$1.75

MONITORING TIMES

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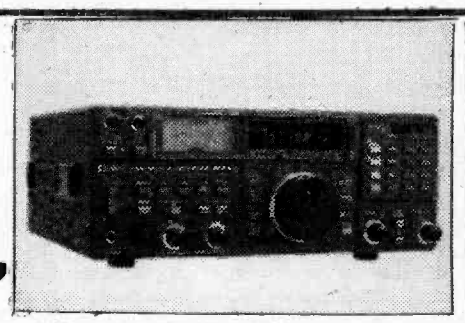
THE NEW ICOM R-71A: IN A WORD, MAGNIFICENT!



Unquestionably, the new ICOM R-71A is the new standard of comparison. Gone are the cumbersome tuning steps of the discontinued R-70; the R-71A is straightforward to operate and feels the way a receiver should.

Cosmetically, the receiver is impressive, professionally and thoughtfully laid out with easy-to-read panel legends. The brilliant flourescent display provides frequency information down to tenths of a kilohertz and alerts the listener to other dial settings (mode, memory channel, VFO, etc.).

Continuous tuning (97 kHz-30.03 MHz) is provided by the main dial, including step increments of 1 MHz for band change if desired. Direct keypad frequency entry is also possible. Fine tuning steps of 1 kHz may be used for fast tuning or, for final resolution of a signal, 10 Hz increments may be tuned, eliminating the need for RIT even on SSB or RTTY.

A 32-channel memory (plus two independent VFO's) provides superb frequency agility, especially considering the ability of the memory to include frequencies to 10 Hz resolution and selectable mode as well!

A scan feature allows scanning of all memory channels, memory channels of any common mode, or continuous search between any two frequencies entered into channels 1 and 2! Additionally, the squelch works on the scan mode (as well as normal reception), stopping automatically on a busy channel for monitoring! A real bonus for use with add-on frequency converters.

An effective noise blanker has several adjustable parameters for optimum cancellation or reduction of a wide variety of impulse noises, from power line hash to the Russian woodpecker.

A vast improvement over the extinct R-70 is the audio--crisp, transparent, undistorted--even under full output. A tone control assists in contouring sound to comfort.

While the stock filters are certainly adequate for the majority of casual listening, selectivity may be substantially enhanced by the use of the independent notch filter and passband tuning controls.

OPTIONS

Remote operation of the R-71 is made possible through the use of a nifty hand-held frequency control, model RC-11. Even more exciting, it is possible to computer-control the ICOM with the CT-10 interface and EX-309 connector (availability and pricing to be announced later).

Of enormous interest to the visually impaired is the low cost EX-310 speech synthesizer which announces the displayed frequency in English.

Additional accessories and options include the usual CW and SSB filters, FM adaptor and DX power kit for 12 volt operation.

IN CONCLUSION

While MT is objective in its evaluations of new products, we are admittedly overwhelmed by this exciting new entry from ICOM, a substantial improvement over its popular predecessor, the R-70.

It is our considered opinion that the ICOM R-71A is the most powerful general coverage communications receiver ever made available to the general public.

(ICOM R-71A, $799 retail. Only $699 discount special including shipping from Grove Enterprises).

TUNE IN ON THE SECRET SERVICE

by Bob McGovern

When most people hear of the U.S. Secret Service, they immediately think of the protection of the President. However, the agency is divided into four divisions and they concern the protection of the President and other specified individuals, intelligence gathering, counterfeiting and forgery investigations, and personnel matters.

Aside from providing protective services, most Secret Service activity is routine. Much of an agent's time is spent investigating some of the 60,000-plus forgery cases each year involving government checks or tracking down counterfeiters. Agents rarely speak about the kind of intelligence gathering which they perform.

A significant amount of this activity concerns the collection of information about people who may constitute a threat to the President. The Service is also interested in the whereabouts of these individuals and has created a computer file within the National Crime Information Center known as the U.S. Secret Service Protective File. As of November 30, 1983, 92 persons were contained in this system and most law enforcement agencies have direct access to it via teletype.

Monitoring the Secret Service can be anything from dull to exciting when the President comes to your area. With minor exceptions, most day-to-day routine operations are carried out on 165.7875 MHz, known as "Baker" and 165.3750 MHz, known as "Charlie." These transmissions are sometimes in the repeater mode, but when simplex is adequate, it is often used.

Motorola digital voice protection (DVP) is rarely used on these channels and agents generally do very little to hide their activity by using radio codes or giving misleading information over the radio. Most agents are aware that people are listening to them and try to be discreet in their transmissions. If the subject matter is very sensitive, they will revert to landline communication or use DVP if available.

Agents are generally called over the radio by their last name. For example, if the Las Vegas office wishes to contact agent Devainey, the base will say, "Devainey, Devainey, Las Vegas base." The agent will answer by replying, "Go ahead Las Vegas" or something similar. If you listen regularly, you can accumulate a list of agents assigned to the particular field office.

Depending upon the size of the office, you might hear surveillances on a daily basis or only once in a great while. However, agents occasionally become very personal on the radio and may say some interesting and amusing things.

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Protection of the President's cabinet is but one responsibility of the Secret Service (Courtesy Time Magazine)

MONITORING TIMES

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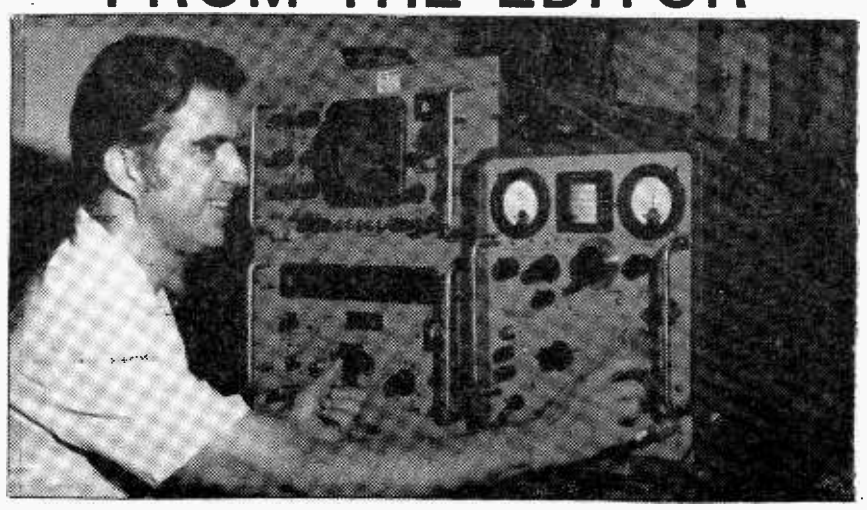
REMEMBER! "S.A.S.E."

We at Monitoring Times constantly receive letters from readers which begin, "Please send me everything you have on..."

As much as we would like to help, we are not a public library service. Letters received with a Self-Addressed Stamped Envelope will be answered.

And as always, my telephone line is open for pre-paid calls weekdays 1-5 pm Eastern (704-837-2216)...Bob

FROM THE EDITOR



WHAT HAPPENED TO OLD-FASHIONED SERVICE?

One of the saddest commentaries on modern society is the proliferation of impersonal, profit-obsessed mail order companies. Here at MT and Grove Enterprises, we receive a steady stream of disheartening letters from hobbyists who have been turned off by rudeness, neglect, misrepresentation, poor quality and other characteristics which seem to abound in today's mass market. It's a shame.

It is tempting to write off the problem as typical of large corporate disregard for the individual consumer but, unfortunately, the same criticism is made of small manufacturers and retailers as well.

The callous disregard of personal feelings of prospective customers is indefensible from any perspective. The manufacturer or dealer can only lose. Who wants to buy from a faceless address when correspondence is either ignored or brusquely and officiously answered? What continued appeal is there when telephone personnel answering for the business make it perfectly clear that you are a bother when you call for help?

Businesses like this deserve to fail and often do. And it's completely unnecessary. A warm, friendly smile is as attractive on a telephone as it is in person. It builds confidence and establishes mutual trust between the buyer and the seller.

It seems that in the work-a-day rush to increase profits something very vital has been lost. Whether we call it courtesy, friendliness, public relations or just plain old customer service, we all miss it.

Would it help if we let those vendors know why we don't buy from them? Perhaps it is too much to hope for. But I know one thing; if I or any of my colleagues at Grove Enterprises or Monitoring Times is ever rude or uncaring about your questions, I want to know about it.

VOTE FOR YOUR FAVORITE ARTICLE

Do you have a favorite article or column? We would like to know about it and so would our authors. You see, they don't know it yet, but the author who receives the largest vote from our readers will receive a $25 bonus this month!

And while you are at it, won't you let us know what subjects or topics you would like to see covered more in the pages of MT? Who knows, maybe your suggested article will bring some author a bonus next time we take a poll!

You say you would like to try your hand at writing? We'll be happy to pay you $25 for each article, 500-1000 words, accepted for publication and throw in a year's subscription to MT as well! But query us first to see if we can use the subject before sending in the manuscript.

WANTED: COMPUTER PROGRAMS

Many MT readers have been asking us where they can get listening-oriented computer programs for the popular home computers. As a result, Grove Enterprises is giving serious consideration to the possibility of offering programs of interest. We need your help in two areas:

1)What programs do you need and for which computers? On floppy, cassette or printout?

2)What programs do you have or can you write?

For starters, how about a good frequency file for the Commodore 64? It should include a typical logsheet format with frequency, agency or service, location (state/city) and comments such as call sign, mode, time/date, signal strength, and so forth.

A sort by frequency, agency or location would be handy as well. And yes, the winning programmers will be paid! But don't send in your program before contacting us with details.

Direct your responses to Bob Grove in care of Monitoring Times. Let's get going on this new project!

MAY WE BE OF SERVICE?

A number of readers and or listeners contact our offices requesting information and help with their receiving equipment. Often, the requests concern repair or modification of scanners and shortwave receivers.

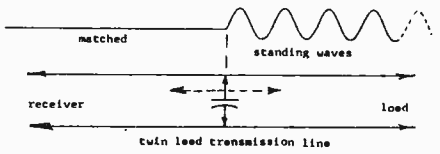
Grove Enterprises is seriously considering expanding our operations to accomodate the service support of our clients. We would like to hear from MT readers as to what types of service, maintenance and modification procedures you would like and can not readily find available in the present marketplace.

Please direct your comments and recommendations to Bob Grove in care of MT.

VIEWPOINT

Hi! Got my copy of Monitoring Times (Jan 1984) today and came across a most interesting news item on page 3, "Theft of Services."

This news item dealt with the method of wrapping a piece of metal foil around a twin lead transmission line and adjusting its position until the TV picture comes in clearly. Contrary to the news item, the foil does not act as a trap; it acts as an impedance matching device, a capacitor, across the line. The simplified drawing below illustrates the concept.



As illustrated, an impedance matching device serves only to improve the standing wave ratio (SWR) on the transmission line and does absolutely nothing to unscramble pay TV signals. Impedance matching devices are perfectly legal and can be bought in most radio stores.

Don't try to use foil around a coaxial cable; it just won't work. In a coaxial cable the tuning device must be placed between the inner and outer conductors of cable. Matter of fact, I invented such a device for high power application in the VHF band way back in 1963. The patent number is 3,340,485.

The use of an impedance matching device, a home made or a commercial product to improve transmission quality represents sound engineering. And it certainly is not illegal to use. I think somebody got their wires crossed or perhaps the authorities are using scare tactics or perhaps there is the addition of an illegal unscrambler being used. Distorted news reporting appears to be the rule rather than the exception these days. Don't believe everything you read.

Maybe, one of these days, I'll write an article for Monitoring Times on impedance matching.

Wilfred N. Caron
Ridgecrest, CA

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Since early December 1983, I have been listening to Spanish numbers transmissions on 5985 MHz.

The schedule seems to be as follows:

0900Z 7 days / wk-Practice message? (3 long groups of 5 digit numbers)
1000Z Thurs through Sun mornings, short messages (20-30 digit groups)
1030Z Repeat of 1000 hrs message

All transmissions are amplitude modulation, female voice. "Practice message" tape is getting pretty well worn out; the next-to-the-last group fades out losing 2 digits.

Ted Wilke
Richardson, TX

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First, I want to tell you how much I enjoy Monitoring Times. I first started monitoring when I was 13 years old, way back in 1941, when my dad bought me an Echophone EC-1 for all of $21. From there I went to an S-20R followed by an HRO-50. In the late 50's and early 60's, Tom Kneitel and I fed each other information.

I have been employed in Public Safety Communications since 1948 and the more involved I got, the less time I spent in monitoring. As SSB came into being I gave it up except for scanners. It was MT that got me back into it again and I now have an FRG-7700 which I enjoy. I really look forward to receiving MT. Keep up the good work.

John H. Atkinson
Cameron Park, CA

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As this is written I have had my Regency MX-5000 for about 2 1/2 weeks. It, so far anyhow, has proven to be an excellent unit.

Following is some frequency data derived from the past two weeks of monitoring.

239.8 Plattsburgh "Metro"
275.8 " Ground Control
255.6 " Tower(simulcasts 126.2)
321.0 SAC
311.0 SAC
360.8 Plattsburgh/Burlington Intl departure control
318.0 Air-air refueling
266.5 " " "

It will be interesting to see what the JIL SX-400 and Bearcat's latest offering look like in comparison.

As a final note: it sure is great to see Monitoring Times arriving on a monthly basis.

Wallace H. Day
Plattsburgh, NY

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What are your thoughts on offering the frequency lists in each magazine on cassette or diskette to interested MT subscribers? A fee could be charged based on material, time, etc. for each duplicate. Of course, an agreement would probably be necessary to avoid unscrupulous persons from assembling a frequency directory for personal profit.

Since the frequencies listed in "Listener's Log" and in other regular features on MT would already be on tape or disk, a very organized and complete listing could be accumulated quite easily. In addition, those who send frequencies to MT for publication could submit these on cassette or diskette, eliminating repetition of tedious data entry. In other words, if it's already recorded, why do it again?

Before closing, let me say that MT is my favorite "monitoring-type" magazine. MT is always enjoyable, imaginative, concise, and informative. I hope that MT and I enjoy many years together. Thanks for a great publication.

Joe H. Takacs
Lexington, KY

(Thanks, Joe. How about it, MT readers? What would you like in the way of data bases and computer programs? While we use two Televideo 802H (20 Megabyte) hard disk systems for the MT/Grove Enterprises offices, we just bought a Commodore 64 system to start the project. Let me know!...Bob)

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Thank you very much for your kind, personal service. You answered the questions I had about the M-600 and I purchased one from you the next day. I then went to my friendly computer store and purchased an Epson RX-80 printer, wired the proper cables and boy, is this ever a neat set-up! After using Hamtext and a VIC-20, this new system has me spoiled. I am driving the unit from my Yaesu FRG-7700 with a DA100D active antenna, and even in my apartment situation, I am receiving many RTTY stations I never thought possible. Can't wait until I can put up a decent skywire--many possibilities! I spend many of my spare hours away from work listening to just about everything, so if I hear anything really good I'll let you know.

Also, thank you for sending the new LED for my ANT-4, not to mention your instructions for installation of same. Works great on all my scanners.

I really appreciate your service, especially since I am in a service-oriented business myself at the present.

I enjoy Monitoring Times, and look forward to each issue. Lots of good stuff. In a nutshell, you have gained a customer who will recommend you to anyone who asks. Good luck in the future and I hope we have the chance to correspond again!

Steve Kremer
Bloomington, MN

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I read with great interest your April MONITORING TIMES article "U.S. Numbers Station Found!". The photo of the "Warrenton Training Center" sign immediately hit me square in the face. This is not the first time I read about a facility relating to Warrenton.

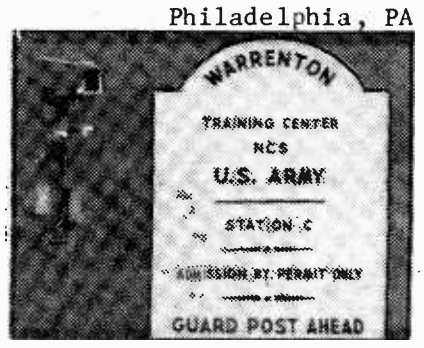
(Page 23, James Bamford's Puzzle Palace) "...the intercept arm of the SIS (Signal Intelligence Service), the 2nd Signal Service Battalion, moved even farther south, to the tree covered Vint Hill Famrs in Warrenton, Virginia. In October 1942 the Cryptographic School, successor to the Signal Intelligence School, also moved to Vint Hill Farms Station where for the rest of the war it trained Army men and women in all phases of cryptology."

The NCS on the sign does not stand for the "National Communications System," but for the "National Cryptologic School!"

(Puzzle Palace, pages 212-213) "...Vint Hill Farms (Warrenton) has been growing antennas since 1942. Although expensive to plant, the rhombics and log periodics, the broadbands and monopoles, produce some of the choicest SIGINT (Signal intelligence) in the eastern United States. Each day several thousand men and women dressed in green and khaki harvest the crop, process it through expensive machines, and ship it off to a customer in southern Maryland, who will take all the farm can produce.

"For forty years Vint Hill Farms (Warrenton) and its sister station on the opposite coast, Two Rock Ranch, north of San Francisco, have been the Army Security Agency's principal intercept stations in the continental United States. Among Vint Hill's likely targets is Washington's Embassy Row...and the flood of international telecommunications..."

Armand Di Filippo
Philadelphia, PA



The RadioSpectrum: A Gift to the Weatherwise

by Bert Huneault

PART V

MARINE WEATHER BROADCASTS (SSB)

All over the world, numerous HF coastal stations transmit marine weather information in the 4, 5, 8, 12, 16 and 22 MHz maritime radiotelephony bands. It would be impossible to include details of all single sideband marine weather broadcasts in North America, let alone worldwide, in an article such as this. Therefore, my coverage of HF voice broadcasts will be restricted to a few coast stations, those whose powerful signals I frequently tune in.

For readers looking for more comprehensive lists of stations, frequencies and broadcast schedules, I recommend the following two excellent reference books:

"SELECTED WORLDWIDE MARINE WEATHER BROADCASTS" (Stock number 003-017-00515-1) contains details of MF, HF and VHF radiotelegraph, radiotelephone, radiofacsimile and radioteleprinter broadcasts in the English language, as well as VHF weather broadcasts for the Great Lakes. It also contains numerous maps showing marine forecast areas, worldwide.

Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 at a price of $8.50 (domestic) and US $10.65 (foreign), this publication is dated 1982 and comes in a soft cover, loose leaf format.

"RADIO AIDS TO MARINE NAVIGATION" is a real gem for SWLs interested in broadcasts by Canadian marine radio stations. This most interesting, inexpensive, 8 1/2" x 11" book is loaded with information pertaining to MF, HF and VHF communications (SSB, CW, FM, FAX, RTTY), weather, LORAN, radiobeacons, vessel traffic management, AMVER messages, etc.; it includes several maps, callsigns, frequencies and broadcast schedules.

The publication comes in two editions: one for the Pacific region, and the other for the Atlantic and Great Lakes region. Each edition is issued twice annually (March 1 and September 1), thus assuring "fresh" contents.

Priced at only CDN $1.00 (in Canada) and CDN $1.20 (foreign), this comprehensive book may be ordered from the Canadian Government Publishing Centre, Supply and Services Canada, Ottawa, Ont., Canada K1A 0S9. Make cheques or money orders payable to the "Receiver General of Canada" and stipulate whether you are ordering the Pacific or Atlantic volume.

The Atlantic volume contains 130 pages and includes the Eastern Arctic as well as the Great Lakes. I find it an extremeley valuable addition to the reference library in my radio shack.

Now, let's get down to a few specifics. Coast stations such as NMN, WLO, WOO and VCS transmit marine weather forecasts for the offshore waters of the East Coast and Gulf Coast, as well as high seas forecasts for the North Atlantic, Caribbean Sea and Gulf of Mexico. For SWLs nearer the West Coast, stations such as KMI (San Francisco, CA) and NMO (Honolulu, HI) likewise cover offshore waters as well as the North Pacific areas.

These USB transmissions are scheduled several times daily, on a number of frequencies in the various HF maritime mobile bands. They generally include gale warnings, storm warnings and hurricane warnings where applicable, as well as routine forecasts of wind, sea and weather conditions in addition to a weather synopsis for each area.

For a sample of broadcasts which I receive quite well here at my Great Lakes QTH, refer to Table 5. In broadcasts from Coast Guard Communication Station NMN, the information is often read quite slowly, with numerous breaks, and is therefore easy to copy. These NMN broadcasts are at times fairly lengthy (e.g. 15-20 minutes duration), often include synoptic information for the eastern half of the North American continent, and even include Gulf Stream locations at the end of the 1600 and 2200 GMT transmissions.

In Table 5, the times and frequencies listed for NMN represent the complete weather broadcast schedule (SSB) as far as that station is concerned; however, the times and frequencies shown for the other stations are by no means complete...they simply represent broadcasts which I frequently listen to.

Location of Coastal Stations listed in Table 5:

WLO - Mobile, AL
VCS - Halifax, NS
NMN - Portsmouth, VA
WOM - Miami, FL
WOO - Ocean Gate, NJ
KMI - San Francisco, CA
NMC - San Francisco, CA

Note: High Seas radiotelephone service is provided by several of the coast stations listed in Table 5. When a radiotelephone conversation is in progress on one of the listed frequencies at the time of a scheduled weather broadcast, the weather is not transmitted on that channel.

TABLE 5
SINGLE SIDEBAND MARINE WEATHER BROADCASTS (HF)

GMT	CALL	FREQUENCY (kHz)			
0215	VCS	8787.1			
0400	NMN	4428.7	6506.4	8765.4	
0530	NMN	4428.7	6506.4	8765.4	
1000	NMN	4428.7	6506.4	8765.4	
1130	NMN	6506.4	8765.4	13113.2	
1200	WOO	4385.3	8796.4	13128.7	
1230	WOM	8722	13116.3		
1300	WOO	4388.4	8762.3	13131.8	
1300	KMI	8743.7	13103.9	13107	
1330	WOM	8731.3	13122.5	17257.7	
1500	KMI	8728.2	8784	13100.8	17236
1500	WOO	8749.9	13107		
1600	NMN	6506.4	8765.4	13113.2	
1625	VCS	13138			
1630	NMC	8765.4	13113.2	17307.3	
1730	NMN	8765.4	13113.2	17307.3	
1900	KMI	13103.9	13107	17239.1	
2000	WOO	8796.4	13128.7	4385.3	
2100	WOO	4388.4	8762.3	13131.8	
2200	NMN	6506.4	8765.4	13113.2	
2215	VCS	8787.1			
2225	VCS	13138			
2230	WOM	8746.8	13125.6	17260.8	
2300	WOO	4422.5	8749.9	13107	17310.4
2300	WLO	8790.2	13178.3	17251.5	
2330	NMN	6506.4	8765.4	13113.2	
2330	WOM	4425.6	8793.3	13144.2	17263.9

Great Lakes Weather

For SWLs interested in the weather for the general area of the Great Leakes, radio station WLC (Rogers City, Michigan) is an interesting source of weather information. Three times daily at 1117, 1717 and 2317 GMT, this single sideband station broadcasts marine forecasts for Lakes Superior, Michigan, Huron and Erie, in the MAFOR codes (see the Frebruary 1984 issue of MT for details of the MAFOR code). The transmissions are on 4369.8 kHz in the HF band, and 2514 kHz in the MF band (USB).

Immediately following the MAFOR code is a most interesting "weather synopsis" which provides a concise description of weather systems and their expected movements over the eastern part of North America...well worth listening to on a daily basis!

