You've asked for the reprint section to be printed so... here it is... starting on page 7... you can pull out those three pages and staple them together and save them for future reference. You can also find an order blank on the inside back cover.

Those placing orders for the Enlarged Edition of the Log Book, please be patient, as it may take up to 4 weeks to process and produce your book. But as with all NRC products, it will be worth the wait!!!

From Dale Parks comes the following info. WHBT-1460 changed formats, effective last Tuesday (the 26th) to Jazz/New Age format, "Radio's new comfort zone". Other stuff: WJRC to WMN-1530 Joliet, IL, live oldies format NO satellite stuff, "Remember when 1510" slogan. CKXX to CJS-1140 Calgary, AB. Hawaiian Stuff: KUKU-1500 may relocate XT to 1490 1000w, also apply for a 4500w repeater on 1350 in the Kona region (West side of Hawaii). KIMA-Hilo 420 now testing repeater in Na'alehu but having freq. control problems. 970 KJRI Waimea is now under construction.

Contacting NRC via the Computer. This can be done three ways. 1- CompuServe, 72457,2345 Mike Knitter. 2- FidoNet 121/1 Mike Knitter. 3- Call NRC via the phone number on the back and arrange a time or sometimes we can do it during that call. We also log onto CompuServe every Sunday, normally by 8pm Central time. So if you have something you want to get into the magazine quickly that's the place to leave it.

Universal Shortwave Catalog, (87-09) is now available, for US$1.00, refundable on your first order. 70 pages full of everything you'll need for your radio shack. Send your $1 to: Universal Shortwave Radio, 1280 Aida Drive, Reynoldsburg, OH 43068

CPC TEST (Times listed are Eastern Local Time)

Remember, even if you don't hear the Test, why not send a postcard thanking the station anyway. Also, if you don't want to write to stations you can still help us out. If you send any 22 cent stamps to Wayne Hein, 4131 S. Andes Way, Aurora, CO 80013, he'll get a letter out for every stamp you send, you can even specify the station or frequency you would like to hear something on. And when a test is arranged your name will appear below! What a deal!

Oct. 18 KIRU-700 Winston, OR 0700-0900 EST (0000-0200 Pacific Time) 25,000w, Voice 10s, NO music, open carrier tone, if unable to test on 16/18, then 10/25.

A police reception report with a mint 22 cent stamp to Stephen H. Weber, C.E., Radio Station KNIR, Box 1500, Winston, OR 97496
Test arranged for the NRC by Wayne Hein.

Oct. 24 WETS-790 Johnson City, TN 0900-1100 Test will consist of tones, music, Saturday night 10s. A police reception report with a mint 22 cent stamp to C.M. Williams, Radio Station WETS, Box 1714, Johnson City, TN 37601
Test arranged for the NRC by Dave Schmidt.

LOOK INSIDE:

2. AM Switch 3. DOXO-East 7. Reprints

THE WORLD'S OLDEST AND LARGEST ALL MEDIUM WAVE DX CLUB
DEPARTMENT DX DIGEST - EAST

William R. Hale
1025 Reynolds Road, Apt. E-101, Johnson City, NY 13790.

TIME-HONORED NOTES & IVORIZED BERNIE WILL LIVE IN DX AHUL SI.

Just when I thought this was going to be a "small" column, I got a lot of letters with DX news. Check out the Greyhounds' special as a special service, I'm asking to check the GY distances to see if he is in Florida. It seems to be a GWV records. Also, in general, George Vendele's letter, he mentions the phoebus on I-81, near George. Tell me about those phoebus! Nice to hear from William Burrell of South Dakota. Somebody does live there, is Richard指出 that in New England DX reports hearing in 10 meters reports hearing 1150 miles away. And it's pretty far out in the stick, Richard? And Dave Hosford also reports hearing in about 800 miles away. Phil Haffner at just over 1150 miles down Louisiana way, still holds the DX record for them. Dave, I've heard DX both on IX and on XN.

Remember the deadlines are Saturday's mail. Things are shaping up to be another great DX season. Keep those DX reports and tips a comin'.

SPEARSE

(000) WPEC IL CHICAGO - 9/14 1969 printed wireless with XIF, for Keen's Touch. 106.3 & 104.0 sloppy '60s time zones (WIFP-IN)

1040 CWX IL VANCOUVER - 9/10 1969 printed for Top 10 & 10 on 10-54. Kicks & 5x which sounded like CWX1; Fair w/MM 4CL change from WWFX (WOLF-MB)

1110 WOLA IL DENVER - 9/14 1969 '59 very good w/MM on XIF, or MM/MM (WIFP-IN)

1140 CPX IL KINGSLEY - 9/20 1969 to coast to coast on MM (WIFP-IN)

1200 WTOP IN EVANSTON - 9/20 1969 on XIF & MM/MM (WIFP-IN)

1900 WAKE IN VALENCIA - 9/20 1969 on WIFP-IN, dropping ABC Talkradio used to be the time all day (WIFP-IN)

1950 WBBZ NY FREDONIA - hard w/MM on XIF, one would think Cuba, but nope! (WIFP-IN)

DX AND EQUIPMENT TESTS

1470 WREL IA STOUL CITY - 9/20 02/30 test hard w/MM onto station caused by loc t'storm (WIFP-IN)

RAEL IA STOUL CITY - 9/20 02/30 extremely poor w/MM on MM/MM (WIFP-IN)

1500 ?? IBD - 9/20 02/30 w/MM on MM/MM, one would think Cuba, but nope! (WIFP-IN)

MIDNIGHT TO MIDDAY

680 KLZ CO DENVER - 9/14 0700-0800 w/MM; strong to start, but fading bad (WCE-WI)

690 CFAM KB FRANKFORT - 9/20 0440-0500 w/MM; strong to start, but fading bad (WCE-WI)

700 WYAM CO STOUL CITY - 9/20 0600-0630 w/MM; poor w/MM on MM/MM (WCE-WI)

710 WJJX IL SHOREHAM - 9/15 0615-0630, good signal w/MM on MM/MM (WCE-WI)

720 WJW IN EVANSTON - 9/20 0600-0630 w/MM; poor w/MM on MM/MM (WCE-WI)

1000 WBBB WI WHITEFISH - 8/25 0600-0630 w/MM; poor w/MM on MM/MM (WIFP-IN)

1500 KBQZ SK NORTH BATTLEFORD - 9/20 0125-0130 w/MM; poor w/MM (WCE-WI)

2000 WDBN PA PALETO - 9/14 0700-0730 in brief w/MM & MM in mes, yes, WCEW, no logs added w/MM; logon is lovely 07-00 (WIFP-IN)

2100 KMOX MO KANSAS CITY - 9/20 02/30 w/MM; strong to start, but fading bad (WCE-WI)

2400 WDBN PA PALETO - 9/14 0700-0730 in brief w/MM & MM in mes, yes, WCEW, no logs added w/MM; logon is lovely 07-00 (WIFP-IN)

73 AND GOOD DX,

Jerry Sted & Buffalo K. Koona

Kiddo

KLOK HO RADIO

Wallace Christensen Broadcasting
Box 4146, Pipestone, Minnesota 56164-4146

P.O. Box 60, Boise, ID 83717 *(208) 344-0656

73 and Good DX.

