NATIONAL WIDE-BAND FM CALLING AND WORKING FREQUENCIES

52.525 Mc 146.94 Mc

F M NETS

A DIRECTORY OF FIXED FREQUENCY WIDE-BAND FREQUENCY MODULATION AMATEUR NETWORKS

ISSUE 4 — JULY 1962

-- THE BOX SCORE --

NUMBER OF STATES ON

52.525 Mc	146.94 Mc
23	15

1. PURPOSE: The purpose of this directory is to promote the orderly selection of frequencies when establishing a new network of amateur stations using equipment formerly in taxicabs or police cars.

2. GENERAL: Wide-band FM uses fixed frequency, crystal controlled, receivers and Xmtrs. Crystals are expensive, so it is very wise to make a good frequency selection at the beginning. Once established it is difficult to get a net moved to a new channel. Thought should be given to the selection, not only in terms of local operation, but also in the light of frequencies used within reasonable driving distances since usually over half of the units are mobiles. Multifrequency operation is usually possible with simple modifications. This allows the use of 2, 3, or more frequencies within reasonable limits (280 Kc on six, 720 Kc on two) without problems of power output/tube dissipation and loss of receiver sensitivity. Somewhat greater spacings are possible if you are willing to accept the small losses in performance.

3. NATIONAL CALLING AND WORKING FREQUENCIES FOR FM: Usage of 52.525 Mc and 146.94 Mc as common national FM channels is picking up. In order to achieve a truly nationwide status for these frequencies, new nets should pick these frequencies as their first activated frequencies and all stations presently using FM should plan on eventually adding these frequencies to their units as second channels etc. Of course these National Wide-Band FM Calling and Working Frequencies will probably be used in different manners in different areas. In a large metropolitan area with over a hundred mobiles they may be calling frequencies only, with stations switching to other channels for working. In a small town with only 5 or 10 units they will probably be the only channels in use. In areas with 15 to 50 units they may be used as calling and short conversation frequencies with stations switching to other channels for longer conversations and rag chews. Correspondence from the ARRL indicates that they are aware of the growth of FM and are considering the listing in QST each month of 146.94 and 52.525 Mc as nationwide FM frequencies. If you have not written to the ARRL (W1BDI) in support of the listing of these frequencies in QST please do so. Your letter is important.

4. SELECTION OF OTHER FREQUENCIES: In most areas the National Wide-Band FM Calling and Working Frequencies are not going to be sufficient to carry all the traffic which FM will carrying in a few years. In these areas other channels are going to have to be selected and used in order to provide a workable FM system for the area. It is important that we begin following a frequency channelizing plan which will allow the maximum number of channels within the frequency switching range of the equipment. If this is not done we are soon going to find that the demand for channels exceeds the available spectrum space. Here we can take advantage of the experience of the commercial users of FM equipment. The old wide band commercial FM systems used 40 Kc. channel spacing on frequencies near 6M and 60 Kc. channel spacing of frequencies near 2M. It is true that some of the very old gear which hams are using will not work adequately at these spacings, and also that some of the newer gear may be bothered by an occasional squelch opening (particularly if modulation limiters are not used in the Xmtrs) at these frequency spacings. For these reasons only every other 40 Kc. (6M) or 60 Kc. (2M) channel should be used in any given area. This will allow us to come back later and fill in the usused channels as the demand for channels grows and as the general run of FM equipment in ham service improves. Some areas have been following frequency usage plan like this for several years, and it is these channels which we are suggesting here. Uniform channel spacing is maintained except between 52.525 and 52.56 where the spacing is only 35 Kc. In this directory these suggested channels are shown in bold print for frequencies near 146.94 and 52.525 Mc.

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5. STANDARDS: The use of 15 Kc deviation and vertical antennas for Ham FM has become so universal that they should be considered to be standards for Ham FM systems.

6. REPEATERS: In some areas two frequencies are used together so that a well located base station may, if it chooses, repeat the signals on one frequency on the other frequency so as to extend the overall range. In this type of system use is made of single frequency receivers and two frequency transmitters so that mobiles may talk directly or with the aid of the repeater. In this listing the frequency upon which the mobile transmitts but does NOT listen is indicated thusly: Rpt Rcvr to _____ Mc.

7. METHOD OF LISTING: At the urging of several of you who have written us, we are changing the method of listing activity in this directory from the area method, which we have previously used, to a system which will list the largest city with activity within a given county. Only one city per county will be listed for a given frequency. If you are a liaison station please try to report activity by counties. Of course, we would also appreciate hearing about any FM activity which you may know of in areas other than your own. The listing of a city in CAPITAL LETTERS indicates that this frequency has more extensive general amateur usage in that area, whereas listing in small letters indicates that the use of the frequency in that area is more limited or for a specific purpose, such as nets between CD control centers, so-called "private channels", etc.

8. RECIPROCITY: This directory is automatically sent to all liaison stations. In return we expect the listed liaison to keep us posted on the status of FM activity in his area. If we do not receive information from a given liaison, we will attempt to locate a new liaison in that area.

9. ADDITIONAL COPIES: Additional copies of this directory may be obtained by writing to the address shown in the box above. Please enclose postage to cover your request. A stamped, self-addressed, business size envelope is fine for a single copy.

10. FM NEWSLETTER: K4FSU is planning to publish a bimonthly FM newsletter. This newsletter will serve as a means of exchanging technical and nontechnical information on hamband FM. Included from time to time will be corrections and additions to this directory. The newsletter will consist mainly of letters, articles, etc. submitted by you. If it is possible for you to do so please submit your material for the FM News on RTTY tape. This will allow us to cut a hecto master directly from your tape and will save us much work in getting the bulletin out. No payment will be made for anything published in the FM News. The first issue will be published in a couple of months. The subscription rate is 25¢ for the first 6 issues. Subscriptions and all correspondence for the FM News should be sent to: Seymour Paul Jr., K4FSU, Rt. 2, Waterlick Rd., Lynchburg, Va.

11. CONVERSION BOOK: The first conversion book covering Ham FM gear has recently been completed by K9OJV and K9YHQ. This book is mentioned here because it is the first of its kind. The book covers Motorola 2 Meter gear only. The information presented is quite complete, and the book includes schematics of many of the older Motorola chassis. The price is $1.75. The book is available from J.S. Aagaard, c/o Electrical Engineering Dept., 2145 Sheridan Rd., Evanston, Ill.

The 11 pages of net data which follow are omitted