High Seas Marine Storm Warnings

Weather information about major storms in the Atlantic Ocean and in the eastern North Pacific are broadcast each hour, in voice (AM mode) by the National Bureau of Standards time and frequency station WWV (Fort Collins, CO) on 2.5, 5, 10, 15 and 20 MHz. These marine storm warnings are transmitted at 8 and 9 minutes after each hour for the Atlantic, and at H+10 for the Pacific.

FAX AND RTTY BROADCASTS

I am presently sitting in my radio shack, monitoring the Halifax Fleet Facsimile/Radioteletype station CFH on 13510 kHz. As I pen these lines, the monotonous, scratchy KLUK-KLUK-KLUK of radio facsimile (FAX) has just ended; there is a pause of a few seconds...and now a new sound starts emanating from the loudspeaker: the high-pitched, chirping TWEEDLY-TEE of radioteletype (RTTY). That's my cue to get busy, so I wheel over to the keyboard of my Commodore 64 home computer, tap-in a few commands, and voila!...high-tech magic!

I now sit back, relax, and enjoy a new facet of my radio/weather hobby, as a most interesting stream of weather data appears on the monitor screen: terminal forecasts and hourly aviation weather reports from numerous airports, ship conversations from the high seas, synoptic observations from land stations in Canada and the USA, marine forecasts for coastal areas as well as the Atlantic, Gulf

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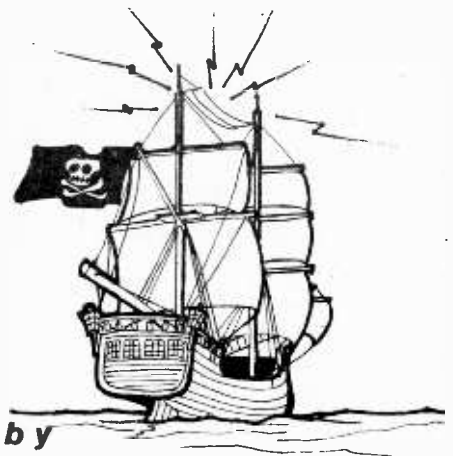
PIRATE RADIO



by
John Santosuosso

KQSB: Veteran pirate fans know KQSB has always been a quality operation. Under the direction of Mr. "Frank Furter" this station features an excellent variety of music and comedy. Recently KQSB sent us their broadcasting schedule for the spring and summer season.

Between 1700 and 2300 you can look for them on 15050 and 15100. From 1600 to 0100 GMT try 11600, 11610 or 11650. Then from 0400 to 0800 they may turn up between 6225 and 6300 or 7350 and 7450 kilohertz.

The gang at KQSB has been around for several years and, of course, they would like to continue broadcasting. So keep in mind that the above schedule will be maintained only on an irregular basis. If you do log this one let us know about it.

PIRATE QSLS: We have been running portions of John T. Arthur's pirate address list in past columns. Now here is more information from that list. Remember that not all of these stations are currently active.

The following may be reached via Box 5074, Hilo, HI 96720: WEAK, KCFR, KEXJ, KFAT, KMTL, KMUD-FM, KQSB, KSSR, Magnetic Storm Broadcasting, Radio Free San Francisco, Radio Telstar and Radio USA.

The following may be reached via Box 245, Moorhead, MN 56568: WART, WDX, WTDT, KMJC, KPHU, New Wave Radio International, Radio Free Radio, The Crystal Ship and Voice of Venus.

As always, we remind you that if you expect a reply enclose three 20-cent postage stamps with your report. The mail drop only forwards mail; it cannot guarantee you an answer. Some stations respond to mail promptly. Others never reply. In a future column we do intend to cover the art of QSLing the pirates.

RADIO VENCEREMOS: A Monitoring Times reader in Kentucky wrote requesting help in hearing Radio Venceremos. This is the best known of the anti-El Salvadorean government clandestines. It is operated by the Farabundo Marti National Liberation Front, a coalition of antigovernment organizations, and is frequently quoted in the American media.

As with many clandestines, frequent changes in frequency are the rule. However, Radio Venceremos can often be heard between about 0000 and 0400 GMT on frequencies slightly above or below 7000 kilohertz. Others in use recently include 3675 and 6586. Programming is in Spanish.

Radio Venceremos does respond to some reception reports. If you wish to contact them the address is Apartado 7-907, Mexico City, Mexico. Let us know if you have any success.

KOREA: Both North and South Korea have clandestine operations directed at one another. We do not know what kind of audience response they get in Korea, but fortunately they are not difficult to hear in North America, especially on the West Coast.

The easier of the two to log is the North's Voice of the Revolutionary Party for the Reunification of Korea. It was recently monitored here on 4120 kilohertz around 1200 GMT. For the most part programming consists of martial music and rather militant commentary, all in Korean. The frequency of 4557 is also in use.

South Korea's answer to this is Radio Echo of Hope, transmitting from Seoul. It is a more low-keyed operation featuring old Korean popular songs with some commentary. In the past the frequency of 3985 has been used, but it has been received at this location only on 6350. This one may turn up around 1100 or 1200 GMT. To the best of our knowledge the Korean clandestines do not QSL.

SWITZERLAND: Pennsylvania's John Demmitt informs us that last November Switzerland authorized 36 pirates to continue broadcasting on the frequencies they had been using. Apparently these are all local FM stations.

BELGIUM: John also tells us that in Belgium the unused FM band (104 to 108 MHz) is now being assigned to local free radio. He is attempting to learn more about this situation.

We have also received news on the rather confusing Belgian situation from Britain's John Campbell. He states that the linguistic differences in Belgium make it difficult for the Dutch and French speaking parts of the country to agree on anything, including the legalization of local radio. However, earlier this year stations were being discouraged from broadcasting above 104 MHz, as that was reserved for utility operations.

Dr. Campbell also remarks that the band roughly between 100 and 104 MHz has been somewhat less crowded than in the past, as stations without support have tended to disappear. But

Cont'd next page

QSL from *KQSB* ROCKING THE WORLD! 48,41,25,&19 METERS SW

PIRATE RADIO from p.5

there is still enough congestion to push some broadcasters slightly above 104. Nearly all of the stations in this band are unlicensed.

Perhaps the recent news received by John Demmitt indicates a major change in the government's policy. Both Demmitt and Campbell promise us more information when they obtain it. Belgium is worth watching because what is happening there and in countries such as Switzerland may mean a European trend toward limited legalization of the pirates.

Before leaving Belgium we might note that at least one Belgian shortwave pirate has been heard in North America. This is KBC Radio, which announced a March test to North America on 7110 or 7145. It was not audible here, but there is a good chance it may try again next year.

WALES: Like Scotland, the only way to hear a non-utility shortwave broadcast from Wales is to hear a pirate. We got the word too late to inform MT readers, but Wales's "The Voice of the Leek" announced a February 19 test to North America from 0600 to 0730 on 7373 or 7400. If any of our readers did hear this we would like to know about it. This Welsh pirate is interested in reaching North America, so it may be back next Europirate season. We will try to let you know what its future plans may be.

IRELAND: Our Irish reporter Tony Donlon checks in with some interesting developments from the Dublin area. The government station RTE may have become the first commercial broadcaster in the world to retaliate against the pirates by attempting to jam them.

Angered by the Communications Minister's reluctance to take further action against the pirates after last year's raid, and hurt by loss of revenue to the pirates, RTE has been jamming the FM frequency of Ireland's most popular pirate, Radio Nova, with a high pulse test tone. Jamming began last December 14.

Nova-owned KISS-FM was also jammed, but owner Chris Carey closed it down without fanfare on January 22. The closure appears to have been for financial reasons rather because of the inference. However, Tony tells us the station may return before long as a 200 kw powerhouse with the name of Dublin Commercial Radio.

The controversial Carey is always trying something different. Last December he put unlicensed Nova TV on the air for a brief period of time. But a government raid ended with seizure of the equipment on December 9. More recently Carey has been in trouble with some of his former staff after some severe layoffs. Nova headquarters has even been picketed.

While the closing of KISS-FM meant Carey probably did not need the people he terminated, it could hardly be said that he could not afford them. Conservative figures indicated Nova probably earned a profit of one-half million Irish pounds in the six weeks before Christmas. In Ireland pirate radio can be very big business.

HELP: We would like to make loggings, QSL results and other information contributed by readers a regular part of this column. Some are already contributing, but we would like to hear from more of you. If you want to remain anonymous we will respect your wishes. Send your contributions to me in care of Monitoring Times. ●

Communicating During Disasters

The Federal Emergency Management Agency recently acquired a Mobile and Transportable Telecommunications System to aid in emergency coordination at disaster sites. Its newly trained staff was deployed for the first time when the system, in the form of a large van, was flown to Houston to help in Hurricane Alicia disaster response operations.

The MATTS van is fully equipped with the following: a telephone switchboard for service to 25 on-site users and two outside lines; extensive HF radios for voice, teletype messages and weather information; a UHF-AM, and VHF-AM and FM radios; and AUTODIN and AUTOVON interface capability. The van also carries a microcomputer for a message system or stand-alone computing. All systems can be operated on a 24-hour basis.

The FEMA-owned emergency communications van normally uses a staff of 18 but was operated and maintained by nine persons during the Hurricane Alicia operation.

(Item courtesy Law Enforcement Communications magazine)

listener's log

AMARILLO, TX, MONITORING
contributed by Steve Douglas

461.725 Agriculture radio (horses)
473.200 Mobile phones (helicopter)
152.240 Beeper pagers(AMTEX)
152.330 Yellow Cab(dispatch)
161.670 KAMR-TV(remote)
161.630 KVII-TV(remote)
168.185KEDA-TV(remote)
161.670 KIXZ radio(press)
37.575 ENERGAS
460.775 American Airlines (security)
154.57 " " (walkie talkies)
463.775 RED ADAIR(fire ftrs)

U.S. GOVERNMENT
34.900 Army(civil emergncy)
412.900 " (C.I.D.)
36.710 Army Nuclear Escort
36.890 Escort net
49.700 E.O.D. & nuclear teams(spec.emergncy)
49.800 " " " " "
40.170 Air Force
40.190 Spec Investigation
34.810 Fish & Wildlife
34.830 " " "
165.750 N.T.S.B.
166.175 Crash investigations
173.587 Reese AFB-security
164.100 " " -fire
173.437 " " -law
163.487 " " -medical
164.225 PANTEX nuclear weapons plant security (very active)

POLICE FIRE & EMERGENCY
154.800 PotterCo Sheriff;Ch1
154.055 " " ";Car-Car,Ch2
154.860 Amarillo PD;N-Ch2
155.190 ";SW-Ch3
154.890 " ";Car-car,Ch5
155.250 " ";City desk,Ch4
154.725 Randall Sheriff;Ch7 Canyon
155.415 " ";Canyon Main
155.460 DPS base;Base-cars
154.680 DPS mobile;Mobile-base
154.950 DPS Intercity;Mutual Aid mobiles
155.370 DPS Statewide;Mutual Aid co.-co.
155.145 AMA Emrgency;Weather watch
155.895 Swisher Sheriff; Tulia PD
155.880 Armstrong Sheriff; Claude PD
155.775 Hereford Sheriff; Deafsmith Co.
166.900 Lake Meredith;Patrol
155.845 Memphis PD;also Borger PD
155.790 Dalhart PD;SheriffCh
155.865 Carson Co Sheriff; Panhandle
155.025 Old Ham Co;Old Tascosa
155.430 Alan Reed;PD
155.805 Dalhart PD;sometimes scrambled
155.595 TABC;Amarillo
154.920 ";"
155.950 Floydada;police
155.520 Plainview;police
155.700 ";"
153.890 Amarillo FD;Ch1,main
154.130 " ";Ch2,Tac
46.12 Canyon FD;low band
46.10 Hereford FD;low band
33.98 Borger FD;low band
154.070 Lubbock FD
154.190 " "
37.18 Low band;statewide backup
155.475 Nationwide;emergency
155.340 NWTH Hospital
155.220 NWTHAmbulance;backup
155.400 St Anthonys Hosp; Emergency
462.950 Ambulance Dispatch MED9
462.975 Ambulance;MED10
463.100 ";MED5,Canyon
462.700 Amarillo Emergency Service(AES)

AIRCRAFT
121.500 Air Emergency(ELTs)
123.100 Search & Rescue
148.150 Civil Air Patrol; search
120.850 " " ";"
119.500 Amarillo Approach; West
124.800 " ";East
118.300 Amarillo Tower
121.900 Amarillo Ground Ctrl
118.85 " Terminal(ATIS)
122.800 Tradewinds;UNICOM
122.00 Amarillo Flight Ser
122.650 " Weather Flight Ser
122.700 Pampa UNICOM
123.600 Palhart Radio
127.850 Albuquerque Ctr
133.55 " "
125.600 " "
126.450 " "
133.050 " "
134.750 " "
124.700 " ";night
133.35 Ft Worth Ctr
134.55 " " "
126.45 " " "
128.40 " " "
127.90 " " "
131.735 Denver Ctr
126.600 " "
132.22 " "
125.60 Kansas City Ctr
126.20 " "
132.100 " "
133.20 " "
126.950 Oklahoma Ctr
129.200 American Airlines; Amarillo
130.950 Eastern ";nationwide
130.900 Continental,Republic Airlines
128.90 Air Inc Flight Cntrs
119.900 Lubbock Approach
119.100 " Reese approach
118.100 " South
126.200 Reese Tower AFB
119.0 Canon AFB
124.0 " "

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PHILADELPHIA/SOUTHERN JERSEY MONITORS: TAKE NOTE

MT reader Les Mattson (212 W. Broad St., Paulsboro, NJ 08066) would like to exchange frequency lists with other monitors in his area. He has contributed a nice list for this issue of MT and has promised more as he receives lists from fellow readers.

PENNSYLVANIA

PHILADELPHIA POLICE
453.050 North
453.150 Central
453.200 North Central
453.250 Traffic
453.300 East
453.350 West
453.400 Detectives
453.450 Internat'l Airport
453.500 South West
453.550 Emergency
453.650 South
453.750 Main Dispatch
453.950 North East
154.770 Phila Police
155.655 " "
160.560 Train Security
161.295 " "
164.475 Park Police
460.150 Sheriff's Dept

RADIO-TELEVISION
450.550 TV-3 Camera crews
455.050 TV-10 " "
455.087 TV-6 " "
455.150 TV-10 " "
455.450 TV-6 " "
450.350 WCAU radio reporters
450.850 ARCO Go-Patrol Heli

PHILADELPHIA FIRE DEPT
154.145 North
154.235 South
170.150 Rescue
153.950 Emergency
154.010 Phila FD

DELAWARE RIVER MARINE
156.300 CH6-Safety
156.350 Ch7-Commercial
156.500 Ch10-"
156.550 Ch11-"
156.600 Ch12-Port Oper
156.650 Ch13-Ship to ship
156.700 Ch14-Pilot Office
156.750 Ch15-Environmental
156.800 Ch16-Distress
156.900 Ch18-Commercial
157.050 Ch21-US Coast Guard
157.100 Ch22-" " "
157.300 Ch26-Ship to shore
161.900 Ch26-Shore to ship
156.875 Ch77-Intership
156.975 Ch79-Commercial
157.025 Ch80- "
156.425 Ch68-Ship to shore
156.725 Ch74-Port Oper

NEW JERSEY

GLOUCESTER CO POLICE
158.745 Pitman 5-1(Dist 1)
158.820 Paulsboro(Dist 2)
158.760 Woodbury(Dist 3)
158.835 W Deptford(Dist 4)
159.150 Deptford(Dist 5)
153.980 Wenonah(Dist 6)
158.865 Williamstown(Dist 7)
158.970 Gibbstown(Dist 8)
158.895 Glassboro (Dist 9)
158.805 Wash Twsp(Dist 10)
159.030 Franklin Twsp(" 11)
158.760 Nat'lPark(Dist 12)
158.820 Clayton(Dist 13)
159.105 E.Greenwich(Dist 15)
158.790 Mantua Twsp(Dist 15)
155.370 Westville(Dist 16)
158.970 Gloucester Co PD
158.730 " " Prosecutors

GLOUCESTER CO FIRE BAND
154.130 F-1
154.355 F-2
154.265 F-3,Mutual Aid

SALEM CO POLICE
155.700
156.210

CAMDEN CO POLICE
155.595
155.565
155.370
156.210
500.562 Prosecutors

CAMDEN CO FIRE BAND
153.770
154.385 F-2
154.430 F-1
155.085 F-4 Mutual Aid

CAMDEN CITY POLICE
460.075 Ch 1
460.125 Ch 2
460.225 Ch 3
460.300 Ch 4

CAMDEN CITY FIRE
154.160

SALEM COUNTY FIRE
33.860 F-1
33.840 F-2
33.880 F-3
154.265 Mutual Aid
[redacted]

RAILROADS
152.450 Reading
161.070 Amtrak Tower
161.295 Amtrak Police
160.560 Conrail Police
160.800 Conrail Tower
160.860 Conrail Yard
160.980 Conrail Tracks
161.130 Conrail Maint
160.635 Northeast Maint
160.230 Chessie System
160.590 Delaware & Hudson

NJ STATE POLICE
44.620 Central
44.940 South(Woodstown)
44.980 Mantua Barracks
155.190 NJ Turnpike
154.695 Statewide
154.920 South
154.950 F-2;Car to car
158.910 NJ SP
39.760 F-1;SPEN
154.845 NJ SP
155.070 State Correct.Dept.

DELAWARE

POLICE
155.130 Wilmington City
156.090 " "
155.310 " "
154.490 New Castle Co
154.665 State Police
45.020 " "
154.695 " "
44.860 " "
154.860 Delaware Municipal police

DELAWARE FIRE BAND
33.780 New Castle Co
154.965 Wilmington City
453.900 Elsmere Fire Co
460.575 Cranston Hgts
33.820 All Area Fire Co

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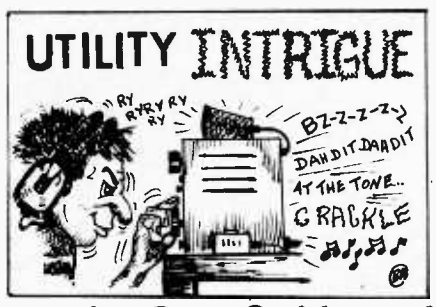
NORTH CAROLINA ARMY NATIONAL GUARD (Raleigh, NC)
contributed by Paul G. Dunn

HELICOPTER(MHz)
49.95 Base
117.20 NAV
119.30 Tower

Cont'd on p.32



by Don Schimmel

"ENROLEMENT," "FUERZAS ARMADAS," "ACAMPANHAR," "AUSGEZEICHNET." These are just a few of the different words you may encounter while scanning the bands. What do these words mean? What language is being used? This month we are going to talk about some language identification publications.

Hundreds of dollars can be spent collecting quality linguistic title but this is certainly not necessary for our purposes. If all of the titles mentioned here were to be purchased, they could be obtained for under $30.00.

Our desire is not to turn out polished translations but rather to identify the language being used and figure out a gisted version of the message text or operator chatter. This in turn may lead to identification of the country and perhaps the service or the activity being monitored.

The first title is "CONCISE DICTIONARY OF TWENTY-SIX LANGUAGES" (In Simultaneous Translations). The book includes English, French, Spanish, Portuguese, Italian, Rumanian, German, Dutch, Swedish, Danish, Norwegian, Polish, Czech, Serbo-Croation, Hungarian, Finnish, Turkish, Indonesian, Swahili and Esperanto! There is also transliterated Russian, Greek, Arabic, Hebrew, Yidish and Japanese.

This dictionary is available from Publishers Central Bureau, 1 Champion Avenue, Avenue 1, New Jersey 07001. The PCB Catalog Number is 347202 and the cost is $4.98 plus $2.40 for shipping/handling.

The next title treats fewer languages but does those in a much more detailed manner. This is "SEVEN LANGUAGE DICTIONARY" and has sections for Foreign Language to English and English to Foreign Language for French, Italian, German, Russian, Hebrew, Portuguese and Spanish.

This book is also available from Publishers Central Bureau and has Catalog Number 262967. The cost is $6.98 plus $2.40 for shipping/handling. If both of the above described books are ordered at the same time the total shipping/handling cost is just $2.40.

You can add an improvement to both books by tabbing the various sections to enable turning to them quickly without having to consult the table of contents each time you wish to refer to a particular section.

Now let's take a look at a language identification publication which is especially informative for use in dealing with voice transmissions. Although primarily intended for use by hams, "The Radio Amateurs' Conversation Guide" provides valuable assistance for SWL activities as well. The Guide lists words and phrases dealing with various aspects of Amateur Radio and related technical terms plus numbers and phonetic alphabets.

The main guide has sections for English, French, Spanish, Russian, German, Italian, Portuguese and Japanese. There are five supplements available expanding the languages covered to include Swedish, Finnish, Danish, Yugoslavian and Dutch.

The guide and supplements can be order from TRANSELECTRO-AMERICA, 2301 Canehill Avenue, Long Beach, CA 90815. The cost for the guide with supplements is $16.50 Postpaid.

A recent visit to a DALTON Bookstore produced yet another language publication that will make a fine addition to my bookshelf of operator aids, "DICTIONARY OF FOREIGN TERMS," Second Edition by Mawson, revised and updated by Charles Berlitz. There are some 15,000 words and phrases from more than fifty languages. The DALTON price was $5.50.

To complement your language identification operator aids, I recommend a good world almanac and world atlas. The almanac contains compilations of interesting facts on the various countries of the world and of course the atlas with its maps is of definite aid in locating places which appear in the text or operator chatter of the activity you are monitoring.

When maps larger than those appearing in an atlas are needed you can not beat the fine maps produced by the National Geographic Society.

* * * * *

Before someone calls me on it, permit me to explain my description of the 4 special characters that are seen in Soviet transmissions. They are:

DIDAHDIDAH = AA
DIDITDAHDAH = IM
DAHDAHDAHDIT = OE
DAHDAHDAHDAH = OT

In Cyrillic Morse code the first one equates to an accented A, the second to an accented U, the third to accented O and the last to CH. So this will not be confusing to new SWL fans, I merely indicate that characters just as they sound.