JERRY STARR & BUFFALO K. KOONAN

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73 and Good DX.
All-new operator to broaden scope with band switch

BY EDWARD GREENSPON

The new all-news radio format is making its debut in Toronto, with CKO's "All-news" service. The station is owned by CHUM Ltd., who have taken over the operation of the radio station. The new format is aimed at providing a wide range of programming, including news, music, and talk shows. The station will be broadcast on 970 AM, and will be available for listeners in the Toronto area.

The new format is part of CHUM Ltd.'s strategy to expand its radio empire. The company already owns several radio stations in Canada, and is looking to increase its market share. The new all-news format is expected to attract a large audience, and will help CHUM Ltd. to differentiate itself from its competitors.

The station will be managed by CKO's General Manager, who has over 20 years of experience in the radio industry. The station will be staffed by experienced radio professionals, who will work together to provide a high-quality product.

The new format is expected to be well-received by listeners in the Toronto area, and will help CHUM Ltd. to扩大 its reach and influence in the radio market. The station will be a valuable addition to the company's portfolio, and will help to solidify its position as a leader in the industry.

In conclusion, the new all-news radio format is a significant development for CHUM Ltd. and the radio industry as a whole. The station will provide a new and exciting option for listeners, and will help to shape the future of the industry.
A17 MORE FERRITE LOOP ANTENNA INFO. Dallas Lankford. Several inconsistencies in ferrite-core loop antenna theory are discussed. (3)

A18 THE BOB FLYCROSS LOOP. Bob Flick. Complete construction details for this variation on the standard air-core box loop - one that is octagon-shaped. (7)

A19 NEBR: THE NEBRASKA BEVERAGE. D. Fischer, C. Dabelstein, R. Mitchell. A discussion of the Nebraska Beverage and the results of its use. (7)

A20 THE LSC-1. Ron Schatz. Complete construction plans for building the Loop Sense Cardiod Array. Not a project for Beginners! This antenna system is complex to build and operate. Should yield a unidirectional receiving pattern if operated properly. (10)

A21 THE APT-2 ACTIVE ANTENNA TUNER. Mark Connelly. Complete construction details to build his active parallel tuner with regeneration capacity - a worthwhile addition to your shack; further improved version described in A22. (19)

A22 THE APT-3: AN IMPROVED DESIGN ACTIVE PARALLEL L-C TUNER. Mark Connelly. A companion piece to A21 that makes several improvements to the APT-2 that simplify its operation. (19)

A23 MODULAR PHASING SYSTEMS. Mark Connelly. Introduction to and theory of an improvement in phasing system design that will outperform previous systems. (10)

A24 A LARGE APERTURE FERRITE CORE LOOP ANTENNA FOR LONG AND MW RECEPTION. J. Hagan. Details and theory for the construction of this new type of DX antenna. (14)

A25 A NOVEL APPROACH TO BUILDING YOUR OWN BCB LOOP. M. Maloney. New ideas for improvements in ease of operation and ruggedness of loop antennas. (4)

A26 THE WMDOX-2 PHASING UNIT. Mark Connelly. Construction of this versatile phasing unit is explained; this unit outperforms its predecessor, the WMDOX-1. Includes latest design enhancements. (13)

A27 SEVEN PASSIVE TUNERS. Mark Connelly. If you live near strong local stations, or use a lower-priced solid state receiver, this article will introduce you to many different tuner designs that can help you dig out that DX. (11)

A28 ANALYSIS OF THE BEVERAGE ANTENNA. C. Hutton. This lengthy article is divided into two parts: the first giving basic theory of the Beverage antenna and the second dealing with two wire phased antennas. Filled with calculations and features 35 illustrations. (26)

A29 REMOTELY-CONTROLLED ANTENNA TUNER BT-1. Mark Connelly. An introduction to the design of a device that allows remote tuning of a loop or wire antenna from distances of at least 50 feet or more. (7)

A30 REMOTELY TUNED DIRECTIONAL LOOP ANTENNA. R.L. Cummins. Shows how the limitations of a very poor shack, in this case a mobile home, can be overcome by use of an outdoor, remotely controlled, loop antenna. Mr. Cummins gives many practical points for others wishing to experiment with remote antenna installations. (11)

A31 SIMPLE CHEAP AND EFFECTIVE PREELECTOR-LONGWIRE TUNER-AMP, B. Sherwood. This construction project will result in a device which not only will tune your longwire, but will amplify the signal as well. Schematic and brief instructions are given. (4)

A32 THE WMDOX-2A PHASING UNIT. Mark Connelly. Improvements on the design of the WMDOX-2 unit described in A26. This is a companion piece as construction procedures in A26 remain essentially the same. contains new schematic and instructions for use. (7)

A33 ANTENNAS FOR AM BROADCASTING. Steve Kennedy. Gives a brief history of early station antenna systems and explains what types are in use today. (4)

A34 SOME ANTENNA EXPERIMENTS - PART I. W.R. McIntosh. Ever heard of a "Helical longwire"? This article shows how DXers with limited space can use this experimental design for a compact antenna with good results. (3)

A35 THE PHASE ONE - A DELAY LINE PHASING UNIT. G. Thomas. Description of an improved phasing unit design that can be built here or is available in kit form. (3)

A36 LOOP-LONGWIRE COMBINED ANTENNA. P. Swain. A look at the use of "sensing" antennas for both DXing and direction finding. (3)

A37 LOOP ANTENNAS - THEORY AND PRACTICE. Dallas Lankford. A technical discussion on loop antennas that surveys other available literature and develops guidelines for loop design. (9)

A38 EXTREMELY LINEAR ELECTRICALLY TUNABLE ACTIVE RECEIVING ANTENNA. Hap & Linda. Technical discussion of an antenna system that is the optimum solution towards allowing undisturbed reception near transmitters. (5)

A39 SIMPLE PASSIVE LOOP TUNER. Mark Connelly. A basic, yet effective tuner that can eliminate mixing spurs caused by strong local signals - a big help for urban/suburban DXers. (2)

