? Any scientist can tell you that every effect or phenomena has a definite cause, even if the cause isn't immediately obvious.

Since this is an article in a Ham Radio journal, let's narrow our field to the electrical and mechanical aspects of Murphy's Law. A component value derived from theory will be the wrong one. Any wire cut to size will be too short. A dropped tool will land where it can do the most damage (also known as the Law of Selective Gravitation). Every band is open except the one you're on.

Then there are the more complex laws which are intended for hams alone. It always rains on Field Day. The HF bands stink during the DX contest. They come back full tilt during the VHF contest when, you guessed it - VHF isn't even good for across the street! You erect a tower tested to 100 mph when the first tornado to hit WPA in 100

years strikes. This tornado is also of interest to meteorologists because it has winds of no less than 101 mph!

After 15 years of patient waiting and searching the bands, AC4YN appears. You call him on his first CQ and hear the answer, "QRZ? W3??? de AC4YN K" Eagerly you press the key and.. a fuse blows. But you have been a ham for too long to let that stop you. You have a spare box of fuses and as you calmly reach for it on the table, it is no longer there. After it is too late, you discover they have migrated to the test bench. How? Murphy's Law.

Or say that you have a sked every night with Floyd over in Piscataway, NJ. You both have KW's on 75 SSB. One day your rich annt Tillie gets wind of your sked and asks you if you can get in touch with her old school chum, Maude Freenbie. "Of course. Come over tonight and Floyd will call her for you."

Little did you realize that while you were on the phone with Tillie, old Sol produced a flare guaranteed to wipe out everything below 1296.

Or the time when you decided to take all your antennas down and clean up the contacts, straighten the elements (from the ice storm last winter) and prune the wires for the best SWR? Just as soon as the tower was apart to be painted, the phone rang and Sam across town said to hurry up and get on 14200.1 because he had ZM7TL lined up and waiting for you who must shut down in 10 minutes to catch the boat . . .

The reader may now be saying that this is all true, but nothing can be done about it. My study has borne out the fact that this law can be used to our advantage, once we have a thorough understanding of it.

The following three rules should be memorized and put into practice in our pursuit of our hobby:

1. Always try to make things as inconvenient for yourself as possible.
2. Assume that in anything you try to do, the results will be the opposite of what you would expect.
3. The solution to any problem will be the one

you wish it wasn't.

7

Rule 2 occurred to me after my wedding - about two years after with still not a kid in the house.

Let's apply them to Amateur Radio:

Working DX

Every one seems to be working FR7ZZ, but you never seem to be on at the right time. How can you arrange conditions so you can get a crack at him?

Solution A: Apply rule 1. Invite the Boss to dinner. Buy the biggest thickest steaks you can find. The best champagne. The boss arrives on time, the steaks are done to perfection (how that happened to expensive steaks is another article) and everything is ready for the evening. Just at this point, excuse yourself to wash your hands. Sneak down to the shack. Take a quick look for FR7ZZ. He'll be there.

Solution B: Again apply rule 1. Buy tickets for the best show in town and take the XYL for an anniversary or her birthday. Delay long enough so that when you're ready to leave you'll just make the curtain. Just as you are leaving, turn the receiver on for a second on any band and any frequency. He'll be there. Calling , "CQ W3"

DXCC

How can you extract QSL's?

Solution A: Rule 2 may be applied as follows: If you have worked several stations in the 100 th country, on all but the last one give the full treatment, Air Mail, IRC's, homemade QSL's and Call Books. According to rule 2, no results will be forthcoming. On the last QSO, do NOT apply the full treatment. Don't even send him a card! If you have the guts, during the QSO tell him that you are not interested in DXCC, you don't want any cards and if he sends one you will only throw it away. His card will arrive two days later.

Solution B: If the station is the only one you have worked in the country, the approach would be more like this: Send him a card. No IRC's, no homebrew cards, nothing. On the air casually remark you would like his card. Two years later,

give up and decide that a more radical approach is needed. Send him a gift certificate for ten thousand QSL's from the Little Print Shop. Take your only spare 4CX1500-A and send it to him.