Cont'd next page

UTILITY LOG (CW unless indicated otherwise)

kHz	DATE	TIME(UTC)	
2261	2/21	0300	UMA7 DE AME3 (SAME TRANSMISSION HRD 6/30 0014 ON 4311KHZ)
2261	2/26	0253	NO CALLS. GR EQ 4 EQ 4 EQ E 3 AAA E 3 AAA E AAA 3 3 U AAA 7 U AAA 7 U AAA 7. STOPPED AT 0348Z
2724	2/21	0305	5F GRPS,ZERO SENT CUT AS T. SENDS AA AFTER EVERY 10 GRPS. SAME PROCEDURE 7428 AND 7492KHZ.
2727	2/21	0310	5F GRPS.ZERO SENT CUT AS T.
3394	2/19	0310	AUL DE QWU (AUL ALSO 7428 KHZ)
3457.5	2/19	0312	5F GRPS.SIM TO TFC ON 7492/7428KHZ
3474	2/23	0250	5 CHAR GRPS.NBRS 2,3,8 PLUS LTRS AND SPEC CHAR MW(SPANISH NYEH) SIM 7492/7428KHZ
3483	2/21	0331	CR CR RAM, VP VP ROY.SPANISH MIL TYPE TFC
4131	2/19	0328	INTL PHONE CIRCUIT.TWO FEMALES CONVERSING IN GERMAN.OPRS DISCUSS NEXT CALL(IN ENGLISH)TO PHILIPPINES
4397	2/01	0103	XRL DE BOF.5FGRPS(BOF PREV 7428KHZ)
4548	2/24	0140	XOI DE KCU.8F GRPS(KCU PREV 7428KHZ)
4550	2/21	0135	OA SENDING 5F GRPS
6515	2/11	1344	MLJ SENDING 5L GRPS WITH SPEC CHAR MW (SPANISH NYEH)
6522	2/11	1341	MALE ENGLISH VOICE.RIVER BARGES
6737	2/10	2203	BRITISH;KJ9B TO ACAPELLA
6842.5	2/28	0007	EBV.SPAIN
6903	2/10	2206	CQ 908 HR 45 BT.INTO 5F GRPS.ZERO SENT CUT AS T
12970	2/26	0320	WOE.LATANA RADIO, FLORIDA
13027	2/29	1220	DAL.NORDDEICH RADIO,GFR
13235.8	2/10	1948	V VV DE HWN. PARIS (HOUILLES) NAVAL RADIO,FRANCE
13248	2/10	1709	BURSTS OF HIGH SPEED SIGNAL.THEN CW-RFNVDE COL IMI. MOSCOW AERADIO, USSR FROM HAVANA AERADIO,CUBA
13298	2/29	2150	SPANISH VOICE. AIRCRAFT GIVES ETA HAVANA,GND STN GIVES AIR WX
13351	2/04	1339	5L GRPS.PROB SOVIET.USES SPEC CHAR IM AA OE OT
13352	2/17	2041	ENGLISHMALE VOICE. ENTERPRISE, SPOCK, CHEKOV,GALILEO.SCRMBLING ALSO USED
13353	2/29	1223	5L GRPS. PROB SOVIET. USES 4 SPEC CHARACTERS IM AA OE OT.
13382	2/19	1700	GFT.BRACKNELL,ENGLAND
13385	2/29	1225	UQV
13386	2/22	1621	CUT NBR TFC.5F GRPS.4&6 SENT NORMAL, REMAINDER SENT CUT.1-A,2-U,3-V,4-4,5-E, 6-6,7-B,8-D,9-N,0-T
13414	2/29	1511	5F GRPS
13427	2/21	2050	MALE FRENCH/ENGLISH VOICE TEST TAPE
13436	2/28	2143	GERMAN
13438.5	2/28	0120	5LGRPS. PROB SOVIET. 4 SPEC CHAR IMAA OE OT
13440	2/22	2119	MALE ENGLISH VOICE.CACTUS TO EARGUARD
13449.8	2/23	1219	6F GRPS
13465	2/27	2210	CTEC DE CTV. PORTUGUESE SHIP FROM MONSANTO NAVAL RADIO
13505	2/11	1817	85 DE 95.DO YOU WANT QSY K 95 DE 85 QSY N2 K
13512	2/23	1216	48 DE OA P.6F GRPS
13516	2/11	1311	5L GRPS.PROB SOVIET.4 SPEC CHAR IM OE AA OT
13660	2/11	1317	5 CHAR PER GRP.NBRS 2,3,8 PLUS LTRS AND SPEC CHAR MW(SPANISH NYEH).TFC SIM TO THAT SEEN ON 7428/7492KHZ
13793	2/12	1409	POLISH PT TFC
13938	2/04	1353	5L GRPS.PROB SOVIET.USES IM OE OT AA
13968	2/22	1623	LPS DE JIV NR25 CK19.5F GRPS(CUT NBRS) HAVENT SEEN THIS ONE BEFORE. USES LTRS N M A O D T U H W R
13984	2/12	1355	5L GRPS.PROB SOVIET.USES IM OE OT AA
16568	2/19	1750	MALE GERMAN VOICE.APPEARED BE GIVING MSG FROM HAMBURG TO SANTIAGO DE CHILE

NOTE: Last month's item 13985 kHz, heard 1/09 1250 was probably incorrect. The signal was weak and what appeared to be number groups was perhaps a listing of frequencies.

TUNE IN CANADA

by
Norman H. Schrein

Welcome to another edition of "Tune in Canada." First, a reader has informed me that some frequencies in the February column were incorrect. I had reported that the Quebec Provincial Police operate on 411.4625 MHz and 411.5125 MHz in Quebec City using a masking tone. I was informed that the frequencies of 411.4625 MHz and 411.5125 MHz are used across the Province of Quebec, and the masking tone used in DVP (Digital Voice Protection). It seems to belong the the RCMP and not the Provincial Police. When they transmit in the clear they identify themselves as "Forum" and the Montreal Forum is next to the RCMP building. They also speak in English or French, something the Provincial Police do not do--they always use French.

I was also informed that the other two frequencies I reported as belonging to the Provincial Police in Quebec City--411.3625 MHz and 413.0125 MHz--are probably not the Provincial Police either. 411.3625 MHz is not active; 413.0125 is allocated to the fire department. It is the city of Montreal North fire department and they use call sign XJF 511.

In addition the Provincial Police in Quebec have ten channels across Quebec which are rented from Bell Canada. They are:

Ch 3	166.500	
Ch 4	167.340	171.480
Ch 5	167.040	171.930
Ch 6	166.680	171.210
Ch 7	166.620	171.810
Ch 8	166.830	172.080
Ch 9	167.010	172.200
Ch 10	166.650	171.780
Simplex	171.180	
Simplex	172.020	
Simplex	171.075	

Here are some other **QUEBEC** frequencies:

ISLAND OF MONTREAL FIRE DEPT

Freq MHz	Agency/Callsign
412.7625	Dispatch/XJG 69
417.7625	P (Paired Freq)
412.4875	Chiefs
417.4875	P
413.2625	Tactical

MONTREAL NORTH FIRE DEPT

413.0125	Dispatch/XJF 511
413.0875	Mutual Aid

MONTREAL EAST FIRE DEPT

412.7125	Dispatch/XJJ 266
417.7125	P
413.0875	Mutual Aid

ST LEONARD FIRE DEPT

412.2875	Dispatch/XJF 447
417.2875	P
413.0375	Mutual Aid

ANJOU FIRE DEPT

412.2875	Dispatch/XJF 230
417.2875	P
413.0875	Mutual Aid

ST LAURENT FIRE DEPT

412.8625	Dispatch/XJK 963
412.4375	Mutual Aid
417.4375	P

MOUNT ROYAL FIRE DEPT

413.4125	Dispatch/XJK 960
412.4375	Mutual Aid
417.4375	P

OUTREMONT FIRE DEPT

413.3375	Dispatch/XJK 959
412.4375	Mutual Aid
417.4375	P

WESTMONT FIRE DEPT

413.4875	Dispatch/XJF 78
412.4375	Mutual Aid
417.4375	P

COTE ST LUC FIRE DEPT

413.1625	Dispatch/XJI 91
412.4375	Mutual Aid
417.4375	P

HAMPSTEAD FIRE DEPT

413.2125	Dispatch/XJF 36
412.4375	Mutual Aid
417.4375	P

POINTE CLAIRE, BEACONS FIELD & KIRKLAND FIRE DEPTS

412.1875	Dispatch
147.1875	P

Gilles Thibodeau writes that with the coming of spring, some frequencies worth monitoring in the province of Quebec are 148.655 148.685, 148.720, 148.750, 148.780, 148.810 MHz--these belong to the Quebec Emergency Measures Organization and the Quebec Ministry of the Environment. Their job is to watch for inundation in certain areas and cities.

Frequency 148.780 MHz is for area 5 (Sherbrooke, Richmond, Creekshire, Coaticook, Lac Megantic) 148.810 MHz is for Quebec, Levis, St Joseph, Beauceville, St Georges de Beauce and the same frequencies are also used by the Quebec Provincial Police to reach the city police departments.

Finally, from the St John, New Brunswick area, a request for some frequencies has come. Following is a partial list from that area:

Freq Mhz	Agency/Callsign
152.240	Maritime Telegraph & Telephone/CGF 684
158.220	P
160.365	Canadian Nat'l RR/ CHB 381
160.665	" " "
160.785	" " "
160.935	" " "
161.025	" " "
161.415	" " "
163.440	Air-Page Answr Svc/ CHC 350
164.430	" " "
168.450	P
164.580	" " "
168.600	P
143.325	Pye Electronics/ CHC 356
148.495	P
152.600	New Brunswick Telephone/CHD 60
157.860	P
164.490	" " "
168.510	P
467.0125	" " "
459.025	P

...and this interesting contribution from Ron Tull in **Whitehorse, YUKON TERRITORY:**

116.600	Airport Internat'l
118.300	P
121.900	" "
122.600	P
126.700	" "
132.100	P
126.275	" "
122.900	P
118.500	Trans North Turbo Airlines
123.450	P
152.150	Yellow Cabs
155.580	P
162.230	" "
170.470	P
163.220	Yukon Taxi Svc
155.790	Ambulance/YTG-Gov
153.830	Fire Dept
153.380	City Dept
155.480	RCMP
155.670	P
155.160	RCMP(Undercover)
162.440	P
166.110	D.O.C.
442.600	P
160.170	White Pass Yukon RR
160.305	P
152.540	NW Telephone(radiophone)
152.630	P
152.720	" " "
152.810	P
157.800	" " "
157.890	P
162.900	Bus Transit
153.470	Gov Radiophone
471.4875	CKRW
610 kHz	P
155.220	NCPC(Whitehorse Power Dam
146.280	Yukon Hams
146.440	P
146.880	" "
450.0875	CBC N.Whitehorse
470 kHz	P

That's it for this time. Keep up the requests for frequencies, and I will eventually get to all of them. Until next time--Good Monitoring.

UTILITY INTRIGUE from p.8

* * * * *

CORRECTION

In reference to the LIBRARY SHELF column November/December 1983 and the entry regarding DA PAM 310-4 which was supposed to be available from the US Army AG Publications Center in Baltimore, Maryland. I have just received information stating PAM 310-4 is no longer available. That publication has been replaced by a microfiche version. My source was of the opinion that civilians might not be able to obtain the microfiche.

by James R. Hay

AMVER

In order to improve on the number of distressed ships which are assisted each year, the U.S. Coast Guard (in 1955) set up the Automated Mutual-Assistance Vessel Rescue Ssytem--AMVER. This system is a computerized method of taking information supplied by ships about their course, speed, and destination and when an emergency arises, using that information to determine which ships are in the best positions to assist. Additional information is stored in the computer about the ships' facilities for search and rescue.

The AMVER program extends around the world, and for the most part, participation by commercial ships making transoceanic voyages or voyages of more than 24 hours between ports is compulsory. Many other vessels also participate in the program and help to make it extremely successful.

For those monitoring maritime radio traffic, the AMVER messages can yield some interesting information, such as the destination of ships and the routes which they are taking. There are four possible types of radio messages which can be filed and each of these has its own purposes. First we will look at the messages, and then the communications system.

The first type of message, called type 1, is a sailing plan. The following information is given: the name and call sign of the ship, her position and the date and time of the position, her intended sailing plan, her speed, her destination and ETA, the call sign of the Coast Station being guarded during the voyage, and whether there is any medical personnel aboard. This message is either filed just before the vessel's departure, or as soon as possible thereafter.

The next message is the type D message, a deviation report. This message is sent whenever a change in course, speed, destination, etc. will cause the predicted position of the ship at anytime to be more than 25 miles from her actual position. Other than the name and call sign of the ship, the type D message need only contain the information which has changed from that sent previously in the sailing plan.

The type 2 message is a position report which is sent every 36 hours during the voyage. This message contains the name and call sign of the vessel, her position with the date and time, the call sign of the coast station being guarded, and medical personnel aboard. In addition to these reports, ships' positions are also extracted from ship weather observations sent by those ships participating in the International Weather Observation Program.

The last type of report is type 3, the arrival report. Along with name and call sign of the vessel it contains the position of the ship and the date and time. This report is desired to increase the accuracy of the plot being maintained by the computer, although the computer will automatically end the plot when it predicts the ship's arrival in port.

The computer takes the information from these messages, and ship's positions from weather observations, and maintains plots of the predicted positions of participating ships. When a distress call is received the appropriate search and rescue authority can get information about the positions of the ships which are in the best position to render assistance, along with information about the search and rescue characteristics of the ships.

In order to maintain accurate information messages must be sent regularly, and therefore there must be a good communications network. Many countries have coast stations which accept AMVER messages at no charge to the ship and forward these to the appropriate authorities in their own country who, in turn, send them on to the U.S. Coast Guard at Governors Island.

While space will not allow detailed information to be given here about each station, we shall include a list of stations which do accept AMVER messages.

Argentina
LPO General Pacheco
Australia
VIS Sydney
VIP Perth
VIO Broome
VIC Carnarvon
VID Darwin
VIR Rockhampton
VII Thursday Island
VIT Townsville
Bermuda
ZBM Bermuda Harbour
Canada
All Canadian Coast Guard Stations
Chile
CBV Valparaiso
CBA Antofagasta
Denmark
OXZ Lyngby
Ecuador
HCG Guayaquil
Fiji
3DP Suva
Germany
DAN Norddeich
Great Britain
All British Telecom Coast Stations
Ireland
EJM Malin Head
EJK Valentia Island
Italy
IRM Rome
Japan
JDT Yokosuka
JNX Kushiro
JNN Shogama
JNT Nagoya
JGD Kobe
JNR Noji
JNJ Kagoshima
JNB Okinawa
Netherlands
PCG Scheveningen
PCH Scheveningen
New Zealand
ZLD Auckland
ZLB Awarua
ZLW Wellington
ZLC Chatham Island

Cont'd next page

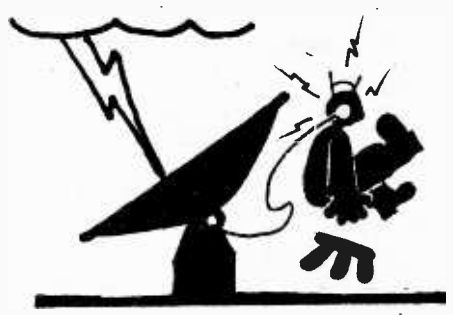
NEW COAST GUARD RADIO SERVICE

The Coast Guard Communication Station at Boston recently began broadcasting notices to mariners and weather information using a new radio format taking advantage of a low cost microcomputer. This service, called the Navtex system and already extensively used in Northern Europe, had never been used before in North America.

Starting at 0500 UTC (2400 Easter Standard Time), and repeated every six hours thereafter, a broadcast is made which includes standard notices to mariners, weather forecasts, weather warnings, and search and rescue alerts. These broadcasts are currently identical to those transmitted in Morse code in the MF band, but now are transmitted as well on the internationally - allocated frequency of 518 kHz. Because the radio band used is MF, propagation distances of 200 nm or more can be expected.

Additional broadcasts from new Orleans are expected to start late this year.

SIGNALS FROM SPACE



by Larry Van Horn

One of the more obscure Russian satellite series is the Iskra series (Russian for Spark). Iskra 1, an aeronautical research satellite that transmitted on 5100 MHz, was launched July 10, 1981.

Iskra 2 was unique in the annals of amateur radio history, manually expelled from the airlock of the manned Russian space station, Salyut 7, on May 17, 1982.

The 62 pound (28 Kg) satellite apparently never fulfilled its primary objective of providing a 21 to 29 MHz linear transponder. The beacon on 29.578 MHz was quite audible during the satellite's short life. Iskra 2 decayed on July 9, 1982.

Iskra 3 was pushed through the Salyut airlock by hand and suffered the same fate as Iskra 2 with a very short orbital life. Iskra 3's beacon transmitted on 29.583 MHz and was audible until its reeentry.

It is believed that both Iskras contained amateur radio communications transponders as follows: 15 meter uplink 21.230-21.270 MHz, 10 meter downlink: 29.580-29.620 MHz.

There may be as many as 20 Iskra's in the program. It was expected that the next Iskra (#4) would have been launched in December, again from the Salyut. This should have been an amateur radio satellite. But the Salyut was having problems and the cosmonauts returned before a Progress tanker could bring up the Iskra for launch.

Listeners should be watching for a possible launch in the near future now that the Salyut is manned again. Interested monitorists can keep up with the latest on future Iskra's by subscribing to Amateur Satellite Report, 221 Long Swamp Road, Wolcott, CT 06716. Information should also be available on regular ARRL bulletin broadcasts and AMSAT nets worldwide.

* * * * *

I received a very interesting letter from Len Merkoske in Ontario, Canada recently. Len regularly listens to Russian Space activity (my favority activity to monitor, Len) and has accumulated several interesting intercepts.

To summarize, here is Len's list briefly:

Cosmos 1267	Soviet Space tug 19.953 MHz
Cosmos 1443	Soviet Space tug 19.954 MHz
Salyut 7 ?	Space Station TM 20.008 MHz
Soyuz T-9	MannedSpacecraft 20.008 MHz

Very interesting, Len, and I will be looking for future contributions on Russian space activity for this column.

* * * * *

TVRO buffs take heart. Even though I do not own any TVRO gear (one of these days when Uncle gives me a raise or I make Chief) I still get a lot of TVRO information from different companies. As this becomes available I will present it in this column. I would be interested in receiving your loggings of what is on the different birds by transponder. Drop me a line at Signals from Space, 1111 N. Carrier Pkwy, B-107, Grand Prairie, Texas 75050.

* * * * *

RCA Americom has announced a new regional sports network on the RCA Satcom III-R satellite. The St. Louis based Sports Time cable network will be distributing its programming via Transponder 4 on RCA Satcom III-R.

The new programming service will be based around a schedule comprised of between 50 and 60 games each of the St. Louis Cardinals, Cincinnati Reds and Kansas City Royals. Other major features will focus on college basketball, auto racing, soccer, professional basketball, tennis, triple A baseball, horse racing, bowling, boxing, a college football show, sports talk, hunting and fishing, NFL highlights and others.

Programming is carried between 6:00 PM and midnight Monday through Friday, and noon to midnight Saturdays and Sundays. This schedule is subject to change based on various sports calendars.

RCA Satcom III-R is located at 131 degrees west.

* * * * *

Intelsat satellites over the Atlantic carried live television pictures of the 1984 Winter Olympics from Sarajevo, Yugoslavia. All the ABC video you saw on your home screens was relayed via the Atlantic path Intelsat network parked about 25 degrees west.

Speculation is that the summer Olympics will also get worldwide distribution via the Intelsat system. Both Atlantic and Pacific path birds will be in use. The best part about monitoring the Olympics directly from the satellites is no commercials!

* * * * *

A newsletter for amateur operators or potential operators of environmental satellite ground receiving stations has been started by Raul Alvarez, a radio amateur in Tampa, Florida. Titled WORLDVIEW, it will be published quarterly and is available to anyone, amateur or professional. The cost is $8.00 per year. This is a very interesting newsletter for the weather satellite watcher.

The address is: Worldview, c/o Raul J. Alvarez, 2512 Arch Street, Tampa, Florida 33607. Be sure to tell Raul you saw it in MT's Signals from Space.

* * * * *

Those of you who are experimenting with home computers and fax satellite decoding might want to check out "Using the Home Computer as a Facsimile Receiver," by Joseph A. Ryan, December, 1983, published in Weatherwise, Volumn 36, Number 6. Check your local National Weather Service office and ask if they can give you a copy of this interesting project.

* * * * *

Frequency tip of the month is the Russian NAVSAT's satellites which operate on 150.000 MHz. They are quite audible on most any scanner even with indoor antennas. You can normally hear at least one satellite every 2 hours.

The signal you will hear sounds like RTTY superimposed over a time signal, which it really is. The time and data can be decoded and I will go more into this in the near future.

* * * * *

Finally this month AMSAT has announced the first Space listening contest. The AMSAT-Stoner Challenge Cup started 15 April 1984 and will run through 14 July 1984. In order to participate you must be equipped with amateur OSCAR 10 capability. There are several classes including ham and SWL and you do not have to be a member of AMSAT to participate.

Information can be obtained through AMSAT, P.O. Box 27, Washington, D.C. 20044. Be sure to include an SASE for the folks at AMSAT headquarters and I hope a lot of MT readers are in the final standings.

The UOSAT-B that John Campa, AMSAT Senior VP, talked about in the march, 1984 Viewpoint column of MT, has been launched. Dubbed OSCAR 11 at launch on March 1st, the beacons went mysteriously silent. I will have more on this as it becomes available.

HIGH SEAS from p.10

LGA Alesund
LGN Bergen
LGP Bodo
LGZ Farsund
LGL Floro
LGI Hammerfest
LGH Harstad
LFO Orlandet
LGD Rorvik
LGT Tjome
LGE Tromso
LGV Vardo
LGQ, LFW, LGU, LFU, LFM, LGB, LFB, LGJ, LFJ, LFI, LFT, LGX, LFF, LGG, LFG, Rogaland

Ocean Station Vessels
C7L 57 deg. N. 20 deg. W.
C7M 66 deg. N. 2 deg. E.
C7R 47 deg. N. 17 deg. W.

Panama
NPN 60 Canal Radio

Phillipines
DZG Las Pinas

Spain
EAC Tarifa
EAD Aranjuez
EDZ Aranjuez
EAF Vigo
EAT Santa Cruz de Tenerife

Sweden
SAG Gothenberg

South Africa
ZSJ Navicomcen Cape

Tahiti
FJA Mahina

United States
NMF Boston
NMM Portsmouth
NMG New Orleans
NMA Miami
NMR San Juan
NOJ Kodiak
NMC San Francisco
NMO Honolulu
KUO Pago Pago, Am Samoa
NRV Guam

Any question, comments or suggestions for this column should be directed to me at: 141 St. John's Blvd., Pointe Claire, P.Q. Canada H9S 4Z2.

"Los Numeros"

32444 69213 88816 52196 63811 94216

Havana Moon

*****

This article is dedicated to John Demmitt

*****

AS AMERICAN AS CHERRY PIE.

The positive ID of a 4-digit Spanish/English transmission site--without any single doubt--is the BIGGEST story to hit the communications world in over two decades!

In addition to the frequencies of 9074, 11532 and 23975 kHz, there are many other 4-digit Spanish/English frequencies--in all probability--associated with the Remington/Warrenton sites!

These "other" frequencies and some never before revealed information will be presented elsewhere in "Revelations."

WELL DONE, GENTLEMEN!

Havana Moon

REVELATIONS: Circa 1984 AD
PART II

> "...these 5-digit transmitter sites are indeed on the Cuban mainland! They are allowed to exist there because Fidel allows them to exist..."
> "...they also exist in the United States..."
> From a Non-FCC source-

The voice was firm, with heavy emphasis on the word "Fidel."

The speaker, a man with many previous U.S. Government connections, is very reliable. His source, however, is a somewhat different story. This statement--unfortunately--has not been verified by an independent source. It may or may not be true.

What is true, however, is that a few years ago, in the now defunct Newark News Radio Club Bulletin, I reported that linguistic analysis strongly indicated that the "linguistically-sterile" voice reading 4-digit Spanish and occasional English on 4307, 6840 and 9074 kHz was the same "Spanish numbers" YL as monitored on 4670, 5810, 9074, 11532 and 14968 kHz!

During the summer months of 1980, the frequency of 14968 yielded many 3-digit English as well as 4-digit Spanish and "K" beacon intercepts. The beacon intercepts were generally noted about 1800 hours on a near daily basis. Monitors might remember that the 3-digit English (Triads) 14968 kHz parallel frequency was 10570 kHz. This 3-digit English YL is the same as the 4-digit Spanish YL.