A40 AMPLIFIED PHASED SHORTWIRE. Mark Connelly. A must for the apartment or trailer DX'er. This detailed construction article explains an effective antenna utilizing an EM-2 and a phasing unit to create a viable DXing system. (8)

A41 THE KONALSKI LOOP. Neal Perdue with comments from Paul Kowalski. A first-hand account from a satisfied user of this new-generation ferrite core loop antenna. A nontechnical review, with comparisons to the EM-2. (2)

A42 THE WM-1 FAMILY OF ANTENNA TUNERS. Mark Connelly. Description and construction plans for the WM-1, Mini WM-1A, 1B and 1C antenna tuners. (28)

A43 BT-1 REMOTELY-TUNED ANTENNA TUNER. Mark Connelly. Complete description and construction plans. (16)

A44 THE MINI WMDOX-3, A SIMPLE, EFFECTIVE PHASING UNIT. Mark Connelly. Description and construction plans for a superior one-box phasing unit are discussed. (21)

A45 THE WMDOX-4 FAMILY OF PHASING UNITS. Mark Connelly. Construction and use of two similar series of phasing units for reception enhancement. (25)

RECEIVING EQUIPMENT AND TECHNIQUES

R1 SPURIOUS SIGNALS & SPURIOUS SIGNALS REVISITED. R.J. Edmunds and G.P. Nelson. Many DXers hear stations on frequencies where they don’t belong. Article describes causes and cures of spurious MW signals. Especially valuable if you have powerful locals nearby. (10)

R2 SINGLE SIDEBAND RECEPTION ON THE BCB WITH MECHANICAL FILTERS. G.P. Nelson. Few commercial receivers covering the MW band have adequate selectivity to cope with MW interference—particularly in the presence of powerful local stations. Explains how to fit mechanical filters to an existing receiver for the ultimate in adjacent channel rejection. This technique is widely used by many top MW DXers. (22)

R3 SUBAUDIBLE HETERODYNE ON THE MW BCB. G.P. Nelson. Details on a technique which permits the MW DXer to detect and characterize signals that are too weak to hear at the time; also allows the DXer to count the number of stations on a channel—even if no programming
R4  THE ICW-670 PBF & PREAMPLIFICATION. Don Wogan - Canadian Int'l DX Club. Step-by-step instructions that will allow this receiver's SSB PBF filter to be used for improved performance. (2)

R5  THE TRACKING PROBLEM AND HOW TO CURE IT. C.P. Nelson and T. Holmes. Many excellent receivers are poorly designed for WW DX operation. This article describes one of the most common design faults and how to cure it. Very useful if you have strong locals. (4)

R6  ELECTRONIC VERNIER TUNING. R. Moore. Detailed instructions on how to fit a varactor to a WW receiver to provide fine bandwidth. (4)

R7  MECHANICAL FILTERS FOR THE HQ-180. Jerry Starr. Complete details on the conversion of the popular Hammarlund HQ-180 receiver to mechanical filter operation. Order with R2. (6)

R8  SONY ICP-6500W SELECTIVITY MODIFICATION. Jerry Thomas. This DX portable described in 'RM6' is made even better through the installation of a narrow IF ceramic filter -- instructions included. (4)


R10  UP THE CARRIER. W. Bailey. Dig the weak DX out of the mud with this form of exalted carrier reception. (1)

R11  PRECISION FREQUENCY MEASUREMENT. R. Schatz. How to use the frequency counter, an instrument now within the budget of the average serious DXer. (3)

R12  THE FM-3 FREQUENCY MARKER STANDARD. R. Foxworth. A review of operation, how to make the proper connection to the receiver, and some modifications incorporated by the author to permit full use of the unit's capabilities. (9)

R13  SINGLE SIDEBAND RECEIVING ADAPTERS. T. Sundstrom. How to sharpen your receiver's IF bandwidth using a B&W 370 receiving adapter. (2)

R14  REVIEW OF THE AUTEK Q-BOX. T. Sundstrom. Describes the uses of this new noise filtering device and its applications in WW DX. (3)

R15  REVIEW OF THE HARRIS LB-620 SPECTRUM ANALYZER. R. Foxworth. A comprehensive and detailed analysis of the unit's operation and uses as related to WW DX'ing. (32)

R16  THE WORCESTER LONG DISTANCE AM RECEIVER. J. Worcester. A stage by stage description of the construction, theory and circuitry of a new type of AM DX receiver. (25)

R17  BUILD YOUR OWN AUDIO FILTERS. P. Sullivan. A somewhat technical theory and construction article on inexpensive homebrew audio filters for the DXer. (8)

R18  TWO METHODS OF DIGITAL READOUT FOR THE TRF. C. Hutton, Bill Block, and Frank Aden, Jr. You've already "soupved-up" your TRF with the numerous other modifications -- now add digital readout! One method for a built-in, and another for an outboard readout are explained. (5)

R19  A BRIEF REVIEW OF THE AUTEK QA-1 AUDIO FILTER. C. Hutton. A non-technical review of this new noise and interference filter. (2)

R20  A FREQUENCY COUNTER FOR RECEIVER TUNING. R. Foxworth. A thorough paper on digital readouts & what to look for in various models. Discusses technical theory and provides circuitry to enable the experimenter to build a counter for use as a "digital dial". Very thorough. (13)

R21  AM STEREO - FOUR SYSTEMS IN AN OPEN MARKET. Armin Littek. If you've been wondering about the various systems now available, this article explains the strengths and weaknesses of each, complete with diagrams of how each system works. (6)

R22  THE LYNXyne CRYSTAL WIRELESS RECEIVER. R.W. Tuggle. The concepts of vintage crystal radio are incorporated in these detailed construction plans for a simple receiver, offered as a sporting alternative to modern receivers; yet it has the potential for real DX. (2)

R23  DIVERSITY RECESSION. C. Hutton. Using more than one antenna and receiver in an effort to reduce fading and interference on one frequency. This article deals briefly but concisely with the basics of "DR" and how it can be applied to Medium Wave DX. (1)

R24  TIPS ON REMOTE TAPING. R.J. Edmunds. Are you going away during that rare DX Test? This article explains several methods you can use to turn your receiver and recorder on while you are otherwise occupied. Useful with R5. (2)

R25  STRONG SIGNAL HANDLING. C. Hutton. This technical article explains that sensitivity and selectivity are not the only, nor the most important, considerations in a receiver. (6)

R26  RECORDING JACKS FOR RECEIVERS. Dave Arboagast. A single step-by-step procedure is outlined for adding a tape jack to almost any receiver. (1)

