

# **FM BULLETIN**

**REPORTING ON AMATEUR FM ACTIVITIES**

Vol.1 No.6

**JULY  
1967**

# OFFICAL FM BULLETIN STATIONS

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K1WGE - Elmer Maher Jr. - P.O. 31, Newtown, Conn.  
W2AOM - Sam Craig - 5812 Tilton Rd., East Syracuse, N.Y.  
W2GHR - Gordon Pugh - 89 Trumbull Rd., Manhasset, N.Y.  
W3JCN - Bob England - 10606 Huntley Place, Silver Spring, Md.  
K3PQZ - Alan Goughnour - 1436 2nd Ave, York, Pa.  
K3SVO - William Wallace - Box 308, New Bedford, Pa.  
W3YVV - Bruce Carpenter- Harmans, Md.  
K4FSU - Seymour Paul Jr. - RFD 2-Waterlick Rd., Lynchberg, Va.  
WA4JBI- Don Hayman - 6301 S.W. 93rd. Ave., Miami, Fla.  
WA4MKH- Eva Cartwright - P.O. Box 110, Frankfort, Ky.  
WA6OSB- Ken Decker - 3655 Billman St, San Diego, Calif.  
K7JNK - Ray Stofer - 5537 N. 13 Ave., Phoenix, Ariz.  
WA8ABT- R.E. Scalenker, 5646 Skyway Dr. N.E., Comstock Park, Mich.  
W8BCI - Don Harger, 537 Woodrow Ave, Lansing, Mich.  
W8BJM - Jim Bixler, 1160 Craig Rd., Maumee, Ohio  
W8EYO - Jule Fantaski, 3020 Mansueto, Dr., Stevensville, Mich.  
W8GMS - Dick Wolf - 1963 Brainard, Lyndhurst, Ohio  
K8NHE - Carl Morgan - 8632 Balboa Dr., Cincinnati, Ohio  
K8WKE - Gloria Sturm - 2478 Howald Ave, Flint, Mich.  
K8WWK - Jack Sheldon - 1033 N. Water St., Owosso, Mich.  
W9BTL - Andy Fenoglio - 1649 Chestnut, Desplaines, Ill.  
K9CUR - Bob Wiberg - 114 South Jackson St., Crown Point, Ind.  
W9CWI - Dennis Karski, 836 E. Browndeer, Milwaukee, Wisc.  
WA9CWY- James King, 3140 11Ave., Moline, Ill.  
K9SVB - Dick Andrews, 3146 N. Kenwood Ave, Indianapolis, Ind.  
W0QNO - Keith Slack - 2500 Boston Ave, Des Moines, Iowa  
VE3AL - Al Russell, 2 Deanbank Dr., Thornhill, Ont.  
VE3EXT- Jerry Beneteau, P.O. Box 189, Amerstburg, Ont.

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## **FM BULLETIN**

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PHONE - 313-886 4115

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Articals, Stories and your comments are needed for print. Share your ideas!

EDITOR & PUBLISHER.....Michael Van Den Branden .....WA8UTB

PLEASE!!! THANK OUR ADVERTISERS-----

# ANGOLA BIG SUCCESS

The FM Channels were crowded with W2, 3, 4, 8, 9, and 0 call letters. Mobils of every shape and color, were pulling in to the park near Angola, Ind. for the Annual Angola FM Picnic. One car had seven (7) antennas. A Motorola Cross Band Repeater was set up at the site, working 52.525, 52.64 and 146.94.

There were plenty of F M bargains to choose from, if you wanted a Handie Talkie you could have had at least 30 of them.

The event, which is sponsored by the Tri State College ARC was a big success. A table full of prizes were awarded including a GE High Band base station given by Gregory Electronics Corp., a dealer in reconditioned F M Equipment. The rig was won by a local Xyl, Ruth Ann Van Der Meer.