When you return from the post office, you will find the card was in yesterday's mail and you hadn't seen it on the dining room table.

De-bugging

You turn on the rig and smoke comes out.

Solution A: Apply rule 3. The smell tells you it is a carbon resistor - but which one? (It could be found by normal servicing means but by using Murphy's law no instruments are necessary and many hours of painstaking search may be eliminated.) Look at the schematic and the parts layout. Find the can with the most leads to be unsoldered. Remove this can and all the parts inside. The last resistor you take out will be the one you are looking for.

Solution B: Again using rule 3 take the parts list and call all the local suppliers. Find out if replacements are available. You will find one component which no one has, is out of production and can't be substituted without major circuit overhaul. That is the defective part.

Design & constuction

How to make a solder joint which can never come unsoldered.

Solution: (This should be easy now) Remove a wire from the terminal near the desired one. This wire must be part of a harness that goes through out the rig and must be the same color as three other wires in that harness. Touch this wire to the desired terminal and solder it with a match or cigaret lighter. Not even an oxy-acetylene torch could unsolder it.

How to design an amplifier that will not oscillate.

Solution : (This is an important application of rule 2) Design it as an oscillator. Nothing in the world will make it oscillate. Also all oscillators should be designed as amplifiers.

Questions

You go to a hamfest and see a Collins S/Line for \$75. You laughingly walk right on by since it obviously must be totally destroyed and beyond salvage. You then pay \$1500. for a new Kenwood from a dealer. On your way to the car you see Joe Schmoie giving the guy a \$50 for the S/Line. Who got the rig that will work right away, and who will have to spend another \$1500 to get his on the air?

If you answered Joe Schmoie and yourself in that order, you are well on your way to being able to predict what the outcome of events will be using Murphy's law.

To perfect this ability, and to assure yourself that your newfound knowlege is operable the following quiz is offered. A score of more than 75% indicates a working knowlege of "The Law" and you should begin to use it right away. If your answers are in the same general meaning of the key, consider them correct.

1. A ham moves to a new town. Where will he find a house which is readily available and within his means?
2. Neighbor A is 5'3" and weighs 132 pounds. He works as an accountant. Neighbor B is 6'2", weighs 240 lbs. and is a former heavyweight champion. Which neighbor will have the TVI?
3. On calling on your new girl at her house, you notice several beams, inverted vee's, dipoles, etc. She says they belong to her dad. Her dad is a ____.
4. Conditions have been terrible. How can you make them improve?
5. When grinding crystals, you chip one and throw it in the trash can. The other you put back in its case and plug it in the XMTR. Which is the good crystal?

6. Perform a public service and what do the newspapers call you? But when you cause TVI everyone knows that Ham Radio Operators cause TVI.

7. When is the most likely time for a power failure?

8. You drive 60 miles to get a tube for your rig. What do you discover when you get home?

9. You send away for contest log and dupe sheets. When will they arrive?

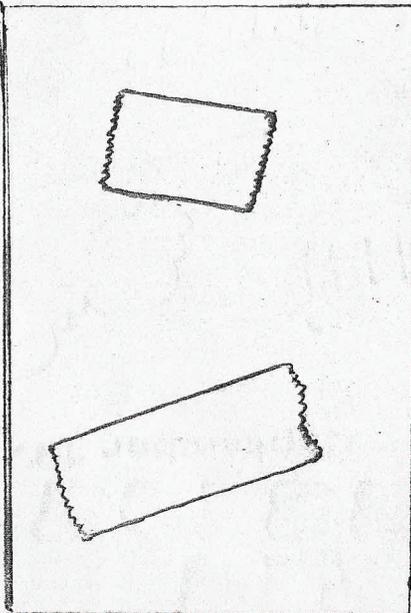
10. TheXYL has been hinting that she is giving you something you need for Christmas. What is it?

11. When is your rig most likely to malfunction and put a signal on the air for endless hours?

The answers to these questions will be found on page 18.

Mr. Murphy is almost a legend in his own time. His many accomplishments include the dissertat

In conclusion let it be said that Edsel Murphy seemed destined to a secure place in history, but along the way something went wrong!