R27  TAPE RECORDING HINTS. Mark Connelly. A complete method of radio-to-tape interfacing for portable radios is detailed, complete with schematics and parts lists for construction. (4)

R28  CONVERTING THE R-390A POWER SUPPLY TO SOLID STATE. Charles Taylor. A conversion process to change the older high voltage tubes to solid state diodes is described step-by-step. (7)


R30  MCKAY-DYER DK-40 PRESELECTOR. R. Foxworth. A non-technical description of of this useful filter accessory, plus some modifications to improve its performance. (2)

R31  THE SUPER HQ-180. Dallas Lankford. Add a Collins mechanical filter to your "180". While not a "how-to" article, problems and results are discussed. (4)

R32  HQ-180A ALIGNMENT WITHOUT A 60 KHZ SOURCE. Dallas Lankford. Although most RF signal generators do not tune below 100 KHz, the HQ-180A's 60 KHz IF can be aligned with a 455 KHz RF source. This reprint tells how. (4)

R33  R390A/URR PTO ALIGNMENT. Dallas Lankford. The alignment procedure to achieve exact en-point alignment in the R-390A PTO tuning is detailed. See R28, R29, R34, & R35. (5)

R34  INSIDE THE R390A PTO. Dallas Lankford. An in-depth article that explores the PTO tuning in the R-390A and shows how to improve it's performance up-to-specifications. See also R28, R29, R33, & R35. (4)

R35  THE R-390A ON LONGWAVE. Craig Healy. The author tells of a simple and inexpensive method to modify the R-390A to tune below 500 KHz. (2)

R36  THE BBA-1 BROADCAST AMPLIFIER. Mark Connelly. A project suitable for beginners which will increase the gain from your loop antenna. With it's simple operation, you can get those catches that would have been lost in the receiver's noise. (11)

R37  THE GENERIC HQ-180 IF ALIGNMENT. William Marvin. Now, the non-technical DXer can keep his HQ-180 in top performance at all times with this procedure that requires no test equipment. (4)
THE TUGGLE CIRCUIT. Ray Cole. Build yourself a simple but sensitive signal snatcher -- a super crystal set! See n22. (2)

THE DX TIME-MACHINE. Craig Realy. Use your VHS VCR to record all or part of the AM Band for later listening! It may have started as an April Fool's joke, but with the modifications described, it really does work! (3)

NOISE AND SIGNAL LEVELS ON THE CBC. Marc Bergman. How much sensitivity does a receiver need? A practical view of signal level vs. CBC noise levels. (15)

CERAMIC FILTERS. Marc Bergman. A listing and description of the most commonly available ceramic filters, with data from tests by the author. (9)

THE HQ-180 SERIES RECEIVERS SENSITIVITY TEST. Dallas Lanford. Weak or bad tubes are the cause of many receiver problems, and this simple test will help pinpoint them. (1)

REPLACING THE R70'S PBT FILTER. Gerry Thomas. Step-by-Step instructions to put in a better ceramic filter in your R70s passband tuning circuit. (3)

SURPLUS MECHANICAL FILTERS. Marc Bergman. Test results of several reasonably-priced and available mechanical filters. (3)

DOMESTIC DX

1570-1580 STATION LOCATION MAPS. Two maps pinpointing the location of all domestic stations operating on these superb sunrise/sunset skip channels. A valuable aid to the DXer. Updated in 1981. (2)

IT TAKES TWO TO VERIFY, PLUS HELPFUL HINTS. J. Murley & R. Schiller respectively. If you are unhappy with your domestic operations, read this article on the station's attitude toward reception reports, and get some tips on improving your returns. (4)

THE DX TEST FROM A STATION'S VIEWPOINT. Bill Croghan. A DXer gives some hints from his vantage point to help you arrange more DX tests and obtain more verifications. (1)

WHAT IS A PRE-SUNRISE AUTHORIZATION? R.J. Edmunds. Some U.S. stations are authorized to operate with power limits such as 14.3 watts during certain hours this article explains why. (3)

LONG DISTANCE RECEPTION OF DX TESTS. F. Dairley. Are you thinking about asking a station to do a DX test? Here are some proven techniques that, if used by the station, could make it easier for DXers to hear the test. A must for novice CPC members. (1)

MAKING THE BEST OUT OF PREPARED-CARD VERIFIES. Kelly Andrews. Ideas to make you how to obtain these elusive verify cards through imaginative and creative prepared cards. With numerous samples. (3)

ACCURATE DISTANCE DETERMINATION FOR GW DX'ERS. Bill Male. A method for determining distance of local-channel stations for the listener is presented, along with a table of geographic coordinates for every U.S. city with a GW station. (17)

ALASKAN RADIO. Rod O'Connor. Most recent information on Alaskan MW stations, including a map. Also includes a supplement on Alaskan Forces Radio Network. (5)

THE NSP SITUATION. J. Starr. A look at this problem from the broadcaster's side of the fence. (2)

DX FROM THE TWILIGHT ZONE. F. Sullivan. For various reasons, some stations are audible at sunrise and sunset only. This article explains the reasons. (4)

GRAVEYARD DX. R. Foxworth, with addition by M. Levins. This article tells you how to DX those cluttered local channels and get results. (15)

CANADIAN FAMILY LIFE...IT'S TWIN! Explains why many station "families" exist in Canada. List of station groupings as of Nov. 1978, with 1976-1980 updates. Includes UPB's and other stations of better DX potential. (6)

THE POST-SUNSET AUTHORITY -- A DAYTIME'S DILEMMA. Jerry Starr. Light is shed on the confusing situation of "PSSA's" with first-hand information from the FCC. (4)

GRAVEYARD STATION MAPS. Bill Hale. Useful maps for those who like the challenge of "dead" frequency DX. Includes station location maps for each graveyard frequency. (13)

SOME TIPS ON IDENTIFYING UNIDES. R.J. Edmunds. Offers practical tips on how to ID stations using reference materials and deductive logic. (2)

SUNRISE SKIP. R. Kramer. Practical explanation of how to add stations to your log through understanding of pre-sunrise authorities, station allocations on clear channels and auroral effects. (7)

QL'IN THE LOCALS. Skip Arey. Some novel approaches and ideas for extracting a veriey from your local stations. (1)

DXING HOW TO "UP" YOUR TOTALS! John J. Pfeifer. An antidote to "DX Burnout" and proof that there is DX after the first 1,000! Tips to help the seasoned pro with these problems as well as good advice for the novice. (3)

STATION LISTS

FREQUENCY CHECK LIST. Joe Fels. Many U.S. stations run equipment tests at regular intervals and times. This list is a valuable aid to new loggers. Updated yearly. (4)