#### Prize winners included:

Harry Ewell K8WMI, Toledo, Ohio  
Glenn Morris K8YIN, Lambertville, Mi  
Gerald Kraczek K9HKA, Milwaukee, Wis  
E.M. Dullaghan W9PAQ, Ft. Wayne, Ind  
J. Thomsen W9YVP, Clarendon Hills, Ill  
J. Bollenbacher WA9QKW, Huntington, Ind  
Don Ward W9MGV, Ft. Wayne, Ind.  
Marv Grossman W8AZO, Cleveland, Ohio  
J.L. Gilhouse E. Lansing, Mi  
Sylanion McHeary WA9DKO, Huntington, Ind  
Keith Peterson W8SDZ, Royal Oak, Mi  
Paul White Detroit, Mi  
Adrian Good WA9FSV, Ft. Wayne, Ind.  
Willard Shears W8HYE, Oregon, Ohio  
H. Johnson WA9MEF Ft. Wayne, Ind  
Men Klock WA80BU, Riga, Mi.  
Gene Buntain W9MBG, Logansport, Ind.  
William L. Coy WA9GUY, Kokomo, Ind  
Alan Reed W8WVU, Manitou Beach, Mi  
O. Burkett K9YCE, South Bend, Ind  
RK Thiede WA8RYJ, Manitou Beach, Mi  
Jim Abbott K9KTB, Warsaw, Ind  
Alex Gaughnour K3PQZ, York, Pa.

Melvin Dzialak WA9GOP, N. Carlisle  
Ernie Williams W8FQC, Huntington, Ind  
Robert Ferdinand K9TMU, Ft. Wayne, Ind  
Gene Williams W9JBD, Ft. Wayne, Ind  
ED Brown K8ZCS, Toledo, Ohio  
Owen Brown, W9OUN, Marion, Ind.  
Steve Sheetz, K9TQQ, Wabash, Ind.  
Robert Keiman, WA8TIV, Mattawam, Mi  
J. King, K8DPE, Toledo, Ohio  
Walt Bayer (SWL) Detroit, Mi.  
John Braithwaite K8MXV, Toledo, Ohio  
Earl Roberbon W9ZBM Wilwaukee, Wis  
Ronald Easley, W8STA, Toledo, Ohio  
Gene Williams, W9JBD, Ft. Wayne, Ind  
Keith Peterson W8SDZ, Royal Oak, Mi  
Dud Spillers K9DQE, Ft. Wayne, Ind.  
Alex W9MAM, South Bend, Ind.  
Charles Barringer W9JNI, Warsaw, Ind  
Wayne Garrett, W8SON, Toledo, Ohio  
Jim Turner, WA8UQP, Hazel Park, Mi  
Don Williams, W9INV, Columbus, Ind  
Stanley Czyznik, WA8GIP, Toledo, Ohio  
Ray Hupp, W9CLF, Ft. Wayne, Ind.  
Dave Spangler WA9LDY, Wabash, Ind  
A. Fenoglio W9BTL, Desplaines, Ill  
Gary Hendrickson, W3DTN GlenBurnie,  
Maryland.  
Al Kempe K0SSL St. Louis, Mo.  
Sam Southworth WA9TOY, Wabash, Ind  
Hank Davis WA8WSZ, BRYAN, Ohio

#### Prize donors:

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O.T.S. Corp.  
ARRL  
E-Z Mobile Mounts  
Gregory Elect. Corp.  
Tri State College

## ACTIVITY BOOMS IN NATION'S CAPITOL

Two meter FM activity in the Nation's Capitol has grown by leaps and bounds in the last few months. With perhaps 80 active hams on 146.940 mcs, the frequency gets extremely crowded and at times I have heard two separate and distinct conversations on two receivers with antennas in different directions -- but both on .94.

Some of the traffic is on the repeater channel 146.34 in 146.76 out, but many of us are eyeing 146.88 as the way out of the dilemma. Probably 10 stations are .88 equipped, base or mobile.