At about 1930 hours on June 14, 1980, a rather curious CW transmission was intercepted on 14968 kHz. The transmission was brief and was also noted at the same time on July 13th and 14th. This "marker-tape" quality transmission was: "RUT RUT RUT QRU QRU QRU SK".

What has not been reported is that a "line-bearing" of 10 degrees was obtained on a 3-digit English transmission of 6840 kHz at 1030 hours on June 29, 1980. This class "B" bearing was taken from a Ft. Lauderdale, Florida, site. Again, the same YL as the 4-digit Spanish YL.

Monitoring Times readers also might be interested to know that Vint Hill Farms in the Warrenton/Remington area became home to the old Army Cryptographic School in 1942. My sources indicate that this school continues to exist under another name at this site. Another similar school now operates on a U.S. Army facility at Augusta, Georgia.

The Vint Hill Farms area bristles with rhombic arrays over numerous acres. These rhombics of Vint Hill Farms and nearby Arlington Hall enable the Army Security Agency (ASA) to eavesdrop on the most secret of Washington's Embassy traffic.

Another major Vint Hill Farms type station can be found just north of San Francisco, in the famous wine producing areas of Napa and Sonoma, California. It has long been rumored that some 4 and 5-digit Spanish transmissions originate from this area. Napa valley area monitors should be able to easily confirm if this is indeed happening.

* * * * *

Let's take a look at portions of a reply to a recent Freedom of Information Act request as filed by a "closet" monitor. Here's what the FCC had to say about the request for information on 4-digit Spanish transmissions on 4670/5810 kHz:

> "...while the Commission is aware of the type of transmissions to which you refer, we possess no information concerning them other than the fact that they are voice communications consisting of sequences of numbers in foreign languages or English and are believed to originate outside the United States. This agency conducts random monitoring of the airwaves to enforce the provisions of the Communications Act of 1934, as amended, Title 47 U.S. Code, and the Rule and Regulations of the Commission promulgated pursuant to the Act. It, of course, does not have regulatory jurisdiction over foreign stations or radio transmissions that originate outside this country. Therefore, the Commission has no regulatory interest in such transmissions. Moreover, the Commission possesses no information regarding the nature of the code used or algorithms for decoding such transmission..."

This same monitor is in possession of a letter dated in 1976 which states that the 5-digit Spanish transmissions on 3060/3090 kHz originated from a site near Havana, Cuba!

The Commission--just weeks ago--told this "closet" monitor that the file containing this correspondence did not contain any further supporting documents or worksheets. It seems that--according to the FCC--that such records and information located in Washington and the various monitoring stations are routinely destroyed after two years unless involved in an ongoing Commission enforcement case.

Another source recently made inquiries to the ARRL in regards to any information about "interference complaints" the ARRL might have registered with the FCC regarding "numbers" transmissions in the amateur bands.

The ARRL said that they had never registered a formal complaint against another government in reference to any "numbers" stations causing interference, because the ARRL had never received any complaints from amateurs.

And what about those second RF sources that have been noted on some 7 MHz 5-digit Spanish transmissions? Another source has indicated that on several occasions after 0500 hours he has detected absolute evidence of a second RF source on these "numbers" frequencies. He's not sure of the meaning but is certain that the "random keying" reported by many monitors before and after transmissions is not so random!

> "...Look well to the rainbow. The fish will rise very soon. Chico is in the house..."
> Radio Swan: 1961

Find out the exact meaning of this cryptic transmission in the next issue of Monitoring Times.

Also learn all about "beacons" and intrigue on the high-seas! Find out just what "007 types" do when they can't "phone home!" Also, the night when a 5-digit Spanish transmission was not "one-way!"

DON'T MISS THE CONCLUSION OF "REVELATIONS" IN THE NEXT ISSUE OF MONITORING TIMES!

Time now for a Tecate and . . .

Adios,
Havana Moon

DID RADIO HAVANA MAKE A BOO-BOO?

Uno, dos, tres...

by Don Schimmel KVA4CX

A so-called Spy Numbers message was upcoming on 13428 kHz. The Spanish speaking female was announcing "ATENCION OCHO CINCO TRES SIETE CERO" and she continued that callup for several minutes. At 2131Z she started a 70 group message of 5-figure groups. The transmission ended with the usual "FINAL FINAL" and the carrier went down at approximately 2152Z, one minute after completion of the message. However, 13 minutes later the carrier was back on the air but this time the musical theme introduction (6 musical notes) of Radio Havana was being broadcast. About 8 minutes later a male Spanish announcer stated that the station was "RADIO HAVANA CUBA" and a Shortwave Broadcast program commenced. The program was on the air briefly and then the mistake must have been discovered because the carrier was abruptly taken off the air.

Brian D. Strong

DOING IT DOWN-UNDER

Visitors from the U.S. who have wandered down through the South Pacific to New Zealand find their world turned upside-down.

Summer becomes winter, fall changes to the blossoms of spring and time zones enable them to live a full day into the future from the folks at home.

Even the air is different, not only cleaner and clearer as international film makers know, but it is also filled with some radio activity formerly regarded as rare DX. Looking at a Great Circle map based on New Zealand shows that many of the world's HF signals beamed from continent to continent are often beamed across this part of the world. Even Radio Moscow's signals beamed to their far-flung repeaters in Havana are so strong you can almost hear them without a receiver.

New Zealand has a population of only 3.2 million, yet the proportion of short-wave operators is high.

Radio transmission is controlled by the New Zealand Post Office as our version of the FCC. Marine and aero radio is administered by the Ministry of Transport.

Any Hams intending a visit to this part of the world will be pleased to learn there is a reciprocal licensing agreement between our two countries. You should contact ARRL Headquarters for details.

For those who hunt beacons, here is a low frequency list for you to try.

MARINE BEACONS		AERONAUTICAL BEACONS	
CR	290	AS	254
MU	294	CI	322
CV	302	CH	274
EC	320	DN	338
PI	314	GS	346
SP	305	HK	310
BR	317	KI	326
CC	286	KT	238
LB	294	NR	354
TR	320	NS	294
DI	306	NP	370
PY	290	OU	302
		TG	266
		WI	254
		WU	382
		WY	330
		WN	298
		OT	398
		WS	278
		WK	362
		WR	386
		WP	206
		WG	406
		OD	262

Now there's a real challenge for you!

Citizens Band has eleven authorized channels for general use and a further three for approved operators such as construction sites, farmers, government departments and those using CB for business communications purposes.

CITIZENS BAND

Channel	Frequency
1	26.425
2	26.450
3	26.475
4	26.500 (calling)
5	26.525
6	26.550
7	26.575
8	26.600
9	26.625
10	26.650
11	26.675
(reserved channels 12-14)	
12	26.700
13	26.725
14	26.750

And now for some information that's a lot harder to get.

As one of the "general public" it is virtually impossible for me to obtain information concerning the VHF bands. For three years I have requested detailed VHF band information details from the Post Office. Each request has been answered with a photocopy of the Ham band VHF allocation. However, as readers of "Monitoring Times" know, there are certain ways and means of discovering things you want to know.

While not able to obtain a listing of actual frequency allocations, the following general guide will be of interest.

NEW ZEALAND VHF BAND ALLOCATION (MHz)

48-67	TV Ch. 1,2,3 video and audio(FM)
68-81	Fixed and mobile stations including police
81-88	Low Band radio telephone - transportation compnys
88-107	Mid Band radio telephone - traffic cops
~90-95	Broadcast FM sta.
107-108	Fire & Ambulance services
108-137	Aeronautical band. General air/ground
137-138	Space operations
138-144	Fixed and mobile stations

Cont'd on p.20

GIFT TO WEATHERWISE from p.4

of Mexico and Caribbean Sea, public weather forecasts, upper air reports (winds aloft)...fascinating stuff, indeed!

Some of this meteorological information is in plain language and is therefore easy to read as the printed lines scroll up the screen. However, data such as hourly weather reports, ship observations and winds aloft reports appear in a coded format and therefore take somewhat longer to decode and read.

At 100 words per minute, the data can readily scroll up and disappear off the top of the screen before the viewer has had sufficient time to interpret the coded lines. Obviously, then, some means of saving the information is highly desirable.

My computer interface which makes all this possible is the Kantronics RADIOTAP designed for use with the Commodore 64 (Also available for the VIC-20). The RADIOTAP package includes everything necessary to interface any communications receiver with the C-64 computer, including hardware, software and interconnecting cables. With a printer attachment, the weather information can readily be saved, as the software allows hard copy to be produced simultaneously with the printout on the screen.

However, I do not yet own a printer, so I got around the problem by recording the RTTY transmissions on a cassette recorder which is permanently connected to the RECORD output of my Kenwood R-1000 receiver. So, if I see something on the CRT screen which I will probably want to digest a little more slowly after the broadcast, I make a note of the reading on the cassette recorder's tape counter.

Later, after rewinding the tape to that number, I can display the weather information on the screen, one page at a time, and study it at my own pace. To do this, I simply take the audio feed for the RADIOTAP interface from the earphone jack of the cassette recorder instead of directly from the external speaker output of the shortwave receiver. It does the trick beautifully.

● Radio station CFH transmits virtually around the clock, on the following frequencies: 4271, 6330, 9890 and 13510 kHz. Air time is shared between FAX and RTTY. Facsimile transmissions usually start on the hour, and radioteletype generally begins 20 to 40 minutes later. The broadcast schedule--with details of transmission contents--appears in the "RADIO AIDS TO MARINE NAVIGATION" publication discussed in the preceding section.

Another RTTY weather station that is on the air much of the time is WBR, Miami, FL. I've been monitoring this station on 8140 and 13624 kHz, but my reference books show this station on 4061.5 and 18675 kHz also. WBR broadcasts contain numerous ship reports, marine forecasts, land station observations and upper air reports. I also frequently monitor RTTY transmissions on 8130 kHz; I don't know where this transmitter is located, but its weather contents are very similar to WBR's. The trouble with many RTTY stations is that they rarely broadcast their call letters ...UNFAIR TO SWLs, I'd say!

● I am a newcomer to RTTY, having only recently acquired my RTTY/MORSE interface. As HF signals fade, one can naturally expect drop-outs in the streams of information appearing on the CRT screen. But what I don't fully understand is the reason why certain signals, after printing beautifully, suddenly turn to garbage on the screen even though the receiver's S-meter continues to indicate high signal strength and the LED bargraph on the RADIOTAP unit continues to show proper tuning of the signal.

The garbage frequently consists of letters being printed instead of figures, and this change occurs suddenly right in the middle of a weather message which consists of figures only! The "UNSHIFT ON SPACE" feature of RADIOTAP (function key f8) does not alleviate the problem. Perhaps phase shifts or other propagation effects occur as the signals bounce off the ionosphere?

Have any readers run into similar problems while copying RTTY with RADIOTAP or any other interface? If you would care to write to me about your experiences with RTTY, quality of reception, problems, observations or comments re specific hardware and/or software, I would appreciate hearing from you. My mailing address is: 380 Watson Ave., Windsor, Ontario, Canada N8S 3S4.

And if there are any lucky SWLs out there who have interfaced their receivers with FAX equipment, I'd love hearing from you also. FAX receivers are generally expensive and probably a bit too rich for my blood at the present time, but I would appreciate hearing comments on the quality of FAX weather maps received via HF radio.

Looking at the CFH schedule of FAX broadcasts is enough to make one drool! The maps transmitted include surface analysis, weather depiction prognoses, sea surface temperature analyses, upper air charts, ice charts, satellite photos, etc... It sure sounds as if facsimile equipment would be a nice addition to a monitoring station.

Broadcast schedules and frequencies for U.S. FAX and RTTY stations such as NAM (Norfolk, VA), WLO (Mobiles, AL), and NMC (San Francisco, CA) as well as foreign stations are listed in "SELECTED WORLDWIDE MARINE WEATHER BROADCASTS", as noted in the previous section.

The various weather messages broadcast on RTTY are coded in a number of different formats. Hourly aviation weather reports are in the VOLMET format discussed earlier in this series. Ship weather observations feature a different code, and we'll explin this code in detail later. different codes are also used for land stations and for upper air observations.

Details of these and other codes are contained in a very comprehensive publication available from the Canadian Atmospheric Environment Service, Distribution Centre, 4905 Dufferin St., Downsview, Ontario, Canada M3H 5T4. Priced at $10.00 (Canadian funds), this "MANUAL OF SURFACE WEATHER OBSERVATIONS" (MANOBS) is over an inch thick, and is loaded with information on the coding and decoding of weather reports. NOAA's National Weather Service undoubtedly publishes an equivalent manual, most likely available from the Superintendent of Documents in Washington, DC.

NEXT MONTH: DECODING CW MARINE WEATHER

Logging 170 Meters

by Craig Healy (66 Cove St., Pawtucket, RI 02861)

NOTE: Author Healy has generously shared these listening catches with fellow MT readers and would be happy to provide a free copy of his "Top End Yearbook," a collection of loggings throughout 1983 in the 1600-1800 kHz spectrum. Send an SASE (self-addressed, stamped envelope) for your copy. And if you have any loggings to contribute please send them as well.

First, courtesy of Patrick Martin and Mike Hardester is an identification of John Arthur's 1690 and 1700 loggings from last time.

1690 Kaohsiung Fishery BS in Taiwan; ID's as "Kaohsiung yuyeh tientai"

1700 Keelung Fishery and Weather BS in Taiwan; ID's as "Keelung yuyeh tientai"

I've recently heard through several sources that the "cricket" stations that we hear are a system called Cubic Argo. The other common system is Decca HiFix. This sounds like the morse code letter J with the first dit in a lower tone than the rest.

LOGGINGS (Far East Loggings Monitored from Hawaii):

FREQ	TIME	DATE	TRAFFIC
1613	0330-0340	2/20	RAB (Rabinal),Guatemala
1618	0330-0340	2/20	KA83413
1625	1631	1/24	Cubic Argo
1629	1148	2/1	M talking, short mx, gone 1150
1630	1625	1/27	FZ953
1632	0600-0603	2/24	Cubic Argo
1638			FRB
1638	1209	1/28	C225 and other cw beacons
1642			E369
1642			FXYC
1642	1616	1/25	Weak cw sigs and Cubic Argo
1644	0346-0350	2/20	LGB TLX
1646	0625-0642	2/24	LGB TLX
1652	1202	1/28	M313
1670	1227	1/26	Man in unidentified Oriental language
1673	0446	2/20	FF USB
1673	0603-0622	2/22	FF USB
1675	1632	1/28	Tone
1676	1610	1/25	Papua, New Guinea, Tsili Tsili (honest!!). TSL beacon
1685	0427	1/24	MER (Mercaderes), Colombia
1689	1515	1/22	MH (Mt.Hagen), Papua, New Guinea
1721			FRB
1726	1235	1/26	Unidentified CW
1768	0626-0627		Unidentified RTTY
1792	0544-0545	2/20	EE USB station

SECRET SERVICE from p.1

The "big time" action is found on the air when the President comes to town. Approximately five days before his arrival, it will be obvious that someone important is coming as many new agents' names are heard on the radio and the amount of radio traffic increases considerably. Preparatory activities are also heard, often in great detail.

Numerous other radio channels are used for the visit, but due to the sensitive nature of these frequencies, they will be excluded from this article. However, you have several clues which can aid you in discovering these frequencies. (1) Most of the existing Secret Service crystal radios could easily accept crystals for these other frequencies without any realignment. (2) If your scanner has a search feature, use it. (3) Examine the frequency allocation tables for federal frequencies in the rear portion of Police Call (any volume). Notice the frequency spacing and keep in mind that these special listings are "classified."

Once you have found these special frequencies (usually no more than six for any visit), you will have many interesting things to hear. Code names are assigned to key subjects and places. President Reagan is known as "Rawhide"; "Crown" is the name for the White House; appropriately, "Angel" is the designator for Air Force One; "Stagecoach" is the President's limousine. Many more code-names exist and through extensive listening, you may be able to accumulate a substantial list.

Let's assume that you know that the President will be arriving in your city on a specific date for a specific reason, such as a speech. Start listening several days before; two programmable scanners will help you a great deal. By reading the newspaper and listening to television or radio broadcasts, you can often determine the approximate arrival time, where he will stay overnight (if applicable), and where he will speak.

The press will probably not publish the motorcade routes for security reasons; look at a detailed city map and plot the possible motorcade routes between the points involved (airport, hotel, convention center, etc.).

Just prior to his arrival there will be a great deal of radio traffic on the secret service channels. But don't overlook your local law enforcement, as they may have one or more radio channels set aside solely to deal with the President's visit. This could concern security and the impoundment of vehicles which are parked along the motorcade route. When you know this, you know the route of the motorcade!

If you want to see the motorcade, pick a suitable location just off the route and bring a camera. However, it is not advisable for you to act suspiciously by having an earphone in your ear! This may draw attention to you very quickly and you may be questioned. If you have a scanner on your person at that time, it might be taken away from you, regardless if any anti-monitoring laws exist in your community. Of course, it will probably be available for your pickup at the local police station property room on the following day. This has actually happened in California during a Presidential visit in 1975.

Security is taken very seriously. If you suffer from channel withdrawal and must have a scanner in your personal possession, conceal it on your person, don't use an earphone, but keep the volume low enough so only you hear the radio and not any bystanders.

Enjoy listening, don't act suspicious, don't repeat what you hear (the Communications Act of 1934) and take lots of pictures. A Presidential visit can be a very exciting situation to monitor as it does not happen very often in most communities. Good luck!

BROADCASTING . . .

HANK BENNETT ON SHORTWAVE

CONGRATULATIONS

We're very pleased to announce the name of the winner in our recent brain-teaser competition. With nearly every question answered correctly, the recipient of a book from the Grove Library is William R. Smith, of Brown Terrace, Uxbridge, Mass. 01569. Congratulations!

As we've mentioned before, we'd like to have more questions of a nostalgic nature for future brain-teaser columns. Dig out your old radio books and send in a list of 10, 20 or 30 questions, with correct answers, and be sure to give the source of your information.

RADIO DATABASE INTERNATIONAL

In a news release by Radio Canada International and Swiss Radio International, it was announced that a new feature is being introduced on the SWL Digest and Swiss Shortwave Merry-go-Round programs. Listeners to the two stations have been aware in the past of a number of joint programs which covered such events as the annual conventions of the Association of North American Radio Clubs and the European DX Council, and, more recently, the huge Telecom-83 telecommunications exhibition in Geneva.

The new project, called Radio Database International (mentioned briefly in our January column), will feature monthly reports by Don Jensen and Noel Green, both well known and respected names in the hobby. Mr. Jensen is a specialist in Tropical Band DX'ing and was one of the founders of the Association of North American Radio Clubs (having been informally appointed to this position by your editor) and Mr. Green is a top DX'er in England and was, for a long time, a contributor to the BBC World Radio Club program.

Radio Database International reports are heard on the first weekend of every month on RCI's SWL Digest, and on the second weekend of the month on SRI's Swiss Merry-go-Round. The two reporters will alternate between RCI and SRI each month.

In addition to the up-to-the-minute listening tips and information Don Jensen will be joined each month by propagation expert Professor David Meisel whose propagation forecasts give listeners interesting and useful insights into the changing reception conditions on the shortwave bands coupled with valuable antenna information for SWLs and DXers struggling to cope with the vagaries of ionospheric propagation.

This new feature will complement the long running and very popular weekly DX news reports by Glenn Hauser, which have been one of the most popular features of the SWL Digest program for over seven years. Glenn's reports are now heard on all editions of the program except the first program of the month.

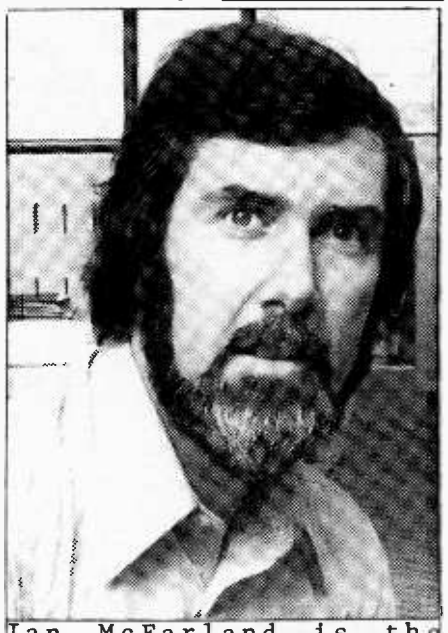
Both Radio Canada International and Swiss Radio International look forward to sharing this exciting new feature with listeners around the world and they would like to receive your comments and opinions. Write: Radio Canada International, SWL Digest Program, P.O. Box 6000, Montreal, Quebec, Canada H3C 3A8. Swiss Radio International, Swiss Shortwave Merry-go-Round Program, Giacomettistrasse 1, CH 3000, Bern 15, Switzerland.

WDX HONOR ROLL

Your editor has increased the size of the previous WDX Honor Roll from the Top 20 DXers to over 150 in all and this new list can be obtained for 50¢ (stamps OK) from P.O. Box 3333, Cherry Hill, NJ 08034. We are particularly anxious to hear from all previous recipients of either WDX Award certificates or the old WPE Award seals.

For those DXers who are not aware of our DX Awards program, we issue Award certificates showing that the

Cont'd on p.20



Ian McFarland is the producer and host of Radio Canada International's popular "SWL Digest," the top-ranking DX program for shortwave enthusiasts.

DX Highlights

by Terry L. Krueger

Greetings radio listeners! From time to time I'll try to provide MT readers with a glimpse of what is being heard on the medium wave, shortwave and FM broadcasting and utility scene. By presenting some out-of-the-ordinary news, I hope to offset the "dated" syndrome typical to many publications due to deadline advances and publishing delays. All times below are in GMT, frequencies in kiloHertz unless otherwise stated.

RADIO CANADA INTERNATIONAL, CARIBBEAN-STYLE

Since January 1, 1984, RCI has been conducting experimental medium wave relays via the facilities of Radio Antilles in the Caribbean. Try for this service from 2230-2300 in French and 2300-2330 in English, parallel to shortwave (from Canada) 9755 and 11710 kHz (consult the RCI schedule for any spring frequency changes on shortwave). The relay frequencies are 740, 930 and 1450. The latter frequency is via Radio Antilles' 10 kW relay in St. Vincent, while 930 (listed 200 kW) and 740 (20 kW) are from Montserrat. I have been hearing the 930 outlet regularly, though with generally poor signals here in Florida.

ARAFAT'S RADIO

The forced departure of Yasser Arafat's "moderate" Palestinian Liberation Organization faction from Tripoli, Lebanon last year has meant the beefing-up of Arafat offices in Amman, Tunis, New York and Algiers. Radio-Television Algeria is now carrying the Voice of Palestine daily at 1700-1800 on the Arabic Service channel of 15370. Listen for this entirely-Arabic program's ID as "Sawt al-Filistin, Sawt ath-Thawrath Filistiniyah." Signals at my monitoring post are good.

QSL GUINEA FOR TWENTY CENTS!

The small, West African Marxist country of Guinea can be heard on 15309 kHz in English with a locally-produced "Meeting the Freedom Fighters" transcription program from the United Nations Radio. The announced schedule is Monday / Wednesday/ Friday 1830-1900 (times vary slightly per observation). A "Sunday Radio Magazine" is also announced as airing 1815-1900. After hearing the UN program, I wrote to the UN Radio headquarters in New York. Within a few days, the stock issue blue UN Radio QSL card arrived for this report. I have verified a similar UN Radio program, aired via Radio Beijing, several years ago.