CUBAN STATION LIST. This up-to-date listing is a handy resource for the International DXer. Updated yearly. (4)

NONDIRECTIONAL AERONAUTICAL BEACONS. R. Davis. An explanation of the types of beacons found in and near the MW band, plus updated listing of aeronautical beacons. (6)

BROADCASTING IN GERMANY. Erwin Litke. A detailed listing of MW stations in Germany, there is included an overview of German broadcasting and networks, plus hints to help hear German stations in the U.S. (6)

FOREIGN DX

DXING CENTRAL, SOUTH AMERICA AND THE CARIBBEAN. Mark Connelly. New listings, by frequency, of the "best bets" from these areas, along with the original Connelly/Deloporto/Kazanowicz article, "DXing Latin America and the Caribbean." (5)

TA TIPS FOR BEGINNERS. Dave Yocis. Practical information about the TA DXers guide to Sunrise-Sunset Times. Mark Connelly. A handy reference to SSS-SSS times with extensive tables for many locations to aid the TA DXer. (4)
F5 HUNTING LATIN AM. MUSIC. R. Schatz. Describes types of Latin music indigenous to various countries and tells how to ID stations using this information. (5)

F6 ZONAL-ANALYSIS APPROACH TO TA DX. Mark Connelly. A systematic method of grouping TA countries to help the DXer recognize different types of openings and improve TA reception. (4)

F7 ZONAL-ANALYSIS APPROACH TO PAN-AMERICAN DX. Mark Connelly. Similar to F6, with the emphasis on helping the Eastern U.S. DXer log LA and South American stations. (5)

F8 STATION IDENTIFICATION. An invaluable aid to the foreign DXer with tips on how to ID stations in nearly 50 languages! (2)

F9 SOME EASY TA'S. Dallas Lankford. A guide for the beginning TA DXer to some of the most easily heard TA's. (2)

F10 ID'ING JAPANESE BROADCAST STATIONS. Charles Taylor. A must for the West Coast DXer - Helpful hints to make a seemingly difficult task much simpler, without actually knowing the language. (3)

F11 ITU FREQUENCY ALLOCATIONS AND THEIR IMPACT ON TA DX'ING. Mark Connelly. Trying for TA's on their new frequencies? What are your chances of logging a specific station? All Region 1 Medium Wave frequencies are listed and what should be heard under good conditions. (6)

F12 COMMON SENSE TA DX STRATEGY. Mark Connelly. Practical hints are given for new DXers to hear Trans-Atlantic stations. (2)

F13 THE ODDS ON EVEN TA'S. Mark Connelly. A frequency-by-frequency look at the possibilities of hearing Trans-Atlantic stations on channels shared with U.S. and Canadian stations since the new Eastern Hemisphere plan took effect. (10)

F14 YOUR FIRST 30 COUNTRIES IN ENGLISH. Mark Connelly. A useful guide to novice or expert DXer alike; with a listing of the best bets by country. (6)

F15 CARIBBEAN MW DX GUIDE. Mark Connelly. A Country-by-Country guide to which stations to listen for. A companion to F1. (4)

MISCELLANEOUS ARTICLES

M1 LOCAL SIDEBAND SPLASH: HOW MUCH IS TOO MUCH? G.P. Nelson. Many DXers complain about certain local stations overmodulating and producing large amounts of interference. Article describes FCC regulations on sideband radiation on the Medium Wave band and types of station-originated spurious radiation. (1)

M2 MODULATION ARCING. J. Starr. Describes a frequent but rarely discussed cause of Medium Wave interference originating at the station that can wreak havoc on the Medium Wave band. (1)

M3 SUNRISE-SUNSET TABLES. G.P. Nelson. These charts permit the DXer to determine accurate time of sunset and sunrise at any point in the world on any particular day. Very useful for international DXers. (9)

M4 RF INTERFERENCE AND THE HOME COMPUTER. Bill Kruze, ANARC. Unfortunately, your home computer will cause interference on your DX rig unless precaution is taken; several solutions are discussed. (2)

M5 UNRESTRICTED RADIATION. G.P. Nelson. Discussion of carrier current stations and how to hear them. (3)

M6 RF POLLUTION. G. Hauser. General discussion of the radio interference problem and steps necessary to control it. (2)

M7 PATTERNS, PARTS I, II, III, IV. F. Hart. An understanding of the directional patterns used by North American Medium Wave stations is vital for the active domestic DXer. This series of articles explains in detail what patterns mean and how the DXer can fatten his log by understanding them. (5)

M8 RETAIL ELECTRONICS PARTS SUPPLIERS. Compiled by Mark Connelly. A must for the experimenter and project-builder: a comprehensive listing of parts suppliers who sell in small quantities to the public; with addresses, phone numbers, and specialties of each source. (5)

M9 MORE ON HOW DIRECTIONAL ANTENNA PATTERNS ARE PRODUCED. Wes Boyd. Supplementary information to the articles contained in the current edition of the BBC Night Pattern Book. (1)

M10 SUPERMODULATION AND EFFECTS ON DX'ING. Steve Kennedy. Discussion why there is overmodulation and how this problem will affect the DXing hobby for some time to come. (3)

M11 TERRAIN CHARTS FOR PROPAGATION PREDICTIONS. M. Connelly. This article details a method to prepare a chart of a DXer's surrounding terrain which can help enhance or diminish reception. (3)

M12 NOISE LEVELS AND UsABLE RECEIVER SENSITIVITY. C. Fulton. Discussion, in technical terms, of the effect of noise on receiver sensitivity. (5)

M13 GREAT CIRCLE CALCULATIONS REVISITED. Mike Tuggle, with an addendum by this article. Mike explains how to figure distance and direction of stations mathematically. Richard Allen has written a computer program for use with the new "home computers" to figure the Great Circle paths. (4)

M14 HOME COMPUTERS AND DX'ING. Mark Connelly. An introduction to the use of the new generation of home computers on an aid to DX record-keeping and calculations, plus additional programs for most popular computers. (5)

M15 SOME THOUGHTS ON INTERFERENCE. Skip Arey. Got a light dimmer around that kills DX whenever it's on? A simple modification is explained to stop the noise. (1)

M16 MAN-MADE INTERFERENCE ON THE BCB. Dallas Lankford. Presents a systematic approach for evaluating a current or future DXing location in terms of man-made noise levels. (5)

M17 DXING SAFETY TIPS. Anon. (April Fool's type fun) Protect your TFF with this simple modification. A redundancy safety fuse. (1)

PROPOSITION


P2 SOLAR CONTROL OF DAWN E-BLANKETING ON THE MW BCB. G.P. Nelson. Explains how the position of the sun controls the fadeout time of trans-Atlantic and trans-Pacific stations. (2)