The repeater is a Progress Line 80 watt with a fully shielded Sensicon-receiver and operates from the 500ft. elevation of a Silver Spring motel. It is controlled from the home of Bob England, W3JCN by 450FM link. Open to any and all, it is on from 7 to 0930 and after 6 in the evenings and all day Saturday and Sunday.

We'll try to give you some info on the types of sets in use later, but some have expressed an interest in my "pole vaulting" antenna. For vertical mounting a 5 element yagi, you can't beat a fiberglass pole vaulting pole. Back it up with a 250 watt Motorola base and it works pretty well.

It would not be possible to cover everything at one time, but if you're headed this way you'll find plenty of activity on the Eastern Seaboard at least as far south as Washington. Look for the K3PQZ repeater in York, Pennsylvania, the WA3DZD repeater in Baltimore, K8SX0 repeater in the Cumberland, Maryland; of course, add W3JCN in Washington. By common agreement, all operate on 146.34 in 146.760 out. This agreement was reached in February '66 in Baltimore and is highly commended to all who are seriously contemplating a repeater project. The problems of repeating to .940 are enormous unless you have very little activity.

More from D.C. in future issues!  
Bob England W3JCN

## HAM EVENTS

### JULY

7-8 Central Div. ARRL Convention, Milwaukee, Wisc. Talk-ins on 52.525 & 146.940 MHz.

### AUG.

5-6 Shenandoah Valley ARO Hamfest Winchester, Va.

13 Hamfesters R.O. 33rd Hamfest, Willow Springs, Ill.

26 Amateur FM Picnic Outing to - Boblo Island near Detroit, Mi  
Talkin- 52.525, 146.94, 432.9

### SEPT.

8-9 Louisville Ham/ARRL Convention., Louisville, Kent.

### OCT.

6-7-8 3rd Annual VHF Hamfest, in East Tawas, Mich. Talkins on 52.525, 146.94 & 432.9

15 Ham-Boree Auction, Miami Co. Fairgrounds, Troy, Ohio.

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## HAMFESTERS R. C. PLAN 33RD. FEST

Plans are well underway by members of the Hamfesters Radio Club - Chicago, Ill., trying to make the 33rd Hamfest their biggest and best. This is a big order and everyone is working very hard under the direction of Vincent D. Fronites, WA9EOM, the Picnic Chairman.

Prizes include for the OMs a choice of either a SR400 with P-500AC Supply or a HT46, SX146, R51 and 500 cycle filter combination. Womens Prizes include either a TV or a Fall Outfit (Suit and Topper). Last year H. A. Jansson - W9FKJ was the big OM winner capturing a SX146 - HT46 Combination. YL Top Prize went to Marsha Groenhos, Harmonic of W9IUD, winning a TV set. There will be many other prizes for both Men and Women drawn from the ticket stubs.

For the young Harmonics, the Jr. Operators and "The Young at Heart" there will be games and prizes. Tickets are available in advanced for \$1.50 or at the gate for \$2.00.

In addition to all the above, they are saluting the Armed Forces as the "Theme" this year. They will feature displays by the Army, Navy, Air Force and Marines. A Navy Marching Band will furnish some musical spice to the program. Industrial displays and representatives will also be present. There are many booths and give-aways being lined up.

-----  
W5YUO/M Walter Williams had a Qso with WASUTB the FM BULLETIN- Editor. Walt was flying over Toledo, Ohio on his way to Expo '67. His home Qth is in Fort Worth, Texas. The GE rig he was using was only running four watts output on 146.940 Mhz. but we copied him well past Erie, Pennsylvania.

## TOLEDO EMERGENCY WATCH ON 52.640 MHZ.

To help in case of any type of emergency in the Toledo, Ohio area an 'Around The Clock' watch has been set up on Six Meter Wide Band F M using 52.640 MHz. The understanding is that only emergency calls will be made on the channel after midnight, until the next morning. The channel is monitored by many of the area's FMers, and the night guard is kept by K8ZCS Ed Brown. Ed is one of the more active F Mers in the area and can also be found on 52.525, 146.940 and with RTTY on 146.70 MHz.