NEW LOW-POWER DX

Traveler's Information Stations are popping up throughout the US, providing continuous recorded messages at parks, airports and congested highways. Their power is normally under 10 watts, and TIS's are usually confined to 530 or 1610 kHz.

The newest TIS I have heard is KNFH-965 at the St. Petersburg Municipal Pier, Florida, on 1610. KNFH-965's signal doesn't get out much beyond downtown St. Petersburg, which is probably a good omen, being that just across the bay is WYZ-235 at Tampa International Airport on the same frequency! Pier Manager Randy Dickens welcomes pre-stamped, prepared cards addressed to him at the Pier.

LATIN AMERICAN NEWS

The turbulent situation in much of Latin merica makes DXing the low-powered medium wave and shortwave outlets all the more challenging. Through many regular articles within MT you can keep up on the clandestine operations in Latin America. In this part, I'll try to relay some of the latest licensed broadcast and utility information.

DXer David Crawford in ak Hill, Florida heard a Mexican on 11492 IDing as XEMX "La Ponderosa de Mazatlán at 2150. He believes that a utility station was relaying this 1290 kHz station due to the presence of another weaker station in the background, possibly XEAP in Ciudad Obregon.
This isn't the first time a Mexican medium wave outlet has mysteriously appeared on an out-of-band shortwave frequency. Regular scanning of the utility band frequencies is highly recommended for discovering such oddballs.

David Crawford and I have both recently received full-data QSL cards from Radio Moscow, confirming reception of the Soviet home services relay from Cuba, currently on 4765 kHz. My report was submitted in Spanish on a Radio Moscow Spanish Service report form. Often, when the English service of an international broadcaster doesn't satisfactorily reply, a letter in another language will bring better results. In a future article I'll elaborate on

Cont'd on p.20

BROADCASTING. . .

ENGLISH LANGUAGE BROADCASTS
by Tom Williamson

Greetings once again! It's nice to be able to report that an improvement in reception conditions has been noted lately, the high frequencies showing propagation in the early evenings, from time to time, although in an irregular manner.

Stations such as Radio Nacional do Brasil 15290 kHz have reappeared on the dial with English language programming; also RAE, the Argentine service. Improved reception has also been noted on the 9 MHz band, from such stations as Athens, Greece and Radio Cairo.

UPDATE

Several weeks ago Radio Australia made some changes to its services; the morning broadcasts were extended on 9580 kHz. To your editor, however, this frequency provides the best signal from 1100-1300; severe interference is noted around 1400 from the CBC, and at other times the signal weakens markedly after 1300.

Also available from Australia in the morning period are 11710, 11800 (both with bad interference) and 5995; none of these is very strong.

The BBC is reported to be introducing new high power transmitters of 250 and 500 KW. For your interest, here is a complete list of BBC frequencies beamed to North America at different times during a 24 hour period (there are gaps from 0915-1100 and 1800-2000 when there are NO channels beamed to us):

15260 15215 15070 11775
11750 9915 9740 9590 9515
9510 7325 6195 6175 6120
6005 5975 5965 kHz

You may find an odd one which gives consistent reception in your area, but our selected list is based on your editor's personal findings. I would be interested to hear from anyone who had different reception patterns. Lately 9915 kHz has been quite good around 2300, but it's not too strong some days.

The frequencies used, of course, include many relay sites such as Ascension Island, Sackville, Canada, Antigua, and so on. Incidentally, the 21 MHz channels quoted in our list are beamed to Africa but are frequently well heard in Eastern North America.

Ecuador (HCJB) has lately been very strong in the mornings, as opposed to the 0030-0700 time segment when 9745 used to be the "best bet." This is still a good signal many nights, but the 15115/17890 morning broadcasts have been more reliable.

And so...let's look at the continent of ASIA!

In theory many countries are available to the shortwave listener from this continent with scheduled English-language broadcasts. However, depending on your reception area, there will be much variation in what you can really hear on a regular basis.

Many countries such as Bangladesh, Phillipines, Iraq, Iran and North Korea, are not often logged, either because of inadequate power or frequencies, or because of poorly chosen times for English schedules. For example, Iraq is well heard in Arabic but not often in English.

Even two of the "giants" of broadcasting in this part of the world don't make it on the dial often:

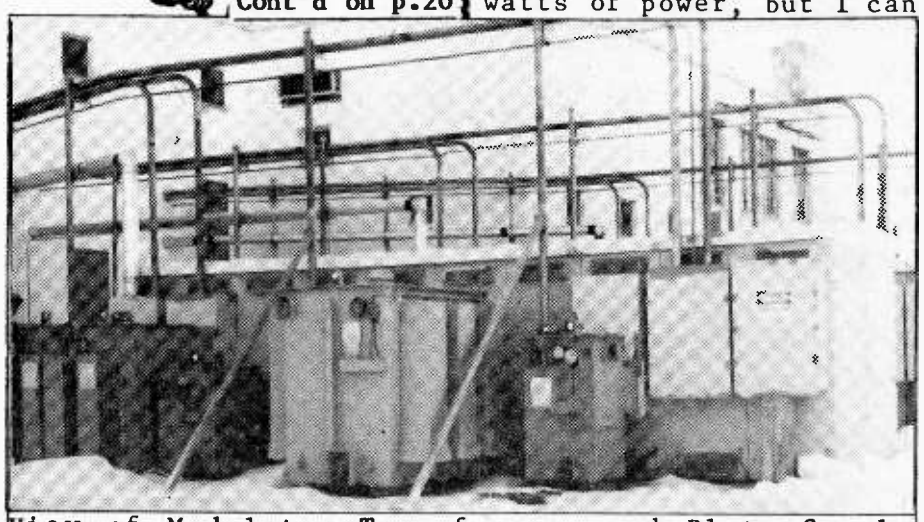
INDIA: Delhi 11620 kHz
INDONESIA: Jakarta 0100: 11790, 15150 and at 0800/1500 on the same channels.

Let us look at some better bets.

CHINA-People's Republic

Radio Beijing puts in quite a regular signal, best heard between 0000-0300 on 11860/9860 with 11650 also heard but poorer. Has a good news service with clear announcers and fairly impartial reporting. Interesting Chinese music very often, with a nice program at 0025 entitled "Music Album." Also has a "self-teaching" Chinese language lesson (which I found very hard!).

Cont'd on p.20



View of Modulator Transformers and Plate Supply Transformers for the 250 KW Collin Transmitters at RCI Plant in Sackville, New Brunswick, Canada.

LISTENING TO THE WORLD
by Roger N. Peterson

BROADCASTS FROM OUR CLOSEST NEIGHBOR

For some reason, many shortwave listeners overlook Canada in their dash around the dials. Maybe it's because it seems like it's too close and not exotic enough; after all, it wouldn't make such a big impression in the office to say, "Hey, I tuned into Canada on my shortwave receiver last night!" Not like telling about how you heard China or Tahiti.

On the other hand, Canada offers the shortwave listener some very interesting programs from three different broadcasting sources. First, there is Radio Canada International. This station beams programs around the world like other international broadcasters. Second, there is the Canadian Broadcasting Corporation's "Northern Service," aimed at people in the north of Canada who are out of reach of regular AM and FM stations. And, finally, there are several Canadian "Big City" stations that send their programs out over shortwave as well as medium wave.

While the chances are that not everyone will be able to tune into CFRX in Toronto or CFCX in Montreal, those that can will enjoy listening to programs and commercials for the people in those cities. Here is a list of those stations which send out their signals over shortwave as well as medium wave:

CFRX(Toronto) 6.070MHz(H24)
CFCX(Montreal) 6.005MHz(H24)
CKCU(Vancouver)6.160MHz
CKZN(St.John's 6.160MHz
(Newfoundland)
CFVP(Calgary,) 6.030MHz
CHNX(Halifax,) 6.130MHz(H24)

I have never heard the Vancouver or Calgary stations because, I suspect, I'm simply too far away. The Calgary station has only 100 watts of power, but I can easily tune to stations in eastern Canada, although Newfoundland is not that close to my home in Connecticut.

CBC

Another source for shortwave programs are those of the CBC Northern Service. Not all of these are in English as the purpose for these broadcasts is to reach the French fur trappers, Eskimos and indians who live way up North. However, they do have a good deal of news, interviews and weather forecasts (particularly intriguing in the winter!) in English. Here are the frequencies to try:

1200-1400GMT: 9.625 6.065MHz
1400-2300GMT:11.720 9.625MHz
2330-0600GMT: 9.625 6.195MHz

Don't be afraid to try this CBC Northern Service, even if you live a long way from the Canadian border. I know many listeners who have picked it up down south or in the lower middle west.

Also on Sundays is a program from the CBC domestic network called, appropriately, "Sunday Morning." Hear it from 1400-1700GMT on 11.955 MHz. It's a "magazine format" type show with lots of interesting features.

RCI

The chances are that after you have DXed as many of these Canadian stations as possible, the one you will eventually settle on for regular listening will be Radio Canada International.

From its studios in Montreal, RCI offers some of the best English-language programs you can hear on the air. For one thing, it has what most listeners (according to a couple of recent polls) think is far and away the best DX program on the air today.

SWL Digest, as the program is called, is heard every weekend. In fact, the program is aired at several different times each weekend so that if you miss it once, you have another chance to catch it the next day. This show offers a great deal to the shortwave listener and/or DXer. The accent of the program is news about frequency changes, new equipment and SWL clubs.

Glenn Hauser is heard every week reporting on frequency changes. Larry Magne, who writes equipment evaluations for the World Radio-TV Handbook, is on frequently

Cont'd on p.30

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Armed Forces Day '84 - 'Meeting the Challenge'

This year's observance of Armed Forces Day — set for Saturday, 19 May — marks the 35th anniversary of communications tests between Amateur Radio operators and military communication systems. Since 1950, this event has been scheduled during the month of May and has emphasized a continuing climate of mutual assistance and warm esteem.

Featured highlights of the nationwide celebration are the traditional military-to-amateur crossband communication test and a message receiving test. The crossband test will include operations in continuous wave (CW), single-sideband voice (SSB), radioteletype (RTTY), and slow scan television (SSTV). The receiving test consists of two special Armed Forces Day messages from the Secretary of Defense, one transmitted using the CW mode followed by the second transmitted in the RTTY mode.

These tests give both Amateur Radio operators and shortwave listeners (SWL's) the opportunity to demonstrate their individual technical skills. Special commemorative acknowledgement (QSL) cards will be awarded to those Amateur Radio operators achieving a verified two-way radio contact with any of the participating military radio stations. Interception of these contacts by SWLs are not acknowledged by QSL cards; however, anyone who receives and accurately copies the Armed Forces Day CW and/or RTTY message from the Secretary of Defense can qualify to receive a special commemorative certificate from the Secretary.

Crossband contacts

The military-to-amateur crossband operations will be conducted from 1300 UTC, 19 May to 0245 UTC, 20 May. East Coast stations commence operations at 1300 UTC, 19 May, and West Coast stations commence operations at 1600 UTC, 19 May 1984. Military stations will transmit on selected military frequencies and listen for Amateur Radio stations on those portions of the amateur bands indicated below. The military operator will announce the specific amateur band frequency being monitored. Duration of these contacts should be limited to three minutes.

CW receiving test

The CW receiving test will be conducted at 25 wpm. The broadcast will be a special Armed Forces Day message from the Secretary of the Defense to any Amateur Radio operator or shortwave listener desiring to participate. A 10-minute call for tuning purposes will begin at 0300 UTC, 20 May. The secretary's message will be transmitted at 0310 UTC, 20 May, from the following stations on the listed frequencies:

Transmitting station	Frequency (kHz)
AIR 2045th Communication Group Andrews Air Force Base Washington, D.C.	6995.5, 13997.5
NAM Naval Communication Area Master Station LANT Norfolk, VA	4005, 7393, 14400
NAV HQ Navy-Marine Corps MARS Station Cheltenham, MD	7372.5, 14389.5
NPG Naval Communication Station Stockton, CA	4010, 7365, 13927.5
WAR U.S. Army MARS Radio Station Fort Meade, MD	4028.5, 6997.5, 14403.5

Radioteletypewriter receiving test

The radioteletypewriter receiving test will be transmitted at 60 wpm using 170 Hz (narrow) shift. A 10-minute call for tuning purposes will begin at 0335 UTC, 20 May. The special Armed Forces Day message from the Secretary of Defense will be transmitted at 0345 UTC, 20 May. Transmission will be from the same stations on the same frequencies as previously listed for the CW receiving test.

Submission of test entries

Transcriptions of the CW and/or RTTY receiving tests should be submitted "as received." No attempt should be made to correct possible transmission errors. The time, frequency and call sign of the military station copied, as well as the name, call sign and address (including ZIP code) of the individual submitting the entry, must be indicated on the page containing the test message.

Each year, a large number of acceptable entries are received with insufficient information, or the necessary information was attached to the transcription and was separated, thereby precluding the issuance of a certificate.

Entries must be postmarked no later than 26 May 1984 and submitted to the respective military commands as follows:

Stations copying AIR send entries to: Armed Forces Day Test, 2045CG/DONJM, Andrews AFB, D.C. 20331. *Stations copying NAM, NAV or NPG send entries to:* Armed Forces Day Test, HQ Navy-Marine Corps MARS, 4401 Massachusetts Ave., NW, Washington, D.C. 20390. *Stations copying WAR send entries to:* Armed Forces Day Test, Commander, 7th Signal Command, ATTN: CCN-PO-OX, Fort Ritchie, MD 21719. □

Station	Military frequency		Emission	Amateur band	
AIR 2045th Communication Group Andrews Air Force Base Washington, D.C.	4025 6995.5 7306.5 7315 13986.5 13997.5 14408	kHz kHz kHz kHz kHz kHz kHz	LSB CW RTTY LSB RTTY CW USB	3800-4000 7025-7150 7080-7100 7225-7300 14080-14100 14000-14150 14150-14350	kHz kHz kHz kHz kHz kHz kHz
NAM Naval Communication Area Master Station LANT Norfolk, VA	14400	kHz	(see operating schedule below)		

14400 operating schedule

Emission	Time	Amateur band
CW	1300-1700	14000-14150 kHz
RTTY	1700-2200	14080-14100 kHz
USB	2200-0245	14150-14350 kHz

Station	Military frequency		Emission	Amateur band	
NAV HQ Navy-Marine Corps MARS Radio Station Cheltenham, MD	7372.5 14389.5	kHz kHz	RTTY SSTV	7080-7100 14225-14235	kHz kHz
NMH Coast Guard Radio Station Alexandria, VA	4015 7346.5 14440 20937.5	kHz kHz kHz kHz	CW LSB RTTY USB	3500-3750 7225-7300 14080-14100 21250-21450	kHz kHz kHz kHz
NMN Coast Guard Communication Station Portsmouth, VA	7393	kHz	CW	7025-7150	kHz
NPG Naval Communication Station Stockton, CA	4001.5 4010 6970 7301.5 7365 9991.5 13927.5 13975.5 14385 20998.5 21460	kHz kHz kHz kHz kHz kHz kHz kHz kHz kHz kHz	LSB CW CW LSB CW CW RTTY CW USB CW USB	3800-4000 3500-3750 7025-7150 7225-7300 7025-7300 10100-10150 14080-14100 14000-14150 14150-14350 21025-21250 21250-21450	kHz kHz kHz kHz kHz kHz* kHz kHz kHz kHz kHz
* Except 10109-10115 kHz					
NPL Naval Communication Station San Diego, CA	7380 14375	kHz kHz	RTTY SSTV	7080-7100 14225-14235	kHz kHz
NZJ Marine Corps Air Station El Toro, CA	7375 14480	kHz kHz	RTTY USB	7080-7100 14150-14350	kHz kHz
WAR HQ Army MARS Radio Station Fort Meade, MD	4028.5 6997.5 13992.5 14403.5 20995.5	kHz kHz kHz kHz kHz	LSB CW USB (see operating schedule below) USB	3800-4000 7025-7150 14150-14350 21250-21450	kHz kHz kHz kHz

14403.5 operating schedule

Emission	Time	Amateur band
RTTY	1300-1500, 1800-2200, 0100-0245	14080-14100 kHz
CW	1500-1800, 2200-0100	14000-14150 kHz

HANK BENNETT from p.16

individual applying has received QSL cards or letters from 25, 50, 75, 100, 125, 150 or more countries, 10, 20, 30, or 40 world zones, 10, 20, 30, 40, or 50 states, and 4, 6, 8, 10, or 12 Canadian provinces/territories. Full details can be obtained from the address above, and please remember to include return postage.

- . . . -

The other day, in the post office where I work, I was in the process of getting my route put together for delivery. Over walks one of our postal people with a copy of MONITORING TIMES in his hand. This person is usually in best form when he is where the work isn't. Anyway, seems that he and one of our mail handlers, Jim Duggins, had spotted a column of mine and they wondered if I was the person that wrote it. I assured them that I was, indeed, the guilty party. We all agreed that this paper really does have lots of information that just can't be found anywhere else. Jim, by the way, is an advanced class ham operator with the call KU2G. See you next month!

DOWN UNDER from p.13

144-148	2 meter Amateur Band
148-150	Radio navigation
156-157	Marine VHF band (FM)
157-174	"High Band" Marine VHF (FM)
174-245	TV Ch. 4-10, video and audio (FM)
245-500	Still largely unknown territory. Used mainly for repeaters by fixed and mobile stations, plus hand-held portables by law enforcement and security organizations.

On the HF bands current traffic between New Zealand and McMurdo Base (Antarctica), mainly for MAC flights, can be heard on 13251 and 8997 USB. Ground parties and outstations can also be heard at unscheduled times on 8997. Aircraft are USAF C-141B Starlifters, prefixed MAC and their serial number and USN LC-130 Hercules prefixed XD and number (XD 01/.... etc.). Recommended listening time is 0500-0900Z.

Other active frequencies for aircraft are 8867/13300/5643/10072/and 8846.

Finally, for those interested in my equipment, all monitoring is done on a Yaesu FRG-7, Yaesu FRG-7000 and Collins 51S of ancient vintage. Scanner is a JIL SX-200. Antennas are a Gilfer "Eavesdropper" trap dipole, a very short "longwire", and a Discone for VHF. Other equipment consists of Marantz Superscope cassette recorders, Akai M-10 reel to reel, a Scan-Record (as advertised) and an Apple II plus computer system which I will soon be using for a look at RTTY in this part of the world.

DX HIGHLIGHTS from p.16

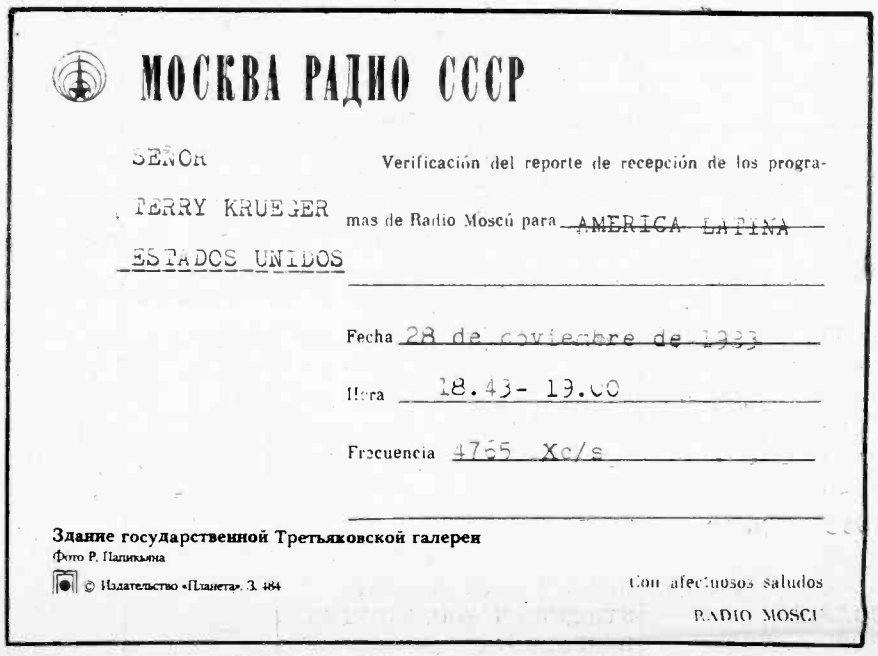
some tricks in getting answers out of such stations.

I've been hearing Peruvian Radio Madre de Dios 4950 and Radio Huanta 4746 with good signals around 0100. Also, try for the rare Ecuadorian La Voz de Sasquisili 4900 at this time, but watch out for the sometimes-active Venezuelan Radio Juventud on the same frequency.

Two Hondurans have returned to shortwave: HRXK La Voz de la Mosquitia in back on 4910. Try around 0000 for HRXK, which broadcasts in Spanish, English and Miskito, a local Indian language widely spoken along the Honduran and Nicaraguan Caribbean coastline. Though this station is a religious broadcaster, US country and western music is often included in their programming. Station manager Landon Wilkerson will QSL English reports with return postage included. After a much longer absence, La Voz del Junco on 6076 has returned. Give them a try at 1200.

Finally, Mexican XEQK La Hora Exacta is back. Check 9555 around 1300-2000 for their distinctive Spanish news format, interrupted only for the official observatory time check each minute.

I'll be looking forward to receiving your contributions, comments and suggestions in the future. Write me at P.O. Box 587, Largo, FL 34294-0587 USA.



МОСКВА РАДИО СССР

SEÑOR
TERRY KRUEGER
ESTADOS UNIDOS

Verificación del reporte de recepción de los programas de Radio Moscú para ~~AMERICA LATINA~~

Fecha 28 de noviembre de 1993

Hora 18.43- 19.00

Frecuencia 4765 Kc/s

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Con afectuosos saludos
RADIO MOSCU

ENGLISH BROADCASTS from p.17

CHINA-Taiwan

The Voice of Free China used to be a rare catch from most listeners, but this has changed dramatically since the introduction of the evening program by relay station in Florida (transmitter of WYFR Okeechobee) on 5985 kHz. 11740, 15130, 17805 are also available for use.

My best reception is around 0200 on 5985 when they are a powerhouse signal; announcers, however, are a bit difficult to understand. Some very interesting political, travel, and musical programs are aired; naturally, they are very hostile to the mainland regime and lose no opportunity to knock them!

If you write a report to them you may receive all sorts of souvenirs and an interesting pamphlet on Taiwan.

ISRAEL-Jerusalem

Kol Israel is our chosen representative of the continent since its service is very reliable and its presentation is very professional. The IBC sends out a regular schedule to those who write in and they have many good programs.

Of particular note are "FORUM" (discussion on current affairs), "THANK GOODNESS IT'S FRIDAY" (Sabbath eve magazine); "LIVING BIBLE," "STUDIO THREE" (Arts), "MUSIC FROM ISRAEL" (Mondays), and "CALLING ALL LISTENERS" (Sundays). Our selected schedule:

UTC	FREQ (kHz)
1100-1130	17630 15585 13475 11610
1800-1815	13720 11590 9890
2000-2030	11960 11655 9815 9440
2230-2300	11960 11655 9815 7410
0000-0030	11655 9815 7410
0100-0125	same
0200-0230	same
0500-0515	9815 9420 9009 7410

JAPAN - NHK Tokyo

Radio Japan with news and economic commentaries at 2300 on 17775, and 2345 on 17825 and 15300 (best!); at 0130 on 21/17 MHz channels and 15195 kHz. The HF channels are not propagating well and the 17 MHz ones rarely heard.