Edsel Murphy

The brilliant theoretician in his college days.

The scene of famous Sam's Bar & W

burned

ruins

dest

\$9,0

li

k

Two Meter FM

by *P*

Joe Shupienis

The Nittany Amateur Radio Club FM Association invites all users of their 16/76 and 25/85 repeaters and their families to attend their "Super-picnic" family outing in State College on Saturday, September 27. Registration at 1:30, activities at 2:00 on. Registration is \$1.00 in advance for the entire family or \$2.00 at the gate. If possible bring along an extra food dish to share. Mail to NARC, PO Box 60, State College, PA. 16801.

No word as yet from the FCC on our repeater applications. We have heard nothing to date from W3MIF, the WPA Frequency Coordinator as to whether or not our requests for frequency assignments have been received.

The big news of the month is the excellent conditions which have been prevalent throughout the summer. With the cold front propagation of Autumn approaching, 2 will probably be open for several more months to come. K3HWJ, Art worked a W5 from his Punxsutawney QTH. Dick, WA3BUX has been working more than his usual share of exotic DX. Dick has talked to stations in New Jersey and Front Royal Virginia DIRECT on a regular basis.

From the VHF site, IHK and others have been working through various VE3 repeaters, Talking direct to stations beyond Pittsburgh, Johnstown and into upstate New York.

While mobile near State College, WA3IHK observed that every repeater he hit with his ICOM was coming back with a WR4 call. When he stopped the car, he noticed that the S-meter was being pegged by every one of the repeaters. What a band opening!

Who's on 2-FM?

K3BFO Gil, Coolspring
 WA3BUX Dick, Du Bois
 W3BWH Doc, Punxsy
 W3FJY Bill, Punxsy
 WA3GQU Fred, Du Bois
 K3HEZ Ward, Clearfield

WA3HSE Dick, Du Bois
 K3HWJ Art, Punxsy
 WA3IHK Joe, Du Bois
 W3KQR Bill, Clfd.
 K3LIX Dick, DuBois
 K3QEQ Bill, Du Bois

car battery and most "12 volt" equipment is designed for 13.5) Now, if we were to replace the pot with a "valve" we could control the resistance of the "valve" by the bias applied to it. In high voltage equipment, this is accomplished readily with tubes, but at 13.5 volts, transistors seem better suited to the job. The bias is governed by the Zener (rhymes with tenor) diode and the bias resistor. When the load is light, the base of the transistor becomes more negative as compared to the collector, thus causing a decrease in the conductivity of the transistor. When the load is heavy, the voltage on the base becomes closer to the voltage on the collector and increases the conductivity. All this is synchronized to keep the voltage between the emitter and ground at 13.5 volts.

construction

In wiring the circuit, keep all wires that carry high current short and heavy. The schematic shows only one transistor for the sake of clarity, but two must be used in parallel to keep I^2R losses in the DC path small. The transistors must be mounted in a heat sink (\$2.00) and electrically insulated from it (unless it isn't grounded) with the usual mica washers and silicone grease. Layout isn't critical, as long as the leads are kept reasonably short.

The transformer is any 12.6 volt winding rated at 5 Amps or better. The diodes should be no less than 35 v PIV and at least 10 Amp to keep drop low. The capacitors should be rated at least 25 wvdc and should be more than 1000 uF. The 2N3055 transistors are available for about 50¢ each and any NPN 40 or so watt unit in a TO-5 case will do. Radio Shack sells them @ \$1.29/4 transistors. The Zener diode can be made from a 6.3 volt/ 5 watt and 8 volt/ 5 watt unit in series. Observe polarity.

operation

In actual operation, the output voltage stayed constant within .1 v with power line inputs of 105 to 125 volts and with loads of no load to 5 A.

letters

...Thanks for your note and interest. I am current with Wycliffe Bible Translators and hold the call 9G1HZ and am active from that QTH. My family and I are in the States through the end of the year and then will be returning to 9G1 land/

We are interested in maintaining regular skeds with the hams over here as my family is still in Emporium.