A new Two Meter mobile station has popped up here. John Murray, K8BCG, is running a 12 Volt- R C A rig on 146.940 MHz.. Welcome aboard, John, I am sure that you will like our growing group which totals about a dozen active stations now on 146.940. Most of the activity here is on Six Meter FM, centering around the Toledo Emergency Amateur Radio Club's - Six Meter FM Unit. Just recently the Six Meter mobiles were used to help out on the Cancer Drive. On May 21, they helped with the Measles Vaccine Drive to take the vaccine to where it was needed. Jim Bixler W8BJM

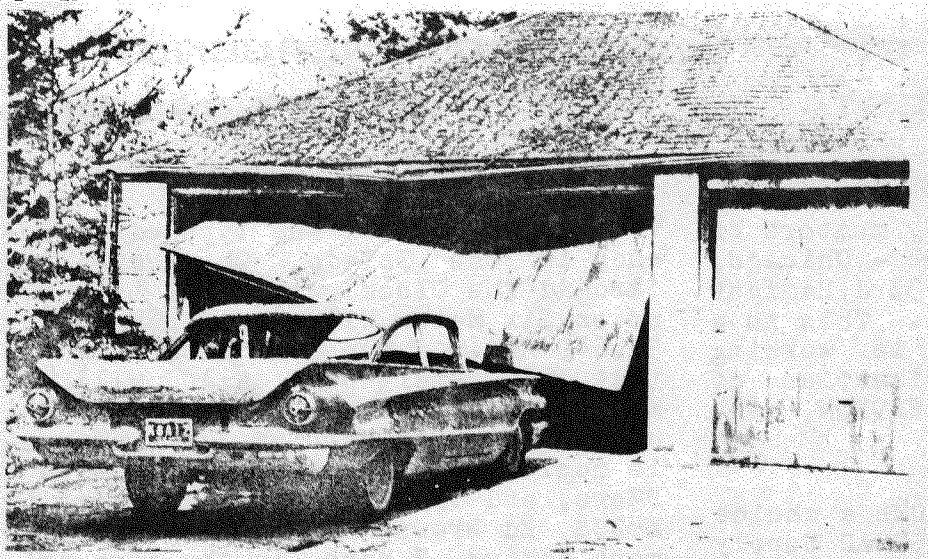
P.S. We are sorry to report that the Father of our Toledo reporter passed away this last month. Jim's Mother, K8ENP, Mrs. Lois Bixler shared the station call of Luther Bixler- W8KUI. Lorene Bixler K8EOC-Jim's wife and Dave Bixler K8ENQ- his brother are also FMers.

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**DETROIT'S**

**HOTEST**

**FM**

**MOBILE**

## **CALIF. NEWS**

V H F QSO Party saw about eight San Diego V H F Club members atop Tecate Mountain using the call of W6NLO/6. FM was operated on 146.840 and 146.94 MHz. WB6DSL, Dennis Johnston of El Cajon, Calif. is using the new Gonset Linear on two meters driven by his Motorola 41V Transceiver base station. Anyone needing a schematic of the West Coast Electronics MFM-15-150B 6 volt mobile unit with 110 volt conversion data & audio modifications send \$1 to WA6OSB for cost of mailing and reproduction. San Diego's repeater was issued the call of WB6WLW.

73- Ken Decker WA6OSB

## **INFLATION HITS**

To meet the higher costs of printing and handling of the FM BULLETIN the yearly rate of one dollar has to be raised to two dollars starting Aug. 1 1967. So if you know anyone that is interested please tell them about it. Also it is asked that all FM please support the Bulletin so that it has a chance to grow, it will take all most everyone to meet the goals planned. Please show your copy to your friends and take it to your clubs.  
Editor.