SOUTH KOREA

Seoul can be heard at 1400 (15575/9750 kHz) and 0200 (15575 kHz) with news, travel programs, classical music by their symphony orchestra, etc...This is an "in-and-outer" but when conditions are reasonable the 15 MHz channel has a super signal. Excellent audio quality also.

KUWAIT

Radio Kuwait has three hours continuous English programming from 1800 on 11675 kHz! This one has a very consistent signal, though you may find you need a good outdoor antenna to get a strong signal. But it's usually there.

News, talks and good musical programs; one heard at 1915 is called "Magazine Special: with a very "BBC English"-accented lady announcer!

SAUDI ARABIA

The African service of BSKSA is sometimes audible on 11855 kHz at 1000-1300 and 1700-2100.

TURKEY

The Voice of Turkey from Ankara has two English broadcasts to North America, at 2200 (9/11 MHz) and 0300 (9560 - heard by your ed). They are a "frequency-hopper" with changes at intervals. Best reception in recent weeks here has been on 9660 at 2200...but check around the 31 meter band at this hour.

They often have a huge signal, and their programs on the land and music are quite fascinating.

MONTHLY SUMMARY OF MAIN INTERNATIONAL BROADCASTERS:

BRITAIN: BBC	1100-1330	21710 21660 15215 15070 11775 6195
	2000-0000	15260 11750 6175
	0000-0300	11750 9515 6175 6130 6005 5975
	0500-0630	9510 6175 5975
RADIO AUSTRALIA	1100-1600	11800 11710 9580
ECUADOR: HCJB	1200-1430	26020 17890 15115 11740
	0030-0700	15155 11910 9745
USA: VOA	1700-2300	15600 15580 15445
	0000-0600	15205 11740 9650 6130 5995
SOUTH AFRICA	0200-0256	11730 9615 5980

RTTY/FAX

FACSIMILE LOG 1984

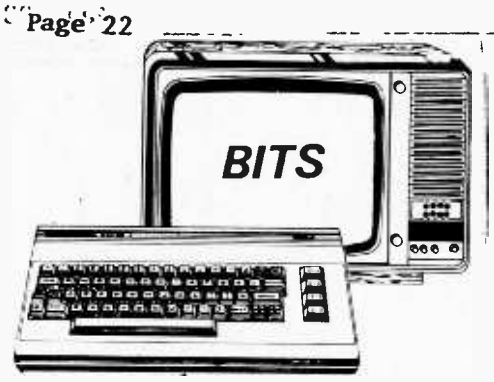
by Mike McCloskey

The following is a continuation from last month's verified loggings contributed by Mike McCloskey. Please send any corrections or additional loggings to Bob Grove, Monitoring Times, P.O. Box 98, Brasstown, NC 28902.

FACSIMILE LOG 1984
(All frequencies copyrighted by Monitoring Times)

FREQ	CALL	LOCATION	SCAN/MIN	OP TIMES
6765		BANGKOK,THAILAND		
6850		MOBILE, AL		EVERY 3HR
6901		STOCKHOLM/NOORKOPING,SW		
6912.5	KWAS	WASH D.C.-AZORES		H24
6918.5		MADRID,SPAIN	60,120	
6944	CKN	ESQUIMALT,BC,CANADA	120	
6997.5		US FORESTRY SERV,CA	SUMMER FIRE SEASON	
7305	JMH-2	TOKYO,JAPAN	120	
7375				
7395		BANGKOK,THAILAND		
7405		NEW DELHI,INDIA		
7417		ROTA,SPAIN		
7475		KHABAROVSK,USSR	90,120	H24
7508	ZRO-2	PRETORIA,S AFRICA	120	H24
7535	AXI 33	DARWIN,AUSTRALIA	120	
7587.5		DAKAR,SENEGAL		
7600	ZLZ 22	WELLINGTN/HIMITANGI,NZ	120	
7626		ROTA,SPAIN		
7645	NPN	GUAM,MARIANNAS IS		0900-2200
7710	VRC 3	FROBISHER NWT,CANADA	120	6/1-10/1
7770	KVM 70	HONOLULU, HI	120	2315-0106
7750		MOSCOW,USSR	60,90,120	H24
7995	NPM	HAWAII(USN)		
8018		HELSINKI,FINLAND		
8040	GFA 23	BRACKNELL,G BRITAIN	120	H24
8077.5		STOCKHOLM/NOORRKOPING		
8080	NSS	NORFOLK,VA		
8100		ROTA,SPAIN		
8120	BAF 36	BEIJING,CHINA	120	
8146		ROME,ITALY		
8160	VFE	EDMONTON,AL,CANADA		H24
8184	VFE	EDMONTON,AL,CANADA		H24
8185		PARIS,FRANCE		
8291.1		RIO DE JANEIRO,BRAZIL		
8459		KODIAK,ALASKA		
8472	JJC	KYODO-NEWSFAC TOKYO	60	
8494.85		NORTHWOOD,G BRITAIN		
8502	NIK	BOSTON,MASS	120	1600
8526		MONSANTO,PORTUGAL		
8590				
8640			120	
8644.1		LA JOLLA,CA		
8680	NMC	SAN FRANCISCO,CA	120	0100-1500
				1700-2300
9150		TASHKENT,USSR	60,90,120	H24
9043	5YE 1	NAIROBI,KENYA	120	
9045	KWAS	WASH DC-PANAMA CANAL Z		H24
9060		NOVOSIBIRSK,USSR		H24
9157		MOBILE, AL		EVERY 3HR
9203	GFE 22	BRACKNELL,G BRITAIN	120	H24
9230		KHABAROVSK,USSR	90,120	H24
9290	WFA 29	BRENTWOOD, NY	120	0705-1212
9355			60	
9360	OXT	COPENHAGEN,DENMARK	120	0000-0025
				1010-1215
				1245-1305
				1830-1850
9289.5	WFH 29	BRENTWOOD,NY	120	0705-1212
9438	JMJ 3	TOKYO,JAPAN	120	
9440	NPM	HAWAII(USN)		
9459	ZKLF	WELLINGTON/AUCKLAND,NZ	120	0600-1800
9876	AOK	ROTA,SPAIN		
9890	CFH	HALIFAX,NS,CANADA	120	1000-2200
9960	NPN	GUAM,MARIANNAS IS		0900-2200
9970	JMH 3	TOKYO,JAPAN	120	
9982.5	KVM 70	HONOLULU,HI	120	0643-0843
10115	BAF 4	BEIJING,CHINA	120	
10123	SUU 2	CAIRO,EGYPT	120	
10185	KWAS	WASH DC-AZORES & PANAMA CANAL ZONE		H24
10225	PPN 9	BRASILIA,BRAZIL	120	
10250		MADRID,SPAIN	60,90,120	
10255	NPN	GUAM,MARIANNAS IS		0900-2200
10340				
10387		NAIROBI,KENYA		
10555	AXI 34	DARWIN,AUSTRALIA	120	H24
10720	LRB 22	BUENOS AIRES,ARGENTINA	120	
10865	NSS	NORFOLK,VA		
10966	NPN	GUAM,MARIANNAS IS		0900-2200
10980	RDD 78	MOSCOW,USSR	60,90,120	H24
11030	AXM 34	MELBOURNE/CANBERRA,NZ		
11035	WFL 51	BRENTWOOD,NY	120	0712-1212
11086.5	GFA 24	BRACKNELL,G BRITAIN	120	H24
11090	KVM 70	HONOLULU,HI	120	1140-1340
11145		MOBILE,AL	120	EVERY 3HR
11130	ZLX 22	WELLINGTON/HIMATANGI,NZ		
11460				
11615.5	VFE	EDMONTON,AL,CANADA		H24
12025		RIO DE JANEIRO,BRAZIL		
12125	CKN	ESQUIMALT,BC,CANADA	120	
12175			120	2200
12184		ROTA,SPAIN		
12201	KWAS	WASH DC-PANAMA CANAL		H24
12212		USAF	60	
12230		NOVOSIBIRSK,USSR	90,120	0000-2230
12728	NMC	SAN FRANCISCO,CA	120	0100-1500
				1700-2300
12305	FTM 30	PARIS,FRANCE	120	0600-1900
12743	JJC	KYODO,TOKYO,JAPAN	60	
12750	NIK	BOSTON,MA	120	
12903		ROTA,SPAIN		
13002		MONSANTO,PORTUGAL		
13366				
13473	KWAS	WASH DC-AZORES & PANAMA CANAL ZONE		H24
13510	CFH	HALIFAX,NS,CANADA	120	1000-2200
13550	ZKLF	WELLINGTON/AUCKLAND,NZ	120	H24
13597	JMH 4	TOKYO,JAPAN	120	
13600		ROME,ITALY		
13627.1		HAMBURG,GERMANY		
13627.5	KVM 70	HONOLULU,HI	120	1900-2045
13667.5		DAKAR,SENEGAL		
13773	ZRO 3	PRETORIA,S AFRICA		0300-1730
13800		BUENOS AIRES,ARGENTINA		
13807	NPN	GUAM,MARIANNAS IS		0900-2200
13855	OXT	COPENHAGEN,DENMARK	120	1220-1240
				1310-1330
				1805-1825
13865.5	NPM	HAWAII(USN)		
13920	AXM 35	MELBOURNE/CANBERRA,AUS		
14365	BAF 8	BEIJING,CHINA	120	
14436	GFE 23	BRACKNELL,G BRITAIN	120	H24
14510		PRETORIA,S AFRICA		
14520			120	
14582	GFA 25	BRACKNELL,S AFRICA	120	0600-1800
14605			120	
14610			120	
14672	KWAS	WASH DC-PANAMA CANAL		H24
14732		KHABAROVSK,USSR	90,120	H24
14737	WFK 67	NEW YORK		
14827				
14842		NEW DELHI,INDIA		
15615	AXI 35	DARWIN,AUSTRALIA	120	2100-0800
14692.5	JMJ 4	TOKYO,JAPAN	120	
14850	ZLX 37	WELLINGTON/HIMATANGI,NZ		

Cont'd on p.24



by Mike Edelson

This past month has produced the most mail since I started BITS. Most people asked for further info on CompuServe and HAMNET.I will answer everyone's mail but it may take some time since my new job is keeping me off the air and away from the typewriter. Please be patient; I will answer all mail.

The main source of information on HAMNET is the System Operator (SYSOP): Scott Loftesness W3VS, COMPUSERVE 76703,407 for EMAIL or BBS users. His mailing address is P.O. Box 23546, San Jose, CA 95153.

Many people commented that they don't know how to sign on to CompuServe. You will need to get a user number/password from a computer store. At the same time you'll get the phone number to call the computer and you'll need a MODEM to access the computer, too.

Now the fun starts. You dial the phone number; if you've accessed the system you'll hear a loud high frequency tone (don't hold the phone too close to your ear!). If your MODEM is a direct connect type you'll hang the phone up or let the handset sit on the table.

Next, press the ENTER key; you should then be welcomed onto CompuServe (if not, hit ENTER again). You should get a 3 letter, 1 number channel identifier followed by the welcome message. IF, after you've hit ENTER twice, you haven't signed on, you're probably disconnected from the CompuServe line and will need to dial up again.

Those of you who use phone access (non-direct connect) MODEMS would dial in, get the tone and place the headset firmly into the 2 cups of the cradle. Then hit ENTER.

If you cannot get access or wish to find the nearest computer store selling the CompuServe package, call CompuServe's Users Services at 800-848-8199 or 614-457-0802 between 9 a.m. & 9 p.m. Eastern time. To call up HELP facilities on CompuServe, Type "GO CIS-162" OR "GO CIS-54."

A number of you have also asked me to suggest software firms. While I cannot endorse one company over another (caveat emptor) I will give a brief overview of some material I recently got (Yes, the P.O.B. was full).

PROTECTO ENTERPRISES (Box 550, Barrington, IL 60010; Ph. 312-382-5244) seems to specialize in the Commodore line (C64 and VIC 20) as well as printers, software and monitors. They offer some unusual products.

A program called "FILE WRITER--A CODE-WRITER PROGRAM" is a database system. The nice thing with this is that it accepts plain English, not "computerese"; you can program without knowing BASIC.

Protecto is eager to work with users; their catalog is free. If enough people wrote to them, they might offer software for radio buffs.

Another company to consider is ELECK-TEK, INC (6557 N. Lincoln Ave., Chicago, IL 60645; Ph.800-621-1269 or 312-677-7660). This company seems to handle only T.I., but software, printers, etc. are available from various venders.

Finally, COMPUTER MAIL ORDER deals in computers, terminals, printers, MODEMS, etc. from various venders. They have three facilities: West US is 800-648-3311. The address is Dept. 1107, P.O. Box 6689, Stateline, NV 89449 (in Nevada call 720-588-5654).

In the East call 800-233-8950 or 717-327-9575; that address is Dept. 1107, 477 E. Third St., Williamsport, PA 17701. In Canada call 800-268-4559 or 416-828-0866, and that address is Dept. 1107, 2505 Dunwin Ct. Unit 1B, Mississausa, Ont., Canada L5I 1T1.

An MT subscriber, Ken Carpenter KC4UG, President of Kantronics, recently sent me a computer-generated letter introducing himself, his company and his products. He assures me that he has "the only package for the Timex that will send and/or receive CW/RTTY."

His other software includes a QSL printer, antenna design, logging programs for scanner buffs, SWL logging, etc. The hardware devices available even include CW-RTTY I/O ports.

All programs are on cassettes and require 16K memory; some require the Timex 2040 printer. Ken was supposed to send me a sample program which I never got; I'm sure this was an oversight. Ken can be contacted at: P.O. Box 586, Vernon, AL 35592; (205)695-9815.

Again, MT and I cannot endorse any product, company, person or service.

Finally, since I first wrote that I am available on the air, conditions have prevented me from getting on according to the given schedule. My new (and hopefully final) schedule is

Saturday	1700-1900	SSB 7250
	1900-2200	CW 7125
Sunday	0100-0200	CW 3725
	0200-0300	SSB 3970

I can also be found periodically on the OMISS Net on 80 meters on 3940.5 kHz (SSB); my call is KA2SPH and I'm OMISS #1420.

I really wish to apologize to those of you who tried to QSO me, but family problems and a new job are keeping me very busy.

TRS-80 FREQUENCY FILE

by David Fuller

(We would like to thank Dave Fuller of Bogalusa, Louisiana for contributing this frequency file program for TRS-80 users.

Dave uses a TRS-80 and MC-10 with 16K expansion module.

We would appreciate hearing from other home PC enthusiasts with similar programs for popular PC's lke the Commodore 64, etc.)

```
10   CLS
15   FOR X=1 TO 3:
     PRINT:NEXT X
20   PRINT "FREQ DIRECTORY"
25   PRINT "BY"
30   PRINT "DAVID FULLER"
35   PRINT "WHAT SERVICE
     WOULD YOU LIKE:"
40   PRINT"(1)AMATEUR RADIO
     SERVICE"
45   PRINT"(2)BUSINESS RADIO
     SERVICE"
50   PRINT"(3)FIRE RADIO
     SERVICE"
55   PRINT"(4)MEDICAL RADIO
     SERVICE"
60   PRINT"(5)POLICE RADIO
     SERVICE
65   PRINT"(6)SCHOOL RADIO
     SERVICE"
70   INPUT A$
75   IF A$="1" THEN 120
80   IF A$="2" THEN 205
90   IF A$="3" THEN 310
95   IF A$="4" THEN 410
100  IF A$="5" THEN 510
105  IF A$="6" THEN 610
110  IF A$=" " THEN 20
115  GOTO 9999
120  FOR X=1 TO 3;
     PRINT:NEXT X
125  PRINT "AMATEUR RADIO
     SERVICE"
130  PRINT"(THIS IS FOR YOUR
     FREQ'S)"
200  GOSUB 1000
205  FOR X=1 TO;
     PRINT NEXT X
215  PRINT"(THIS IS FOR YOUR
     FREQ'S)"
300  GOSUB 1000
310  FOR X=1 TO 3;
     PRINT:NEXT X
315  PRINT "FIRE RADIO
     SERVICE"
320  PRINT"(THIS IS FOR YOUR
     FREQ'S)"
400  GOSUB 1000
410  FOR X=1 TO 3;
     PRINT:NEXT X
415  PRINT "MEDICAL RADIO
     SERVICE"
420  PRINT"(THIS IS FOR YOUR
     FREQ'S)"
500  GOSUB 1000
510  FOR X=1 TO 3;
     PRINT:NEXT X
515  PRINT "POLICE RADIO
     SERVICE"
520  PRINT"(THIS IS FOR YOUR
     FREQ'S)"
600  GOSUB 1000
610  FOR X=1 TO 3;
     PRINT: NEXT X
615  PRINT "SCHOOL RADIO
     SERVICE"
620  PRINT"(THIS IS FOR YOUR
     FREQ'S)"
700  GOSUB 1000
1000 PRINT "WOULD YOU LIKE
     TO SEE OTHER SERVICES
     <Y> OR <N>"
1010 INPUT B$
1020 IF B$="Y" THEN 1-5
1030 IF B$="N" THEN 9999
1040 IF B$ "Y" PRINT (Y)
     OR (N)
1050 IF B$ "N" PRINT (Y)
     OR (N)
1060 GOTO 1010
1070 RETURN
9999 END
```

PLASTIC MASTPIPE = BETTER RECEPTION

Do metal mastpipes interfere with scanner reception? Yes, especially with balanced systems like the popular Grove Scanner Beam and OMNI.

To avoid signal reflections and cancellations interference from a metal mast, mount any scanner antenna which is not a discone or ground plane on a plastic extension pipe which is long enough to clear the bottom of the longest element.

Alternatively, the antenna may be mounted off to the side of a metal mast or tower a distance of at least 1/2 wavelength at the lowest frequency of interest (1 foot at UHF; 3 feet at high band; 10 feet at low band).

Mounting an antenna off the side of a mast adds lightning protection, assuming that the mast is well-grounded. But it requires more rugged support of the offset pipe, especially at low frequencies.

In practice, a Scanner Beam or OMNI mounted atop a 3-foot rigid plastic PVC extension pipe on the top of the mast will provide better reception than if mounted astride the metal mastpipe. The same is true of most other vertical dipole scanner antennas.

NOAA WEATHER SERVICE NEW CHANNELS

Due to the growing number of VHF-FM National Weather Service broadcasting centers, four additional frequencies have been authorized for these transmissions.

The following list of frequencies has just been received by MT in time for storm season and readers are urged to listen routinely for storm information which could affect equipment installations.

Location	Frequency
Alabama	
Anniston	3
Birmingham	1
*Columbia	4
Demopolis	3
Dozier	1
Florence	3
Huntsville	2
Louisville	3
Mobile	1
Montgomery	2
Tuscaloosa	2
Alaska	
Anchorage	1
Cordova	1
Fairbanks	1
Homer	2
Juneau	1
Ketchikan	1
Kodiak	1
Nome	1
Petersburg	1
Seward	1
Sitka	2
Valdez	1
Wrangell	2
Yakutat	1
Arizona	
Flagstaff	2
Phoenix	1
Tucson	2
Yuma	1
Arkansas	
Fayetteville	3
Fort Smith	2
Gurdon	3
Jonesboro	1
Little Rock	1
Mountain View	2
Star City	2
Texarkana	1
California	
Bakersfield (P)	1
Coachella (P)	2
Eureka	2
Fresno	2
Los Angeles	1
Merced	1
Monterey	2
Point Arena	2
Redding (P)	1
Sacramento	2
San Diego	2
San Francisco	1
San Luis Obispo	1
Santa Barbara	2
Colorado	
Alamosa (P)	3
Colorado Springs	3
Denver	1
Grand Junction	1
Greeley	2
Longmont	1
Pueblo	2
*Sterling	2
Connecticut	
Hartford	3
Meriden	2
New London	1
Delaware	
Lewes	1
District of Columbia	
Washington, D.C.	1
Florida	
*Clewiston	2
Daytona Beach	2
Fort Myers	3
Gainesville	3
Jacksonville	1
Key West	2
Melbourne	1
Miami	1
Orlando	3
Panama City	1
Pensacola	2
Tallahassee	2
Tampa	1
West Palm Beach	3
Georgia	
Athens	2
Atlanta	1
Augusta	1
*Baxley	7
Chatsworth	2
Columbus	2
Macon	3
Pelham	1
Savannah	2
*Valdosta	6
Waycross	3
Hawaii	
Hilo	1
Honolulu	1
Kokee	2
Mt. Haleakala	2
Waimanalo (R)	2
Idaho	
Boise	1
Lewiston (P)	1
Pocatello	1
Twin Falls	2

Location	Frequency
Illinois	
Champaign	1
Chicago	1
Marion	4
Moline	1
Peoria	3
Rockford	3
Springfield	2
Indiana	
*Bloomington	5
Evansville	1
Fort Wayne	1
Indianapolis	1
Lafayette	3
South Bend	2
Terre Haute	2
Iowa	
Cedar Rapids	3
Des Moines	1
Dubuque (P)	2
Sioux City	3
Waterloo	1
Kansas	
Chanute	2
Colby	3
Concordia	1
Dodge City	3
Ellsworth	2
Topeka	3
Wichita	1
Kentucky	
Ashland	1
Bowling Green	2
Covington	1
Elizabethtown (R)	2
Hazard	3
Lexington	2
Louisville	3
Mayfield	3
Pikeville (R)	2
Somerset	1
Louisiana	
Alexandria	3
Baton Rouge	2
Buras	3
Lafayette	1
Lake Charles	2
Monroe	1
Morgan City	3
New Orleans	1
Shreveport	2
Maine	
*Caribou	7
*Dresden	3
Ellsworth	2
Portland	1
Maryland	
Baltimore	2
Hagerstown	3
Salisbury	3
Massachusetts	
Boston	3
Hyannis	1
Worcester	1
Michigan	
Alpena	1
Detroit	1
Flint	2
Grand Rapids	1
Houghton	2
Marquette	1
Onondaga	2
Sault Sainte Marie	1
Traverse City	?
Minnesota	
Detroit Lakes	3
Duluth	1
International Falls	1
Mankato	2
Minneapolis	1
Rochester	3
Saint Cloud (P)	3
Thief River Falls	1
Willmar (P)	2
Mississippi	
Ackerman	3
Booneville	1
Bude	1
*Columbia (R)	2
Gulfport	2
Hattiesburg	3
Inverness	1
Jackson	2
Meridian	1
Oxford	2
Missouri	
Columbia	2
Camdenton	1
Hannibal	3
Hermitage	5
Joplin/Carthage	1
Kansas City	1
St. Joseph	2
St. Louis	1
Sikeston	2
Springfield	2
Montana	
Billings	1
Butte	1
Glasgow	1
Great Falls	1
Havre (P)	2