P3 EAST-WEST SYMMETRY AND THE FADE-IN PROBLEM. G.P. Nelson. Explains how the sun controls the fade-in times for MW stations. (2)

P4 SUMMER RECEIPTION ON THE BROADCAST BAND. G.P. Nelson. First article describing the seasonal patterns in solar terminator location which makes summer MW reception from deep South America and Africa possible. (3)

P5 METEOROLOGICAL EFFECTS ON MW GROUNDWAVE RECEIPTION. G.P. Nelson. Short-term variations in groundwave propagation at MW frequencies and their relationship to weather conditions is discussed. (7)

P6 AURAL EFFECTS AND THE 1965 TRANS-ATLANTIC LISTENING TEST. G. Nelson. Brief description of how the geoaesthetic and auroral phenomena control TA reception from various stations. Best general introduction to MW auroral effects. (5)
P7 THE AURORA OF NOVEMBER 6-9, 1970. G.P. Nelson. Traces a classic auroral attack from its origin on the sun to its effect on MW reception. (3)

P8 COMPARATIVE MEASUREMENTS OF GEOMAGNETIC INDICES. R.J. Edmunds. The author compares on a daily basis for three months the various A-index measurements as reported by several major observatories. He tells how the indices are related to each other. (3)

P9 SKYWAVE OR GROUNDWAVE RECEPTION? G.P. Nelson. How to tell whether the signal from a station you are listening to is arriving via ground wave or skywave, or both. (3)

P10 A BEGINNER'S GUIDE TO THE IONOSPHERE. Fr. Jack Pejza. Radio wave propagation is influenced greatly by the conditions in the ionosphere. This article explains the processes which change the ionosphere and the effects of these changes on radio waves. (10)

P11 THE LIMITS OF MIDDAY MW DX. G.P. Nelson. Comprehensive article describing the factors which influence radio wave propagation and reception during the late morning and early afternoon hours. (16)

P12 LIMITATION ON THE USE OF THE A-INDEX. G.P. Nelson. While the A-index is a valuable tool, it is easily misinterpreted. This article shows why. (3)

P13 BCB RECEPTION DURING PERIODS OF HIGH AURORAL ACTIVITY. G.P. Nelson. Describes the author's research into the effects of the aurora on the MW propagation. (8)

P14 SKYLINE BLOCKAGE. Fr. Jack Pejza. Mathematical derivation of the formulas needed to calculate the effect which terrain has on signals. (10)

P15 SKYLINE BLOCKAGE: SOURCES OF UNCERTAINTY. G.P. Nelson. Takes into account the possibility of signal propagation by some less common modes which are subject to blocking by the horizon. (9)

P16 HORIZON BLOCKAGE: CAN FRENSNEL DIFFRACTION BE IGNORED? G.P. Nelson. No, it can't! This article shows how signals that should be blocked by the horizon can sometimes be heard. (10)

P17 TRANSFORMER DX RECEPTION. R.J. Edmunds. Are you looking for Asian DX more exotic than Urubu-1525? This technical article relates to the trans-polar terrestrial reception of central and eastern Asian stations at sunrise in North America. (27)

P18 OBSERVATIONS OF TRANS-ATLANTIC MW RADIO SIGNALS. C.W. Bailey. The results of a lengthy survey of TA receptions made over a one year period. (3)

P19 PROPAGATION AT MW FREQUENCIES. P. Sullivan. Discusses some aspects of the factors which control signal reception on the BCB. (6)

P20 FACTORS OF MW PROPAGATION. F. Dinning. Further discussion of the nature of MW propagation. (6)

P21 DOMESTIC PROPAGATION-ANSWERS TO FREQUENTLY ASKED QUESTIONS. R.J. Edmunds. A brief discussion on some of the propagational factors that affect domestic reception. (1)

P22 REVIEW OF SOLAR ACTIVITY FOR THE MW DX'ER. R.J. Edmunds. A concise explanation of the Fredericksburg A-index as well as its use in the hobby is given in this article. Goes with P1, P6, P7, P10, P12, P13, P19, and P20. (2)

P23 MEDIUM WAVE IONOSPHERIC PROPAGATION PLUS THE SQUELCH TO.... R. Schatz. These articles take a different approach to propagation and presents new terms and theory. An introduction to P24. (11)

P24 TERMINATOR TRANSIT MECHANIX. R. Schatz. Parts I, II, III, IV AND IV-A of a series which the author states features practical techniques to hear new stations; technique never before available. (33)

P25 SUNSPOT CYCLE 21 - THE PEAK - HOW MUCH AND WHEN. O. Okleben, H.R. REPORT. This article, through careful predictions, shows how the next peak in solar activity will be one of the most severe in recent history; includes additional comments by R.J. Edmunds. (3)

P26 ATMOSPHERIC AND GALACTIC NOISE ON THE BCB. Dallas Lankford. Amounts of various types of noise are compared to receiver sensitivity in this technical discussion. (3)

P27 ON THE NATURE OF SCIENCE AND THEORIES OF BCB PROPAGATION. Dallas Lankford. Discussion of several theories, concentrating on the controversy concerning the degree of the arrival angle of signals propagated over long distances. (3)

P28 DXING THE 1984 SOLAR ECLIPSE. Gerry Thomas. A "play-by-play" account of one DXer's experiences during this rare DXing opportunity. (3)

P29 ON OBLIQUE PROPAGATION. Dallas Lankford. Very technical discussion on the theory of oblique incidence nighttime ionosphere at BCB frequencies. (12)

P30 MEDIUM-WAVE OBLIQUE PROPAGATION - ANOTHER VIEW. Randall J. Seever. Some different interpretations are presented on this subject, as well as examples of NW propagation analysis using the Knight Wave-Hop method. (8)

P31 A SURVEY OF AVAILABLE MW FIELD STRENGTH PREDICTION METHODS. Randy Seever. A look at what the broadcasting industry and its regulating bodies are doing and have done in the field of frequency propagation. (12)

P32 RECEIVER REVIEWS

RR1 RECEIVER COMPARISONS - WHAT DO THEY MEAN? R.J. Edmunds. Certain problems arise when comparing product summaries and receiver reviews. The author explores these comparisons with an emphasis on MW DX. (2)

RR2 QUALITATIVE REVIEW OF THE YAESU FRG-7 RECEIVER. G. Hauser. A detailed son-technical review of this popular communications receiver. (3)

RR3 DRAKE R7-A REVISITED. Craig Healy. Comments from a satisfied user who found this modern-technology receiver an excellent replacement for his older R-390A. (2)