The above picture shows Detroit's hottest mobile owned by George Trombly K8AI2. On May 23, the mobile exploded and caught fire as he was preparing to back out from the garage.

Hearing the explosion, his parents, with whom he lives, thought that his 60 foot tower had collapsed and had fallen on the home.

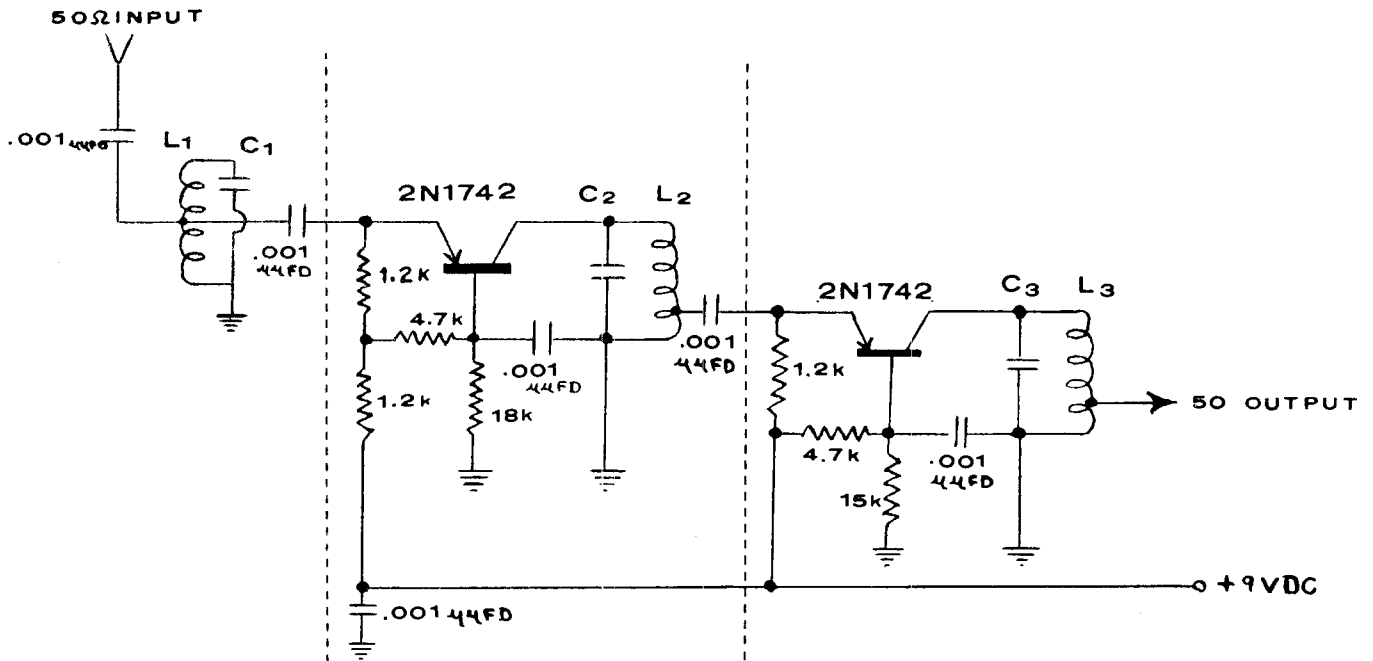
George ran into the house and called the Fire Department, then took the keys to his mother's car and in spite of the flames and smoke he reentered the garage and backed her car out of danger.

The car, a 1960 Buick, was completely gutted with the upholstery burned away to the springs and a few shreds of melted red plastic hanging from the frame of the steering wheel. The biggest loss was George's new GE low band Progress Line on 52.525 Mhz.

From the house he can be found on 52.525, 146.940, and 432.9 FM. Also in the shack is a RTTY on 146.82Mhz., Detroit's Aux. RTTY Channel. He is also a member of RACES for Wayne and Macomb counties and Staff Photographer for the FM BULLETIN.