73 CUL
Dean L. Jordan
W3GUJ
RD 2 Emporium 15834

...Sorry I missed the meeting, my reasons are 3 little kids (my little boy). I talked to a few other hams that would like to help but at the moment time and family come first. Thanks for the invite.

73's
Mitty WA3LFF
Maurice & Herbstritt
345 S. St. Mary's St.
St. Mary's 15857

...Sorry I couldn't attend your meeting last Friday, but things have been so busy lately there's not time for everything.

Except for some sprints of listening to code practice trying to get my code speed up to 20 or so I can pass the Extra exam, and an occasional QSO on 40, my ham radio has been almost lost recently. The lot here doesn't permit a full-size 80-meter dipole; it's too small.

The 2-meter Du Bois repeater sounds exciting. What's the frequency and other dope? I'm located rather high on the hill here, but on the south side where I can't reach the Bradford repeater. But it's nice and open to the south so the Du Bois repeater should be a snap. Indiana comes booming in, but I haven't been able to get a signal there good enough to break in.

I enjoy working on equipment, building or mod-

ifying it. I'm not very much for rag-chews or contests. I still subscribe to QST, CQ, Ham Radio, Popular Electronics and Electronics; but most of it doesn't get read.

As you requested, I'm enclosing a partial list of my equipment.

Please let me know how your club makes out.

73

George P. McKnight, WA3GNS
106 E. Condot Rd.
St. Mary's 15857

Now how did these Murphy's Law answers get here?

1. next to a power station.
2. Certainly not neighbor A
3. FCC field monitor
4. go on vacation
5. The one the garbage man just took away
6. When you're QRV for a message.
7. When you're QRV for a message.
8. That you need another one.
9. never
10. a NECKTIE
11. when you're on vacation to improve band condx. They do improve-- to every FCC monitoring station in the country.

NOTE: If you didn't even look at page 18 for the answers, give yourself 25 bonus points.

activities

NARC "Supperpicnic" State College, Sept. 27 1:30pm.
\$1.00/family in advance, \$2.00 at gate. All you can eat (bring one tureen dish) fun & games, xmtr hunt, antenna contest etc. Send check to NARC, Box 60, State College, PA. 16801

HAMBURG HAMFEST Hamburg, NY. Sept 20 all day. \$2.00 at gate. Talk-in via WR2ABU on 34/94 for 'fest. flea market and many distributors.

WHEN WRITING TO THE CLUB, ADDRESS C/O Bill Zavatsky
102 Simmons St. Du Bois, PA 15801. WHEN WRITING TO
THE NEWSLETTER ONLY USE WA3IHK'S ADDRESS. TNX