Location	Frequency
Helena	2
Kalispell	1
Miles City	2
Missoula	2
Nebraska	
Bassett	3
Grand Island	2
Holdrege	3
Lincoln	3
Merriman	2
Norfolk	1
North Platte	1
Omaha	2
Scottsbluff	1
Nevada	
Elko	1
Ely	2
Las Vegas	1
Reno	1
Winnemucca	2
New Hampshire	
Concord	2
New Jersey	
Atlantic City	2
New Mexico	
Albuquerque	2
Clovis	3
Des Moines	1
Farmington	3
Hobbs	2
Las Cruces	2
Ruidoso	1
Santa Fe	1
New York	
Albany	1
Binghamton	3
Buffalo	1
Elmira	1
Kingston	3
New York City	1
*Riverhead	3
Rochester	2
Syracuse	1
North Carolina	
Asheville	2
Cape Hatteras	3
Charlotte	3
Fayetteville	3
New Bern	2
Raleigh/Durham	1
Rocky Mount	3
Wilmington	1
Winston-Salem	2
North Dakota	
Bismarck	2
Dickinson	2
Fargo	2
Jamestown	2
Minot	2
Petersburg	2
Williston	2
Ohio	
Akron	2
Caldwell	3
Cleveland	1
Columbus	1
Dayton	3
Lima	2
*Moscow	4
Sandusky	2
Toledo	1
Oklahoma	
Clinton	3
Enid	3
Lawton	1
McAlester	3
Oklahoma City	2
Tulsa	1
Oregon	
Astoria	2
Brookings	1
Coos Bay	2
Eugene	2
Klamath Falls	1
Medford	2
Newport	1
Pendleton	2
Portland	1
Roseburg	3
Salem	3
Pennsylvania	
Allentown	2
Clearfield	1
Erie	2
Harrisburg	1
Johnstown	2
Philadelphia	3
Pittsburgh	1
State College	3
Wilkes-Barre	1
Williamsport	2
Puerto Rico	
Maricao	1
San Juan	2
Rhode Island	
Providence	2

Location	Frequency
South Carolina	
Beaufort	3
Charleston	1
Columbia	2
Florence	1
Greenville	1
Myrtle Beach	2
Sumter (R)	3
South Dakota	
Aberdeen	3
Huron	1
Pierre	2
Rapid City	1
Sioux Falls	2
Tennessee	
Bristol	1
Chattanooga	1
Cookeville	2
Jackson	1
Knoxville	3
Memphis	3
Nashville	1
Shelbyville	3
Waverly	2

Location	Frequency
Texas	
Abilene	2
Amarillo	1
Austin	2
Beaumont	3
Big Spring	3
Brownsville	1
Bryan	1
Corpus Christi	1
Dallas	2
Del Rio (P)	2
El Paso	3
Fort Worth	1
Galveston	1
Houston	2
Laredo	3
Lubbock	2
Lufkin	1
Midland	2
Paris	1
Pharr	2
San Angelo	1
San Antonio	1
Sherman	3
Tyler	3
Victoria	2
Waco	3
Wichita Falls	3

Location	Frequency
Utah	
Logan	2
*Cedar City	2
Vernal	2
Salt Lake City	1
Vermont	
Burlington	2
*Marlboro	4
Windsor	3
Heathsville	2
Lynchburg	2
Norfolk	1
Richmond	3
Roanoke	3
Washington	
Neah Bay	1
Olympia	3
Seattle	1
Spokane	2
Wenatchee	3
Yakima	1
West Virginia	
Beckley	6
Charleston	2
Clarksburg	1
Gilbert	7
Hinton	4
Romney	7
Spencer	6
Sutton	5
Wisconsin	
La Crosse (P)	1
Green Bay	1
Madison	1
Menomonie	2
Milwaukee	2
Wausau	3
Wyoming	
Casper	1
Cheyenne	3
Lander	3
Sheridan (P)	3

Legend—Frequencies are identified as follows
(1)—162.550 MHz
(2)—162.400 MHz
(3)—162.475 MHz
(4)—162.425 MHz
(5)—162.450 MHz
(6)—162.500 MHz
(7)—162.525 MHz

Notes:

1. Stations marked with an asterisk (*) are funded by private interest groups.

2. Stations marked (R) are low powered experimental repeater stations serving a very limited local area.

3. Stations marked (P) operate less than 24 hours/day; however, hours are extended when possible during severe weather.

4. Occasionally the frequency of an existing or planned station must be changed because of unexpected radio frequency interference with adjacent NOAA Weather Radio stations and/or with other government or commercial operators within the area.

NEW ARRIVALS

NEW SOFTWARE FOR BEARCAT COMPUSCAN

The Electra Company has released a new series of software packages enabling the computer-assisted scanner to be used with most of the popular personal computers.

Included now in the new versions are IBM PC, Atari 800, Apple II and III, Osborne and Commodore 64.

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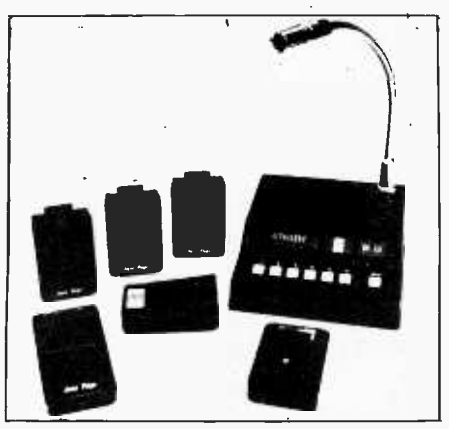

RADIO SELECTIVE TONE & VOICE PAGING SYSTEM

PAGE COM Model ET-6 selective tone and voice paging system is a complete paging system, with transmitter, encoder, power supply, microphone and portable short range antenna.

The ET-6 uses two tone sequential coding for positive signaling without false calls. The transmitter has a power output of 4 watts and is approved by the FCC. A simple license application is included with each system.

Maximum effective range is between 7 to 10 miles, depending on the type of antenna and the height of the antenna above surrounding terrain. For maximum range, a high-gain ground plane type of antenna is recommended. The short range antenna furnished with the system is adequate for in-plant paging, but much greater range will be realized with the outdoor type.

The ET-6 transmitter will deliver a voice message to the pocket pager. There is no time limitation on the length of the voice message. Each pocket pager has an audible beep in addition to a flashing LED for high-noise areas. Extra transmitters and encoders are available on the same frequencies to enable paging from multiple locations within a building or from different locations entirely.

All ET-6 paging systems are expandable to increase system capacity to over 100 pagers. Additional equipment is required. Please contact the factory for your specific needs. Also, a tone only version of the ET system is available at reduced cost.

Pricing begins at about $400, from PAGE-COM, INC, 222 Municipal, Suite 100, Richardson, TX 75080; (214) 669-8739.

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BUILD YOUR OWN BEARCAT

The Heath Company of Benton Harbor, Michigan has announced the availability of the popular (but recently-discontinued) BC-20/20 scanner in kit form.

Identical to the Electra programmable scanner, the receiver kit is to be sold through Heathkit outlets for $249 (kit no. GR-740).

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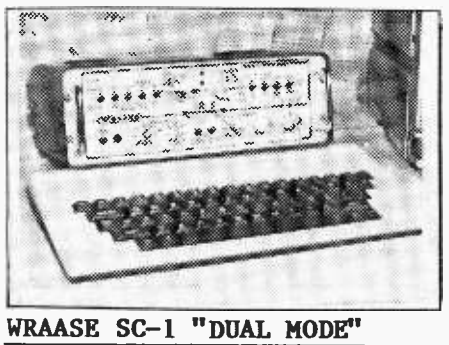


WRAASE SC-1 "DUAL MODE" SSTV/FAX CONVERTER

The newest in a fine line of quality high-resolution state of the art digital television converter equipment imported directly from Germany. This video system offers 128x128second, 258x128 16 second, 256x256 32 second black & white SSTV receive or transmit capability or exceptional frame sequential (RGB), line sequential "true" 256x256 hi-resolution color with up to 6 B/W pictures storage memories.

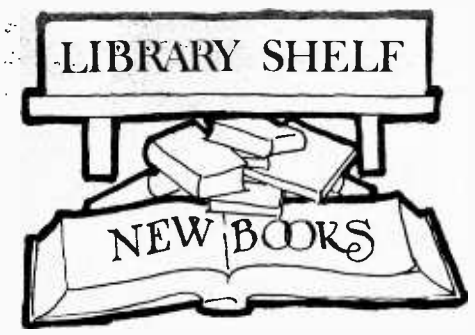
BLACK/WHITE/SYNC LED's ensure perfect "on frequency" alignment. A frame grab circuit provides ease of loading, colorflash and "motion" SSTV pictures. In the Fax Mode, the SC-1 will receive 60, 90, 120, 240, 360 and 480 line per minute rates (automatic phasing on 300 Hz. Starts signals such as GOES, METEOSAT or WEFAX) of selectable AM/FM facsimile pictures and transmits at the 240 line rate.

The WRAASE SC-1 displays on your screen 64 grey levels! This makes for excellent detailed photographs ideal for landline conference calling. Small and rugged construction (12x4x7 inches). Optional (128x128x16 shade) hard copy internal printer interface, multi-colored graphics key generator.

$1295.00 includes interface cables and complete English version manual and schematics. Special "Fax only" unit (FX655A) $895.00 (plus customs fee). Send $5.00 for special "Fax Information Package". INTERNATIONAL SALES & MARKETING, 804 Jefferson Avenue, Lowden, IA 52255; (319) 944-5421.

RTTY/FAX LOG from p.21

15620.5	KWAS	WASH DC-PANAMA CANAL		H24
15770.5	VFE	EDMONTON,BC,CANADA		H24
15782	UPI	NEWSFAX PHOTOS	60	
15820	AP	NEWSFAX PHOTOS	60	
15930	NPN	GUAM,MARIANNAS IS		0900-2200
16135	KVM 70	HONOLULU,HI	120	1900-2045
16220	ZKLF	WELLINGTON/AUCKLAND,NZ		1800-0600
16402	NPM	HAWAII(USN)		
16410	NSS	NORFOLK,VA		
17064	KYODO	TOKYO,JAPAN	60	
17075				
17140.3	NMC	SAN FRANCISCO,CA	120	1700-2300
17365	5YE 3	NAIROBI,KENYA	120	
17408		LA JOLLA,CA		
17436.5	WFK 67	BRENTWOOD,NY	120	1900-2350
17443	NMS	WASH DC		
17510	OXT	COPENHAGEN,DENMARK	120	1335-1255
17520		BANGKOK,THAILAND		
17670.5	KWAS	WASH DC-PANAMA CANAL		H24
18060	AXI 36	DARWIN,AUSTRALIA	120	2100-0800
18080	PPN 9	BRASILIA,BRAZIL	120	
18093	LRO 84	BUENOS AIRES,ARGENTINA	120	
18130	JMJ 5	TOKYO,JAPAN	120	1400
18220	JMH 5	TOKYO,JAPAN	120	
18227		NEW DELHI, INDIA		
18235	BAF 33	BEIJING, CHINA		
18238	ZRO 4	PRETORIA, S AFRICA	120	0540-1745
18261	GFE 24	BRACKNELL,G BRITAIN	120	0500-1900
18509	WFR 38	UPI,NY	60	
18620	NPN	GUAM,MARIANNAS IS		0900-2200
19015	KWAS	WASH DC-PANAMA CANAL		H24
19275		KHABAROVSK,USSR	90,120	H24
19488	ZLX 31	WELLINGTN/HIMATANGI,NZ	120	
19680	AXM 37	MELBOURNE/CANBERRA,AUS	120	
19750		DAKAR,SENEGAL		
19850			60	1345
19955	KWAS	WASH DC-AZORES&PANAMA		H24
20016	NSS	COM NAV OPS	120	H24
20083			120	1345
20799	WFN 20	UPI, NY	60	
20895			60	
20925	NPN	GUAM,MARIANNAS IS	120	0900-2200
21785	NPM	HONOLULU,HI	120	1800
22072				
22535	KYODO	TOKYO,JAPAN,JJC	60	
22540				
22770	JMH 6	TOKYO,JAPAN	120	
22865	NPN	GUAM,MARIANNAS IS	120	0900-2200
22920			60	
23068.5	KWAS	WASH DC-PANAMA CANAL		H24
23075	WFN 23	AP, NY	60	
23331.5	KVM 70	HONOLULU, HI	120	1900-2045
23880	NPN	GUAM,MARIANNAS IS	120	0900-2200
27750	AXM 38	MELBOURNE,AUSTRALIA		



ARRL: BOOKS FOR EVERY INTEREST

As promised last month, this month we will take a look at some of the publications sold by the American Radio Relay League, headquarters for organized amateur radio hobbyists for more than a half century.

Included in the ARRL library are publications of the RSGB (Radio Society of Great Britain), the ARRL equivalent in the United Kingdom.

Most magazines serving the amateur radio hobby have an extensive publications inventory and are certainly worth exploring; for example, MT readers have been responding to the excellent book selection advertised monthly by 73 magazine, a leading ham publication with items of interest to SWL's as well.

And now, let's sample a representative cross section of books and learning materials available from the ARRL. For more information on these and other publications from the League, write: ARRL Bookshelf, American Radio Relay League, Dept MT, 225 Main St., Newington, CT 06111.

TUTORIAL AND INTRODUCTORY

FIFTY YEARS OF A.R.R.L. ($4): An historical insight into the development of amateur radio from the beginning. Loaded with early photos, catalog item reprints, old schematics and fascinating anecdotes. Nostalgic.

200 METERS AND DOWN by Clinton De Soto ($4): Written a half century ago, this reprint details the early experiments in long-range communications at LF, the only part of the spectrum for which equipment was generally available.

A collection of chronicles gradually leads upward in frequency to shortwave and the beginnings of VHF communications.

THE FCC RULE BOOK ($3): Up to date (April 1983), this handy volume is a reprint with enormous illustrated expansion of the FCC part 97, rules and regulations regarding the amateur radio service. Very complete; very informative.

THE RADIO AMATEUR'S LICENSE MANUAL ($4): This classical work has earned the reputation of being the traditional study guide for prospective hams. Arranged as a "course in brief" on radio theory pertinent to amateurs, the manual contains sample questions and answers for all levels of licenses except the novice, now being accomodated by the volunteer examination program.

THE ARRL OPERATING MANUAL ($5): It's one thing to know the theory and copy Morse code; it's quite another to know the protocol and procedures followed in amateur radio. This manual covers QSL'ing, traffic handling, certificates and award programs, working satellites and RTTY, use of microcomputers, and even has a chapter on shortwave listening.

TUNE IN THE WORLD WITH HAM RADIO ($8.50): An audio-tutorial approach to the Novice class license. Includes Morse code cassette, instructional book and sample test.

ARRL CODE KIT ($8): Ready to upgrade? This twin cassette pack is designed to raise your code copying speed from 5 to 13 WPM painlessly. An illustrated guide with study tips in included.

UNDERSTANDING AMATEUR RADIO ($5): Concentration on easy-to-understand principles of circuit and construction techniques and antenna installation. Want to etch your own circuit boards? Build you own projects? This book tells you how.

THE SATELLITE EXPERIMENTER'S HANDBOOK ($10): So you'd like to learn more about weather, TV and amateur radio satellites? This handbook is great! Profuse illustrations and an easy conversational style make this book a delightful reference for satellite listeners and users alike.

But don't let the easy-to-read format fool you; the text is loaded with gutsy theory and the math to prove it...if you want it.

TECHNICAL AND THEORY

THE RADIO AMATEUR'S HANDBOOK (648 pages; $12): Unquestionably, one publication stands out as the standard reference work for radio experimenters around the globe: the ARRL Handbook, published annually.

Its reputation is well-deserved; in its pages are liberally-illustrated articles and chapters on every phase of communications technology, written and rewritten over the decades for easy comprehension by beginners, as well as substantive for experienced hobbyists and engineers as well.

The 1984 edition is no exception. Chapters on basic electronics and introductory theory evolve into expert treatments of receivers, transmitters, antennas and specialized forms of communications.

In-depth chapters assist in design and construction of a myriad projects for reception and transmission of radio signals, including various modes, frequency ranges and levels of complexity.

If your budget is limited to one "how-to" book, this is it.

RADIO COMMUNICATION HANDBOOK (RSGB) ($22): While there are many hams who consider this RSGB handbook to be even better than the ARRL's, there is no question that it is a superb complement to the League's handbook.

Fully as large as the ARRL handbook, the RSGB publication presents many fresh perspectives on amateur radio and other communications techniques as well. Chapters include excellent theory and practical advice on receivers, transmitters, antennas and test equipment.

Don't be concerned about lack of available parts; callouts are almost all of international registry and equivalents to hard to find items are readily available.

AMATEUR RADIO TECHNIQUES (RSGB) ($12.50): Homing in on transmitters, receivers, oscillators and antennas, this fine RSGB publication really gets down to the nitty gritty of design considerations for circuits. Liberally illustrated.

TELEPRINTER HANDBOOK (RSGB) (Hardbound, $21): Although somewhat dated in terms of modern computerized RTTY systems, this handbook is very useful to those who prefer the older electromechanical printers.

Extensively detailed, liberally illustrated, the handbook covers most of the better-known (and many not-so-well-known) EM print machines.

FM AND REPEATERS ($5): A cookbook approach to planning the FM VHF/UHF installation, whether simplex or repeater. Troubleshooting, testing, mobile and fixed installations, receivers and transmitters.

TEST EQUIPMENT FOR THE RADIO AMATEUR (RSGB) (Hardbound; $11): The art of accurate measurement--crucial to proper operation of electronic equipment. This fine reference presents design and operating parameters for oscilloscopes and monitors, wavemeters and dippers, power and frequency measurement, signal strength and antenna/feedline testing.

SOLD STATE DESIGN ($7): For the hard-core circuit designer, nothing beats this manual. All-solid-state approaches to transmitter, receiver, and test equipment circuitry. Plenty of solid theory to back it up.

RADIO FREQUENCY INTERFERENCE ($3): Subtitle continues, "How to identify it and cure it." Neighbor's CB driving you crazy? Are you driving your neighbors crazy? Hearing strange voices in your telephone, stereo or TV? Don't call a psychiatrist before reading this guide to nailing down RFI.

Simple-to-follow directions on determining the source of the problem, followed by easy-to-do cures. Lots of good background material to beef up the cookbook approach to making everybody happier.

HINTS AND KINKS FOR THE RADIO AMATEUR ($4): Over the years, all of us have discovered little hints which make our jobs easier. Hams have contributed many of these discoveries over the years to the League and they are published, both in the magazine QST as well as in editions of Hints and Kinks.

Tips on better signal reception and transmission, antenna performance, power supply and test equipment hints and much more. A bargain for the home experimenter.

WEEKEND PROJECTS FOR THE RADIO AMATEUR ($3): You don't have to be a ham to benefit from the dozens of neat home construction articles in this book. Preamps. noise blankers, frequency converters, antenna switches, audio oscillators, battery chargers and more.

ANTENNA THEORY AND CONSTRUCTION

THE ARRL ANTENNA BOOK ($8): Just as the Radio Amateur's Handbook is the world's standard reference on hobby communications, the ARRL Antenna Book is the standard reference on antennas for all frequency ranges.

With over 600,000 copies now in circulation, the book must have a loyal following. A look through the contents reveals why: fundamentals of propagation; construction details for simple and complex antenna systems for mobile or fixed use from MF through microwave, including those with

Cont'd on p.28

GETTING STARTED

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(If the most questions from readers involve receivers and antennas, certainly the next most prolific subject is preamplifiers and tuners.

This month MT takes a look at these add-ons from two perspectives, written by two competent and experienced listeners. While some of their material is redundant (both were independently asked to write their thoughts), each offers fresh insight into these classical receiver accessories...Bob)

PREAMPS, TUNERS AND PRESELECTORS ...A closer look

by Rich Arland WPE7BYR

Today's radio market is crowded with all sorts of gadgets to add on to your receiver/scanner in order to improve performance. The current trend in receiver design (i.e., wide band RF front ends with massive gain figures) necessitates the addition of some form of RF pre-selection or tuner to allow the receiver to perform well on crowded bands.

Older gear can benefit from some pre-amplification and pre-selection, too. The purpose of this article is to explore the various devices currently available to improve receiver performance and to dispell some long-held myths on pre-amplification.

Back in the not-too-distant-past, most communication receivers had coil/capacitor tuned circuits in the RF amplifier. These coupled with an antenna tuning circuit made even the "cheapies" perform well. The reason was due to the tuned circuits ahead of the RF amp. Unwanted signals seldom reached the RF amp and 1st mixer to cause intermod problems and degrade the dynamic range. This resulted in good performance from inexpensive rigs.

INTERMOD

Before we go further, let's explain why intermodulation distortion and dynamic range are important to receiver performance. Most receivers can be good runners under uncrowded band conditions. Unfortunately, the bands (amateur and SW broadcast) are far from uncrowded.

Most RF amps have extremely high gain figures and the amp also produces thermal noise. All this is amplified and passed along to the first mixer.

If there is no selectivity (tuned circuits) ahead of the RF amp two things happen. First, the amp will amplify ALL the signals present--the desired signal plus all other signals that appear at the RF amp input. This creates more noise.

In the case of the newer, wideband receivers, the untuned bandwidth may extend from 150 kHz to 30 MHz!! All of this crud ends up at the input to the first mixer where it produces sum and difference frequencies (products of the mixing techniques), the original signals plus whatever noise was generated by the RF amp. All of this is present at the output of the first mixer.

Everything present except the desired signal is classified as intermodulation distortion; the worse the intermod, the poorer the receiver performs. By adding tuned circuits ahead of the RF amp, 95% of the unwanted garbage is filtered out. This results in a clean signal, easily amplified by the IF stages and free from unwanted intermod.

DYNAMIC RANGE

Dynamic Range is the measurement of the ability of a receiver to cope with two signals, one very large and the other very small. The ability to copy a weak signal in the presence of a large signal on an adjacent frequency is a true measure of a receiver's performance.

Many rigs suffer horribly from poor dynamic range; unwanted signals "muscling-in" through the RF amp and first mixer will destroy a rig's dynamic range. The ability of your receiver to handle large signals and small signals together becomes paramount when you DX the medium waves and live next to an AM broadcast station or if you are an amateur radio operator and have a big-gun DXer living a block away. Proper receiver design can improve both intermod and dynamic range.

One of the best ways to insure good performance is to buy a rig which has the necessary tuned circuits in the RF input stages. Sadly, many of the new rigs don't have coils and capacitors ahead of the first RF stages. Therefore, you are left to build or buy gizmos that will do the job the manufacturers should have done. These add-ons take the form of preselectors, antenna tuners and preamps. Let's look at each one and see which applications they are best suited for.

PRESELECTORS AND PREAMPLIFIERS

Preselectors can be a boon or a curse, depending on their design and whether or not they have a built-in preamp. Basically, any form

Cont'd on p.28

RECEIVER PREAMPS: PROS AND CONS

by Charles Wendell Lovett Jr

Many SWL's use older communication equipment, and the problem of pulling in weak signals can be a frustrating experience, particularly when tuning in stations on the higher frequency bands. We have all experienced the excitement of hearing a rare DX station on the edge of readability. However, we have also all experienced the disappointment of realizing that, in many instances, our receiver lacked the ability to bring the station in. This problem can be solved by the use of a device called a receiver preamplifier.

A receiver preamplifier amplifies the RF energy of a signal before it enters the communications receiver. If it is integrated with a preselector, it has the additional purpose of reducing unwanted spurious signals. It is connected in line between the antenna and the receiver, and usually has a gain control, a frequency matching system, and a bypass switch to connect the antenna directly to the receiver when the preamplifier is not in use.

There are several advantages to using a preamplifier. One of the most important is the increased sensitivity the preamplifier adds to a receiver above the area of 14 MHz. This is accomplished by improving the strength of the incoming signal in relationship to the internal noise figure of the receiver.

The noise figure of a receiver is a measurement of the signal to noise ratio of an everyday receiver measured against the quiet ideal of a "theoretical" receiver. The noise figure is dependent upon such factors as the thermal-agitation noise and "front end" design of the receiver, and weak signals can be lost in a receiver with what is commonly termed a high "noise floor."

By using a stage or two of RF amplification in the preamplifier, and by keeping the preamplifier noise figure low, it is possible to give a distant or weak station a signal advantage over the noise floor of the receiver.