RR4 HEATH GR-78. R. Schatz. (2)

RR5 DARLOW-WADLEY XCR-30. M. Hardester. (2)

RR6 SONY ICF-6500W - THE PERFECT PORTABLE? Gerry Thomas. This versatile and easy-to-operate portable is detailed, and put through a side-by-side comparison with the TIF & superadio - is it the perfect portable? See RR for recommended modification. (4)

RR7 A NON-TECHNICAL REVIEW OF THE WORCESTER LONG DISTANCE RECEIVER. J. Starr. A user's critical commentary of this revolutionary receiver. Built in limited quantities, this receiver is not readily available to most DXers. (4)

RR8 MCRAE-DYNEK DR-22. J. Clements. A detailed, non-technical pre-production review. Mentions features, performance and how it measures up to receivers now in use. (3)

RR9 ICOM IC-R70 COMMUNICATIONS RECEIVER. Vincent Finto. An in-depth, technical look at a recent entry in the new breed of receivers - a surprising rig at a surprising price. See RR for recommended modifications. (11)

RR10 THE GE SUPERADIO-CASSETTE. Michael Sapp. The famous GE Superradio with a new twist - an integral tape recorder! But is it as good as the original model? Read this article to see. (4)
WHO'S ON FIRST?
by Bruce A. Conti

Ambiguities in documentation concerning the beginning of radio broadcasting have many stations competing for recognition as the first broadcaster in history, even though radio stations are widely recognized as the first. A significant issue in this debate is the evolving nature of broadcasting as regulated by the Federal Communications Commission. (1)

The identity of the "first" broadcasting station is... a matter of conflicting claims. This is due largely to the fact that some pioneer AM broadcast stations were operated from experimental operations. Although Pittsburgh did not receive a regular broadcasting license until November 3, 1921, it furnished programs under a different authorization before that date (Broadcasting A-1). (2)

The Licensing of public radio stations began with the passing of the Radio Act of 1927, which gave the New radio stations a second chance. Although they licensed all public radio stations as experimental stations, this was because the new technology of wireless communications was unknown (House 6, 7). So the term "experimental" was applied, meaning the stations were on the air for the purpose of research and development (Griff 266), even though the transmissions may have also been considered as general broadcast to the public by the radio station operators. (3)

The NND-515 REVIEW. Bob Foxworth. A detailed review and commentary on Japan Radio Corporation's newest receiver. (7)

R18 SURVEY OF HAMMARLUND RECEIVERS. Dallas Lankford. This article should be read in conjunction with the Receiver Reference Manuals I and II. A summary of the full line of HAMMARLUND receivers suitable for HAM DX with comparisons, modifications, and hints when purchasing one. (8)

R19 THE GE SUPERADIO-PLUS. Dick Trux. User first impressions and opinions of this digital-readout version of the popular GE "Superadio". (1)

PRODUCT SUMMARY

PS1 DRAKE SSR-1 RECEIVER. Bob Foxworth. (1)

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$19.95 + shipping. Prepublication orders are being taken at $18 Book Rate
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WRTH, 1981 thru 1987 may be ordered at $20 ea., 2/$30, 3/$40, 4/$50, mix or
match years.

11/88
Another broadcaster that has a claim to being the first is radio station KCBS in San Francisco, formerly licensed to San Jose as radio station KGW. KCBS is listed in the Broadcasting Yearbook 1979 as being on the air since April of 1909.

KGO began with experimental stations GGO and AXF, along with other identifications (KNet 23), associated with a College of Engineering started in 1909. Students conducted voice experiments with the station until 1912, when the experiments developed into weekly programs consisting of music and news. However, these regular broadcasts were still considered to be experimental, as the program always ended very abruptly due to equipment failure (Karnow 34-35).

One of KGO's neighbors, radio station KFRC in Pittsburgh, has also had something to say over the issue of who was first. In response to questions about the station contained in the recent re-prodution report, KFRC chief engineer Gerald Lourie writes:

"KFRC was the first licensed radio station in America, licensed November 19, 1921 to Western Electric and WEI, and WEI deserves all the credit they have been given over the years because they were the pioneers of radio as we know it today, but KFRC was the first. Western Electric and WEI have never seriously challenged those claims because documentation does not exist to prove the point. Just a matter of historical interest (letter)."

The earliest reference to KGO's existence was in a station roster from 1923 (KNet 23) to suggest that the experimental stages of KGO were undocumented. Maybe the KGO experiments were overshadowed by the personality of Dr. Frank Conrad's broadcasts on KSH. The first licensed station for the purpose of broadcasting, according to research recently conducted through the Department of Commerce files, is radio station WEI, originally licensed to Springfield, MA, on September 15, 1921. It is interesting to note that according to these records, on November 7, 1921, KGO was the seventh station issued a broadcasting license (223). Because both WEI and KGO are owned by Western Electric, that technicality is overlooked for the obvious reason that the KGO broadcasts of the Harding-Cox election returns was a significant event in radio history despite the actual terminology used in licensing.

Like KGO, radio station CCFC in Montreal is also claiming to be "the first broadcasting station in North America started in 1919" (OBS card, CCFC), although public statements are somewhat vague. The station started over WEEC and is not considered to be the same. It is impossible to determine whether KGO got started before or after, but both are on the air.

There are even more stations with similar claims. These stations must have been truly experimental in nature, with erratic transmissions only heard by neighbors and friends; they were not worth noting in the newspapers and did not have the backing of a large company like Western Electric could provide. For now, it appears that KGO's claim to fame is well deserved. At least KGO provided the direction wireless broadcasting needed to become what it is today.

Postal Codes Included


3132 S.E. Irvington St., Topeka, KS 66605.

The opinions expressed in this column are those of the individual writer and do not necessarily reflect those of the Editors, Publishers, or the National Radio Club, Inc., or its subsidiaries.

Times are local per Maze.

I am still dealing with Barry and Rick Koos, for next week's re-intro issue, leaving a slim three for this week. Your next deadline (10-24) will be dedicated to NYCers living south of Topeka; those east of Topeka should try to make the 10-31 deadline; west, south, and outside of the 48 states, 11-14. I note that the 1st key and space characters don't want to work on this c-64, and tomorrow I'll try my usual troubleshooting of today. However, as hay fever season is passing, I feel fine, so let's get on with it.

Andy Rosk, VZAGA - 669 de Gasse, #12b - North Island, PQ H3K 1J1

I DX'd occasionally during the summer and ended up with 3 more new logs. W4-724: I awoke early and couldn't get back to sleep. Flicking on the Superadio, I tried again for my number one interest, W3HRA-150. From 6-30 to 6:45 a.m. this solid W was from a calm and quiet WK. Then on 8-5, W3VZ-640 and W3PLS-1510 were easy logs around 9 p.m. Thanks to Howard Rimp for the rigs on all three! Verifies W3VZ-640 and W3PLS-1510.