## 2 AND 6 METER PRE-AMP

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GAIN APPROX.      2M   33DB  
                               6M   42DB

### 2 METER

---

C1      15uuFD  
 C2      12uuFD  
 C3      12uuFD  
 L1      5T #22   3/16"D   3/8"L  
           Tap   2 1/2 T  
 L2-L3   5T #22   3/16"D   3/8"L  
           Tap   1 1/4 T

### 6 METER

---

C1-C2-C3   15-60 uuFD Trimmer  
 L1   8T   #22   1/4"D   1/2"L   Tap 4T  
 L2   8T   #22   1/4"D   1/2"L   Tap 3 1/2 T  
 L3   8T   #22   1/4"D   1/2"L   Tap 4 1/2 T

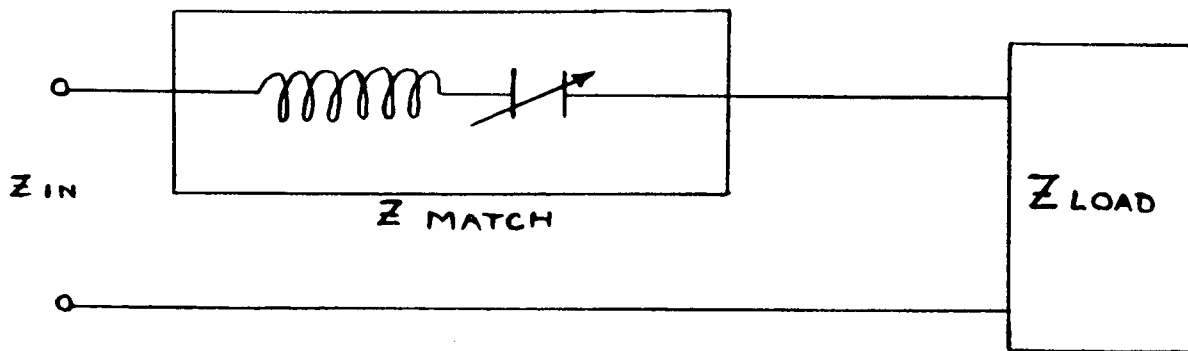
Tank Caps. Mounted on Bottom of Board. - Resistors All 1/4 Watt.

See Cover Picture for Layout.

# ANTENNA MATCH

BY MICHAEL WHITTLESEY.... WABRUC

Many "home brew" Antennas can be constructed so that they closely match the characteristic impedance of commercial coaxial transmission( $Z_0$ ) line. However, the impedance match is not always satisfactory. Consider the case in which the load impedance is  $Z_L = Z_0 + jX$  where the imaginary component is small compared to  $Z_0$ . A series resonant matching network can be used to improve this situation as follows:



55

$$Z_{IN} = Z_M + Z_L = j\omega L + \frac{1}{j\omega C} + Z_0 + jX$$

$$= Z_0 + j\left[X + \omega L - \frac{1}{\omega C}\right]$$

$$Z_{IN} = Z_0 + j\left[X + \omega\left(L - \frac{1}{\omega^2 C}\right)\right]$$



## ANT. MATCH CONT.

From the last equation it can be seen that a series tuned circuit will produce the desired effect, i.e.  $Z_{IN} = Z_0$ . The imaginary component of the input impedance can be cancelled by adjusting the capacitor until -  
$$\omega(L - \frac{1}{\omega^2 C}) = X$$

It can be shown that if a section of coaxial line is used to connect the matching network to the antenna, the desired improvement can still be obtained. For example, if the angular length of the line is  $\pi/4$ , then:

$$Z_{IN} = Z_0 \frac{Z_L \cos B d + j Z_0 \sin B d}{Z_0 \cos B d + j Z_L \sin B d}$$

$$B d = \pi/4$$

$$Z_{IN} \approx Z_0 \left[ 1 - \frac{j}{2} \left( \frac{X}{Z_0} \right)^2 \right] \quad \text{when } X \ll Z_0$$

The matching network can certainly handle this load since the reactance squared is, by a factor of  $2Z_0$ , reduced when it was already assumed small.