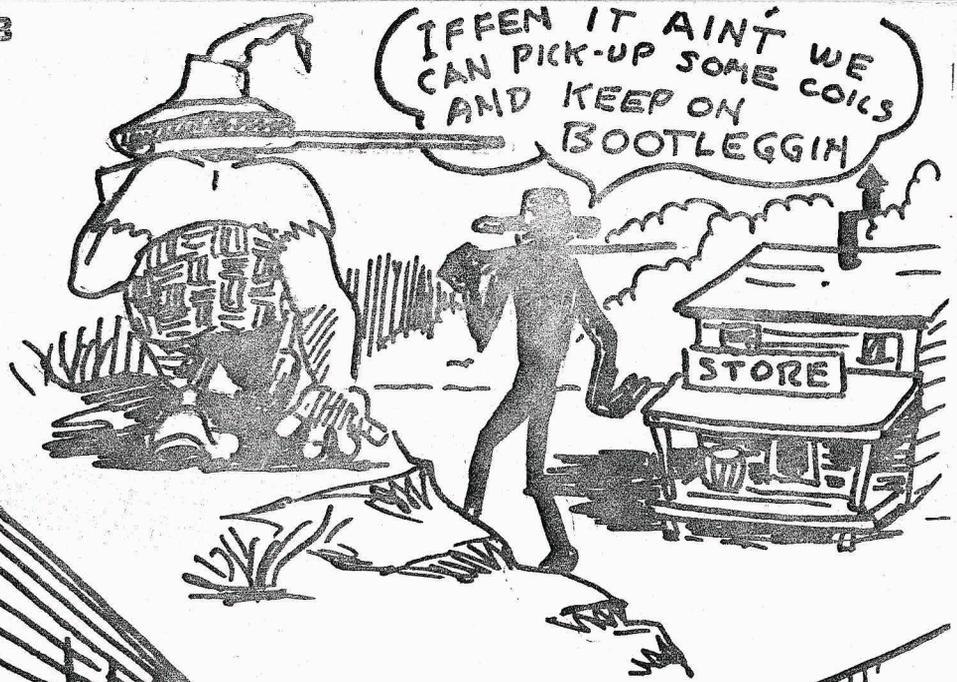
BY K3TFL

CLEM and ORVILLE

Doggone Clem!
Hope that
Rig is IN...
at the store.



IFPEN IT AINT WE
CAN PICK-UP SOME COIGS
AND KEEP ON
BOOTLEGGIN



YA BUT IF
WE EVER
GET CAUGHT
BOOTLEGG
WERE IN Z
TROUBLE

more next month...

Come to the meeting on the 19th. Bring a friend.

Once again the size of this newsletter was cut by the cost of producing it. Eight pages were left out of this one and 12 from the last. If we had more advertizers and higher circulation this could truly be a worthwhile product. Contact those hams in your town who aren't members.

WANTED: People to write: a DX page, a CONTEST page, a PUBLIC SERVICE page etc. to appear every month or two in the newsletter. Contact the Editor if interested.

Occasionally unmodulated and unidentified carriers are being heard on .52. If you are testing, ID as these are now thought to be of unlicensed origin and could possibly be a thief of ham gear trying to get an 11 meter signal out of a "black box." Please don't be the cause of one of these anxiety-causing signals, and should you hear one, DON'T try to communicate with the operator or scold him, thus scaring him off the air. Be quiet and if at home try to pinpoint the source.

Those of you who ordered membership lists won't have long to wait. The list has been computer-revised and as soon as financially possible will be printed and mailed out.

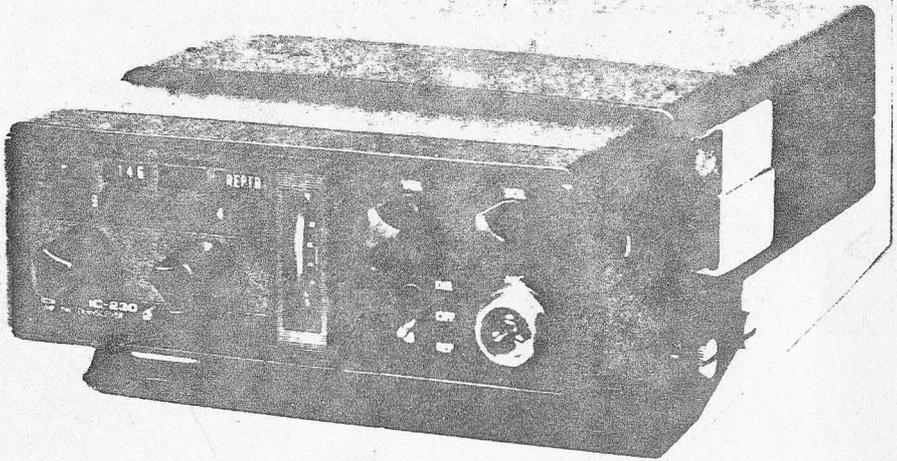
Coming next month: 10 pt type so we can crowd in more material than we can with the present 12 pt typewriter...An article about OSCAR communications by a well known authority on the subject...Continuation of our "New Look"...A happier over-all picture...And of course our regular features...
AND MORE. . .

Once again, thanks to KJFL for his fine artwork in this and other issues.