At the end of August I was able to combine a brief trip to the CQWW CW Convention in Waukegan, Illinois, with one of the better conventions that have been held anywhere in the last few years. The evening of 9-1, I was in an interesting DXing location at Gulf Harbour, Varity, AVI and the DXing was fair. The next day, on route to Gasperepointe, the daytime DXing was good. The W3HRA-150 was particularly interesting, especially the North Dakotans such as KB7Z-552, K705-500, and K705-790. Back east, on 36 or 40 I was driving home from the golf course and couldn't resist the temptation to scan the band on the car radio. Just west of Lysterfield, VA, I was surprised to find 7:25 pm when W3C-1030 surged behind W2B and topped the channel briefly at 7:27, before signing off and running. Reception occurred well beyond the 25-mile zone, and I couldn't count how many times I heard a peak out on 36 or 40.

I am always eager to receive another penny on January 1, 1988. Since the golf season and the World Series are out of the way, I hope to check in with some serious DX in November.

Harry J. Hayes - 9 Henry St. - Wilkes-Barre, PA 18702 ZRT

I had a nice time visiting my friends in IZMAI sending a few new faces in an area of the country I've never been in before. I have an important subject to discuss, that of what was heard this September. We start with 9-13 and W3C-620 Press, PA, noted with "notable" signal at 11:27 in the afternoon. To my surprise they put up in a listenable signal on 36 and 40 radio. "Country-2" and naturally country music. Later that day: 1928: W3KQ-1200 Gulf City, PA radio news and music. 1915: W3GQ-1410 VA with s/o off W3VZV. 1920: W3PLS-1440 CP, s/o thumping thru the crowd. 1930: W3VZV-930 WZ with a 10-40. 2006: W3C-1440 on 36 with 420, he's in his 60s.

W3VZ-640 Westfield, PA which is 1600-1075 with signal not that much better than the old 150; one at least not tonight, we'll see how they are other nights. 2010: W3C-620 CP really loud W3HRA with local FB coverage. 2020: W3C-930 with c/w W3 and female anser.

Tonight I was somewhat auroral, with a lot of the CW Canadian receiving not up to 11 pm. 2400 was up to 11 pm. W3PLS-1510 had a 10-40, and oldies, followed by, I believe, W3KQ on 1080 in Barnetville owner but no other W3s in Barnetville, which was a rare occurrence, but that night was strong and squashed them. Quite an odd night. Continuing on 9-26: 1945: W3C-790 RI very loud, ex-W3C-270 on 9-26: 1955: W3C-270 WZ with s/o off which I think was probably recorded 20 years ago. Will keep trying tonight. I am hoping for fun again this season if my heavy work load allows me a few weekend sessions. Oh yes: good luck to you in RI, Paul.

(Thanks for fun again! - p)
Government Officials Shoo Away Sorcerers
From Colombia Airwaves

Knight News Service
BOGOTÁ, Colombia — The government, which is fighting an uphill battle against powerful armies of guerrillas and drug traffickers, is taking on another formidable enemy — sorcerers.

In recent weeks, the government has shut down nearly a dozen radio programs conducted by sorcerers and witches, and has found that station owners carry them. These programs, generally broadcast between midnight and 7 a.m., have mushroomed over the last three years, capturing growing audiences throughout Colombia.

"It's a serious problem," Communications Minister Fernando Cepeda said in an interview. "These sorcerers are telling lies in their radio programs to prepare the most incredible concoctions. We've even heard of cases of children dying after their parents made them drink these preparations."

Ironically, the crackdown on the radio sorcerers takes place in a country that prides itself on having one of the best records on freedom of the press in the hemisphere. Colombian newspapers and magazines often carry unwarmed interviews with leftist guerrilla leaders, drug barons, and politicians who make the wildest allegations against the government.

Sorcerers are a different story, government officials say. For one thing, a law specifically prohibits radio stations from broadcasting ads for "professionals without the proper diplomas, spiritualists, sorcerers, witches and sorceresses."

Although the law dates to 1975, it had never been enforced. The government decided to act earlier this year after press reports exposing how radio sorcerers are bilking millions from unsuspecting victims. Many radio stations are appealing the government measures, however, and their sorcerers continue on the air.

There are as many as 30 sorcerers and witches who have their own radio programs throughout the country, according to unofficial estimates. In addition, hundreds, perhaps thousands of Colombians claiming to have extraordinary powers have set up their own consultation offices.

Two reporters of Radio Santa Fe who publicly asked the government to crack down on the sorcerers' programs, German Salgado and Leonel Liozal, say they have received several death threats since they denounced the radio sorcerers. The two have requested police protection.

Typically, the radio sorcerers read letters presumably written by sorcerers and offer solutions to their problems. Often, the sorcerers say that cases are so complicated that letter writers must go to their offices for individual consultations. The interviews, critics say, cost between $200 and $200 — a small fortune in a country where most people make less than $100 a month.

The programs only advertise the sorcerers' respective offices, which are, of course, not listed in the telephone book. The ads sell the letters as well as the advice they may offer to exclusive victims there.

Brenda Joaquin and Gregorio, in their Radio Melodía of Bogota program, have advertised the "triumphant key" to success and fortune. Nobody remembers them ever explaining what "triumphant key" or "success in the doors of success in your business and sentimental life."

Another Radio Melodía program offers the Papal Pyramids, Gregorians (as did the Vatican) — three talismans for the price of one. Radio Melodía programs also advertise talismans tailored for travelers, designed by a sorcerer who claims that he discovered "a super-negative energy" that helps to fight off bad vibes in buses and trains.

Officials are more worried, however, about the possible health hazards of concoctions that the sorcerers recommend to their listeners. Some sorcerers have told their audience to prepare allegedly magic mixtures including human blood.

Supporters of the radio sorcerers say their programs are harmless. The Amazonian Indian, for instance, a sorcerer who programs a program on Coca Cola's Radio Calma, advises women experiencing menstrual pains to boil 14 ounces of milk with 3.5 ounces of sugar and drink it slowly.

He recommends that, when the pains start, women drink a cup of the mix. "The sorcerers' growing popularity is largely due to their increased access to the media," government officials say. Radio advertising is done because of Colombia's depressed economy, and sorcerers are buying large chunks of late-night programming that private radio stations otherwise would find hard to sell, they say.

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**TOTAL PAGES** ___

**cents/page = 6**

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