The component values may be computed for the approximate center frequency of the band of interest using  $\omega = \frac{1}{\sqrt{LC}}$ . For the VHF bands the parts will fit easily into a small minibox.

Note: For 2 meters (146.940 MHz.) The author used:

L =  $1\frac{1}{2}$  Turns #14 on a 1" form  
C = 10 pf Trimmer  
Minibox:  $2\frac{1}{4} \times 2\frac{1}{4} \times 5$  inches

## LETTERS

Dear Editor:

Thank you for the copy of your fine "FM BULLETIN", June 1967. I like the new format and the large type used.

I am afraid that I have missed the boat someplace in my not being familiar with the REPEATER PROGRAM. Perhaps others do not understand it either and a simple block diagram of Repeater operations might be helpful.

Back in 1961 FM operation for six meters was very popular in Cleveland, then Gonset came out with the Communicator III and the G-50 and I heard little more about FM until I met you. I had no idea there was so much activity. Harry A. Tunmonds, W8BAH

Dear Editor:

We would like to compliment you on the excellent Bulletin for June 1967. This issue was by far the best ever printed. Would like to see some articles on 6 meter FM also. Keep up the good work and continue your interesting paper, we really enjoy it. Fred Ghofulpo, W8PYM

Dear Editor:

During the Dayton Hamvention, this year, some of our members learned of your publication. The idea of discussing FM Nationwide hit home with us and by vote we decided to subscribe to your Bulletin. Our club address here is:

Monongalia Wireless Assoc.  
Box 912, Morgantown, W. Va.

We are looking forward to reading the FM Bulletin. Charles W. Stuchell  
WA8TGH -- Sec/Tres.

Dear Editor:

I have just seen for the first time your June, 1967 issue of the Bulletin. Please add my name as a subscriber. There are a few around here on 146.94, and we hope to have a hilltop repeater on soon. Ed Everett W1ALE  
Concord, N.H.

Mail your letters to FM Bulletin - 2005  
Hollywood, Grosse Pointe, Mich. 48236  
We would like to hear from you.  
WA8UTB - Editor

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## 10-4 TO YOU, TOO

When you hear someone on one of our ham bands ask for your 10-20 or your 10-88 or who punctuates his transmissions with 10-4s you might reasonably assume that he has wandered from the 11-meter Citizens Band. Recognized operating signals, such as the 10-code, may be used on a citizens radio station provided a list of the signals and their meaning is kept in the station records; /95.83(16)/. On the other hand, Section 97.117 of the Rules Governing Amateur Radio Service prohibits the use of "codes and ciphers". This raises certain doubts, at least in the mind of this writer as to the legality of the use of the 10-code by amateurs. Chances are the 10-4 operators we hear on amateur bands are not really "bootleggers" but are only misguided individuals who don't realize how much they sound like CB operators. Few self-respecting hams want to sound like CBers or be mistaken for "bootleggers" so let's help them out. Next time someone gives you a 10-4, reply with a 10-29. He won't know what you mean so you can tell him that is the room number in the Federal Building, in Detroit, where he should go to get a real license.

One amateur regulation which leaves no room for varied interpretation is Sect. 97.87(b). This section and paragraph deals with the identification of an amateur station being operated as a portable or mobile station. The requirement which seems to be unfamiliar to some operators is the need for following their call "by an announcement of the geographical location in which the portable or mobile station is being operated". Repeated omission of this required announcement could result in the receipt of a citation from even the friendliest of FCC representatives.

73, Marion Stoner  
W8VWY

### MAIN CHANNELS

CALLING 52.525 MHz.  
146.940  
432.900  
RTTY 52.600  
146.700



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K8AOB

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