IC-230

VHF FM



TRANSMITTER

Frequency Range	146 - 148 MHz
Frequency Determination	PLL System
Modulation	F-3
Power Output	10-W
Maximum Deviation	15 KHZ
Spurious Output	-60 db reference to carrier or better

RECEIVER

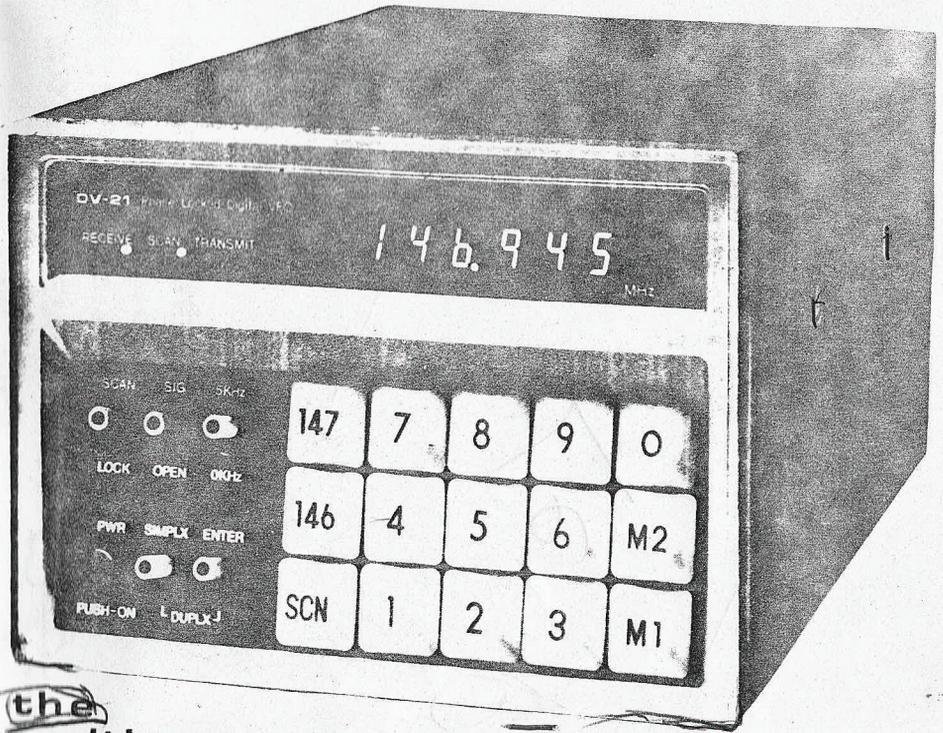
Intermediate Frequencies	First I.F. 10.7 MHz Second I.F. 455 KHZ
Sensitivity	20 db quieting sensitivity 0.4uv or better
Spurious Response	Rejection better than 60 db
Band Width	6 db BW = ± 15 KHZ 60 db BW = ± 25 KHZ
Audio Output Power	1.5 W, into 8 Ohms

GENERAL

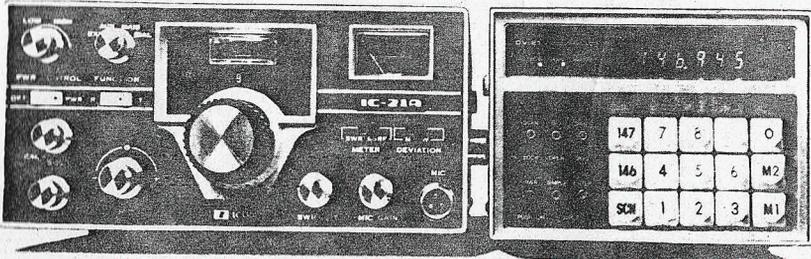
Number of Transistors and Diodes	Transistors 42 F.E.T. 9 IC 4 Unijunction 1 Diodes 32
Frequency Range	146 - 148 MHz
Voltage Required	13.5 V/DC $\pm 15\%$
Modulation	F-3
Current Required	HI (10W) 2.4A Receive (Unsqel)450A Receive (Sqel)200A
Antenna Impedance	50 Ohm
Size	58mm (2.28 in.) High x 156mm (6.14 in.) wide x 247mm (9.72 in.) deep
Weight	2.5 Kilo (5.5 lbs.)

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