If the preamplifier is integrated with a preselector, the unit has the additional advantage of reducing unwanted spurious signals. The preselector adds another tuned circuit between the antenna and the receiver, and by using this circuit to its advantage, unwanted signals can be reduced.

Since the typical receiver preamplifier offers a fairly constant decibel gain over a wide frequency range (there are exceptions to this), it is readily adaptable to experimental receiving antennas, including radio direction finding loops and random length wires. This can be of particular advantage to listeners living in apartments or on small lots.

Ham operators use MOSFET preamplifiers on the 10 meter band for satellite communications, and many SLW's are using preamps to enhance the readability of low power stations in the tropical bands. Scanner operators are using low noise preamps (with bipolar transistors) ahead of their equipment to obtain a 10 to 20 dB gain over a wide frequency range.

While there are advantages to using preamplifiers, it is also true that there are drawbacks. Many modern communications receivers have adequate RF amplification and sensitivity, and using a preamplifier with these receivers can actually reduce performance. The preamplifier can overload the receiver, causing a reduction in its signal receiving capability. A scanner or VHF receiver, for example, can develop intermodulation problems. This is the result of too many signals mixing in the RF or mixer stages of the receiver, causing unwanted images in the passband.

In addition, there is the problem of expense. New broadband preamplifiers cost in the fifty to ninety dollar range, and an argument can be made that the added improvement to the receiver doesn't justify the expense of the preamplifier. It makes little sense, for example, to pay thirty-five dollars for an older shortwave receiver at a garage sale and then pay ninety dollars on a preamp to improve its performance. On the other hand, if set up correctly, one preamp can serve many receivers.

Used preamplifiers may occasionally turn up at ham-

Cont'd on p.28

EXPERIMENTER'S

WORKSHOP

ADD AN S-METER TO YOUR SCANNER

by Jean Pronovost *

Your scanner receiver, as it stands, is a useful piece of equipment, but don't you wish it could do more for you? Here are a few modifications that will make your scanner more user friendly.

Although written for the Realistic PRO-2001 scanner, these modifications can be applied to other models in principle. All you need to do is find on the receiver's schematic where to hook your modifications, or have a technician help you.

Now, can we warm the soldering iron and start rummaging inside our scanner? No, not yet. First, a word of advice. Opening the case of your scanner and modifying its circuit will void its warranty. So, if your scanner is brand new, think about it twice before going at it. You might as well wait until the warranty expires which shouldn't be very long anyway!

Secondly, you will need the service manual for your scanner, not to be confounded with the operator's or owner's manual. This service manual, usually available directly from the manufacturer or through its distributors, will supply you with a wealth of information including specification, operation, alignment, schematic and block diagrams, parts layout, troubleshooting and parts list.

Even if you do not intend to modify your scanner at all, it would be a good idea to get yourself a copy of the service manual right now; it might not be available when your scanner will quit on you and need repairs.

LET'S GET STARTED

An S-meter is useful to make relative comparison between two signals and help you know, for example, if one antenna is better than another, or let you know if a transmitter is a few blocks away or a weaker, distant station.

Most scanner don't have the space on their front panel to accomodate a meter, so you will need an outboard meter cabinet, preferably a metal one. The size of the meter and its cabinet depends on your taste and your pocketbook.

Since the meter will be plugged into your scanner you can plan to use the same meter for the house and the mobile, or leave a permanent S-meter installed in the car and have a different one at home.

Figure "A" gives us an overview of what is needed inside the PRO-2001 Realistic receiver. The general idea is to sample RF from a 455 kHz IF stage through a capacitor (which lets through the AC signal but blocks any DC voltage), bring this signal to the meterplug, then through a shielded cable, inside the meter case, and finally rectify the RF signal so it will cause deflection on a DC meter.

One problem we might have with our S-meter is not enough sensitivity; that is, the S-meter will not give any reading for a weak signal or, inversely, the S-meter will not give a higher reading if an already strong signal is getting stronger. To get around this, we use a switch to select between two S-meter sensitivities, "distant" and "local."

The "local" sensitivity is picked up at the output of the first 455 kHz amplifier stage after the 455 kHz ceramic filter. The "distant" sensitivity is picked up at the output of the second 455 kHz amplifier stage where IF amplification is sufficient for a weak signal to cause a deflection of the meter while a strong signal won't be amplified any more.

If your scanner is not a PRO-2001, then consult your service manual. Your scanner might already have a test point hooked up to the 455 kHz IF. Also, before going out and buying a meter with a specific scale, do experiment with a V.O.M. or surplus meters to determine if you need a 50 uA meter or a less sensitive meter.

A meter too sensitive can always be shunted (a resistor across its terminals) to reduce its sensitivity, but you can't increase the sensitivity of a meter without adding an amplifier stage.

*P.O. Box 454, St. Jean, Quebec, Canada J3B 6Z8

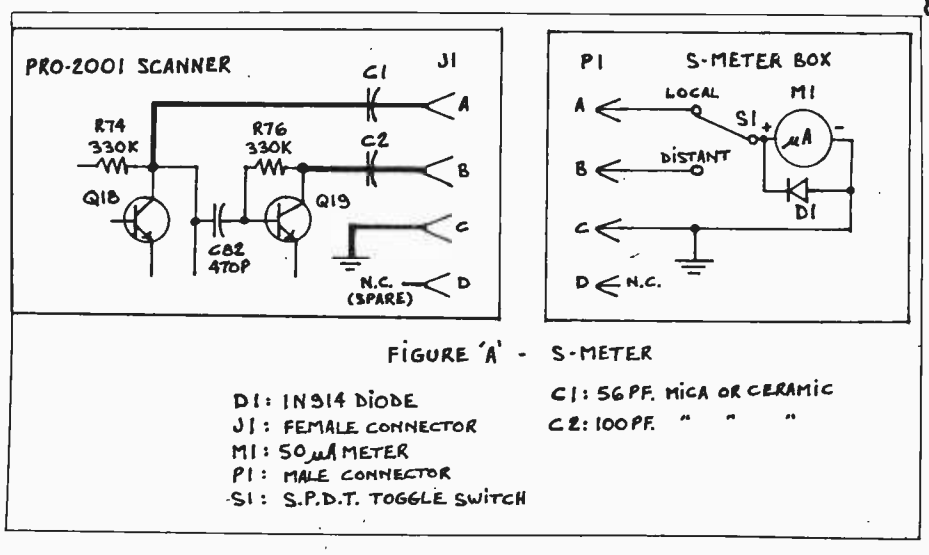


FIGURE 'A' - S-METER

D1: IN914 DIODE
J1: FEMALE CONNECTOR
M1: 50 µA METER
P1: MALE CONNECTOR
S1: S.P.D.T. TOGGLE SWITCH
C1: 56 PF. MICA OR CERAMIC
C2: 100 PF. " " "

SHORTWAVE PREAMPLIFIED PRESELECTOR

Many listeners are not aware of the difference between a preselector and a preamplifier. A preselector is a frequency-tunable device, used to add an additional measure of RF selectivity at the antenna input of a receiver in an effort to reduce intermod and images. It may contain an amplifier ("active") or it may be merely the tuned circuit ("passive") like the popular Grove TUN-3 Minituner.

A preamplifier is a stage or two of RF amplification between the antenna and receiver to increase the receiver's sensitivity to weak signals. It may be tuned or wideband.

The circuit featured here this month claims both features: it is tuned and it amplifies. It is reprinted here as contributed by Radio Canada International. We appreciate the opportunity to share this information with our readers.

INEXPENSIVE FET PRESELECTOR

This preselector covers a range of 5.5 to 22 MHz approximately. It has a gain of about 4 to 6 S Units at any given frequency, but the actual gain will depend on the receiver & antenna being used.

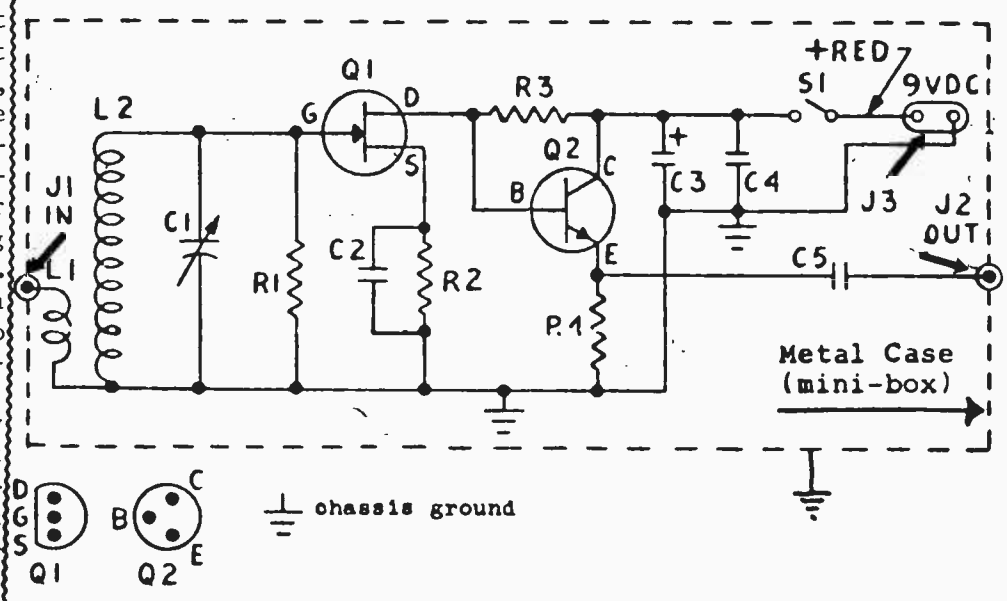
CONSTRUCTION DETAILS

Coil L-1: 2 turns of no.26 enameled wire/close wound on top of coil L-2. Coil L-2: 15 turns of no.26 enameled wire/close wound on a piece of 5/8 inch diam. wood dowel.

For best results the preselector should be housed in a metal box. However, it will work if constructed on a piece of board. It will also work best if built on a printed circuit board, which you would of course have to make yourself. If you hand wire it, as opposed to putting it on a printed circuit board, make sure you keep all leads as short as possible in order to keep oscillations to an absolute minimum. Also make sure all solder joints are good, as this will also help to cut down on the oscillations. Current drain of the unit is about 3 ma from a nine volt battery, which makes it quite inexpensive to run.

PARTS LIST

C-1:365 pf Tuning Capacitor
C-2,C-4,C-5: .01 mfd
C-3: 100 mfd - 15 WVDC
J-1,J-2: Phono Jack
J-3: Battery holder
L-1,L-2:see construction details
Q-1:2n3819 or MPF-102 "n" Channel FET Transistor
Q-2: 2N3646 "NPN" Transistor
R-1: 100 K-1/2watt resistor
R-4: 3.9 K-1/2watt resistor
S-1:Single Pole-Single throw switch



LIBRARY SHELF from p.25

restrictive space limitations.

Separate chapters elaborate on programs for beam headings, theory and test equipment for antennas and transmission line measurement.

HF ANTENNAS FOR ALL LOCATIONS (RSGB) (Hardbound; $12): Have a big backyard and want to get the most out of shortwave reception or transmission? This may be the book for you. The first chapter, "Taking a new look at HF antennas" presents a perspective seldom examined in other works, a matter-of-fact approach to determining what will work best for you.

Simple wire antennas, directional arrays, elaborate installations; all covered with expertise.

ARRL ANTENNA ANTHOLOGY: Over the years many articles appearing in QST magazine have deserved repetition; those dealing with commendable antenna designs are reprinted in this outstanding anthology.

RDF antennas for receiving, beams and arrays for transmitting, vertical and horizontal antennas of all kinds, efficient short antennas and test equipment for the shack. A great collection of good stuff!

RTTY TODAY by Dave Ingram (112 pages, 8-1/2" x 11", softbound; $8.95 plus $1.75 shipping from Universal Electronics, Dept MT, 4555 Groves Rd., Suite 3, Columbus, OH 43232).

Few authors in the RTTY game are as well known as Dave Ingram, a highly-qualified expert in the fields of SSTV and RTTY. Ingram's latest work is an excellent tutorial introduction to all phases of RTTY, from hookup of simple demodulator circuits you can build, to computerized RTTY listening posts and two-way amateur setups as well.

Eight chapters highlight equipment available, operating procedures, frequency lists of active RTTY networks, discussions about the commercial gear on the market from HAL, Infotech, Kantronics, AEA, DGM, Microlog, RAK and other.

Excellent coverage is provided on computer-peripheral approaches to RTTY reception, illustrated by examples of equipment.

Most important, the book is comprehensive, up to date, easy to read and authoritative...an important combination.

CLANDESTINE CONFIDENTIAL - Newsletter by Gerry L. Dexter (bimonthly, four pages, 8-1/2" x 11", $10 per year US, Canada; write: RR4, Box 110, Lake Geneva, WI 53147).

Gerry Dexter, popular Columnist for Popular Communications magazine, has announced a newsletter service to update shortwave listeners on the latest news concerning clandestine broadcasters.

Published by MT advertiser Universal Electronics, Clandestine Confidential's inaugural (February 1984) issue contained interesting comments on nearly two dozen clands including stations in Afghanistan, Burma, Chad, El Salvador, Cuba, China, Iran, Palestine and several Mideast and African countries.

We wish Gerry well on his project and invite MT SWL's to inquire directly at his address above for additional information. Include an SASE so he and I will remain friends!

RADIO DATABASE INTERNATIONAL, Tropical Band Survey by Lawrence Magne (44 pages, 8-1/2" x 11", softbound, $3.95 from International Broadcasting Services, Ltd., P.O. Box 300, Penn's Park, PA 19843).

Well-known World Radio TV Handbook contributor Larry Magne has just released the latest edition of his Tropical Band Survey covering broadcasters in the 2260-5707 kHz portion of the spectrum.

Schedules of worldwide users of this portion of the broadcast bands are listed along with useful data regarding languages and transmitter sites.

Editor Magne is an expert in the broadcast reception field and this quality publication reflects his thorough research.

SCANNER RADIO LISTINGS Hawaii/Guam and Pacific Islands edition by Norman H. Schrein (109 pages, 8-1/2" x 11", softbound, available from dealers or from Fox Marketing. Call 1-800-543-7892).

Popular "Tune in Canada" editor for MT, Norm Schrein has released yet another in his rapid-fire scanner directories, making in all, 16 at this writing!

Identical in general format to all recent Fox listings, this directory is cross-reference by alphabetized user, call signs, and frequency by agency.

The book is a quality printing job with sharp, large printing and loaded with comprehensive listings of virtually every imaginable scanner enthusiast's quarry.

Business, federal government, aircraft and marine, press, safety, and many more--they're all here●

PREAMPS: ARLAND from p.26

of tuned circuit (with or without a preamp) can be a "preselector"; it selects a desired frequency or band of frequencies and attenuates all others. It also provides a constant output impedance across a wide range of frequencies.

A preamp can be employed to make up for any insertion loss, coaxial feedline attentuation, etc. A preselector does not have to use preamplification. If it does it is said to be an "active device"; if it doesn't, it is a "passive device."

A preselector is normally inserted between the antenna and the receiver's antenna input jack. Most have a "peaking control" to select the desired band of frequencies. A preselector without amplification is a good choice for most of the newer gear on the market. The addition of tuned circuits ahead of the receiver input will greatly improve both intermod and dynamic range performance.

Tuners are very similar to preselectors. They are passive in design and normally are found in most ham shacks. Due to the wide range of frequencies that hams have to work, some form of impedance matching must be employed to allow one or two antennas to be used on all bands.

A tuner matches the widely-varying antenna/feedline impedances to a relatively low input/output impedance at the rig. In order to perform this impedance matching, coils and capacitors are used in various configurations.

There are quite a few tuner designs on the market. All are nothing more than coils and capacitors arranged to provide a wide range of tunable impedances. The SWL/DXer may benefit from adding a tuner in front of his rig.

STAY AWAY FROM PREAMPS

Preamps can be the biggest asset or biggest headache you can acquire. One thing that the newer rigs DON'T need is more RF amplification! This applies to the HF receivers as well as the VHF/UHF scanners. A preamp employed on these rigs will create more problems than they will help resolve, especially in an area of high signal levels. About the ONLY gear that requires a preamp is the older tube-type equipment and some of the early VHF/UHF receivers still on the used market.

Preamps amplify EVERYTHING over a wide range of

PREAMPS: LOVETT from p.26

fests and large flea markets.

For the shortwave listener using older equipment, as well as the scanner operator, radio amateur and experimenter, the modern broadband preamplifier can be an excellent investment. Several companies manufacture preamplifiers. These companies include: Ameco Equipment Co, 275 Hillside Ave., Williston Park, NY 11596; MFJ Enterprises Inc., Box 494, Mississippi State, MS 39762; Palomar Engineers, P.O. Box 455, Escondido, CA 92925, and Grove Enterprises, publisher of Monitoring Times.

For a good general review of preamplifiers, please refer to the 1981 edition of World Radio TV Handbook (pp. 553 to 557)●

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frequencies. Most preamps are not designed with good noise figures in mind. Instead, raw gain (in the order of 15 to 20 dB) is the design criterion. This massive gain ahead of a receiver not only amplifies the wanted and unwanted signals, it amplifies band noise, too. Sure, the S-meter goes way up but you still have a hard time hearing the desired signals due to the increased noise generated when using the preamp.

Instead of a preamp, invest in a better antenna system. Money spent on the antenna and feedline will pay more dividends than all the intermod generated dues to the misapplication of a preamp. Definitely steer clear of inexpensive TV-type mast-head preamps. Most of these devices are so wideband and poorly designed that they actually degrade performance dramatically. In addition, they are very prone to local signal intermod. Remember, if it doesn't have tubes, chances are that it doesn't need a preamp.

IN CONCLUSION

We have looked at the three types of receiver accessories which can, if used correctly, greatly increase your rig's performance. A tuner or pre-selector with its tuned circuits will attentuate the unwanted signals while providing a clear path for the desired ones.

Preamps can be used on any rig, but most of the time it is a waste of time and money. Only the older rigs will really benefit from the addition of a preamp. In any case, you pays your money and takes your chance. Good luck and good DXing●

PROFILES

CONFESSIONS OF A TEENAGE OUTBANDER!

by Dan M. in Indiana

(EDITOR'S NOTE: Monitoring Times does not condone illegal radio communications. Nevertheless, this personal insight into the historic CB craze of the late 1970's provides interesting reading).

Catchy title, heh? You may have read Bill Cheek's article, in the March 1984 issue of MT on "OUTBANDERS," the operations outside the legal CB frequencies. Bill covered nicely the history of the hobby; I'll deal primarily with the SSB operations above 27.500.

There are many national, international, and semi-local clubs dealing with outbanders; my involvement was with the main national SSB clubs and some foreign organizations such as the Alpha Tango group from Italy who sponsored DX contests on the 11 meter band.

My equipment consisted of a Siltronix 1011-D and a three element beam at 20 feet. With the 100 watts PEP from the "D", working the world was no chore.

Using DX forecasts for the 10 meter ham band, I very easily predicted what times to look for stations I wanted to contact.

My typical day would be to sit down in front of the "D" and tune across the band; usually, the Spanish-speaking stations from South and Central America were the first to get the DX started. About 8:30 AM I started the every-five-minute ritual of tuning through, so as to get the earliest jump on the DX when it showed. A new accent was easy to spot and the dial never moved until the QTH was revealed.

Belgium operators had to win the award for most activity, at least into Indiana. Forty or fifty could be racked up every hour!

Scattered in between were the Italians and, in the 1980's, the British Isles became the constant contact.

I became addicted to DXing, constantly tuning the band to find that elusive country that I hadn't worked yet!

I learned all the tricks to catch those rare contacts, like intentionally bumping in the middle of a known rare contact's QSO and apologizing, therefore making a contact. Another neat trick was to call a couple of times on top of the station he was trying to hear, briefly, but just enough to let him know you were there, and to make him miss a couple of words, so he would ask you to stand by. Another contact acknowledged!

A list of some of the rare contacts out of the 76 countries/provinces I worked include Luxembourg, Lichtenstein, Gibraltar, Iceland, Greece, the Soviet Union, Zimbabwe, Botswana, Egypt, Ivory Coast, Spanish Morocco, Liberia, Sri Lanka and Japan.

I also set out to work as many islands as possible, a total of 39, including the Azores, Canary's, Faroe, Madeira, and the Faulklands.

They were and probably are still out there, all over the world, the international outbanders.

TECHNICAL TOPICS *by Bob Grove*

Q I have purchased a 20/20 Bearcat 40 channel scanner. I am having trouble with what they call in the owners manual as Birdies. I am also bothered with interference from Hams. Will the Grove Scanner Filter (FTR-3) eliminate this interference? (George K. MacPherson)

A "Birdies" are generated internally by the oscillators in your scanner and cannot be reduced by external means.

Images and intermodulation (overload interference) from strong local signals may be reduced or even eliminated with the Scanner Filter.

◆◆◆

Q Is there any way to modify my Bearcat 210XL to receive aircraft? (Aaron Firestone, Arlington, TX)

A No. Even if we changed the frequency coverage (which can't be done without an extensive change of internal circuitry), the BC-210XL is designed to receive frequency modulation (FM), not the amplitude modulation (AM) transmitted by all aircraft. Sound would be distorted and muffled if readable at all.

◆◆◆

Q Is it practical to build a home-brew mobile scanner antenna? I have some old magnetic mounts that I would like to call into service. (Al Hall Jr, Wade Forest, NC)

A Basically, a 19 inch whip will serve well for aircraft, high band and UHF reception (118-174, 406-512 MHz); a shortened CB antenna (about 70 inches) will work quite well on low band (30-50 MHz).

To make a multiband scanner antenna you need to combine the characteristics of the two antennas. Most manufacturers do this by making the lower section of a wire-wound fiberglass whip about 19" long, then wrapping a number of turns of wire above that as a base load (also a decoupling trap) for the low band.

Anyone out there have success with such a project and want to share your techniques with other MT readers?

◆◆◆

Q I have been told that there is a device that can be connected to a telephone that will show the number calling. I am receiving crank calls and would like to get one. (name withheld)

A While commercial digital display units are available on the market, they tend to be expensive. Since crank calls are against the law, notify the security section of your local telephone company. They will arrange to have such a device monitor your line.

◆◆◆

Q What are the common Coast Guard helicopter frequencies? (Barry Rader, Fostoria, OH)

A A comprehensive list of U.S. Coast Guard frequencies is included in the Shortwave Frequency Directory (BOK-13) from Grove Enterprises. However, a few of the most commonly reported upper sideband channels include 3120, 5692, 8980, 11198 and 15084 kHz.

◆◆◆

Q How can I connect headphones to my scanner? (Don LaMack, Wallace, MI)

A Virtually every scanner made has a jack for the connection of an external speaker. Headphones may be substituted with no problem.

If you use a pair of stereo 'phones, you may need a stereo/mono adaptor, otherwise only one ear will work. Don't worry about matching impedances; modern headphones and speakers are all in the 4-8 ohm range, usually stated on the package.

And if the size of the plug is not the same as the jack on your scanner, a trip to Radio Shack should reward you with just the right adaptor.

WORLDWIDE CB

While MT does not condone illicit use of the airwaves, we must acknowledge that the hobby is international in flavor.

Recently, MT reader Lyndel Thiesen of Bozeman, Montana sent us a list of international on-air CB organizations and many of their operating frequencies as well. We share these here with MT readers.

World Wide Radio Group "WW": 27.920 LSB (P.O. Box 302, New Glasgow, N.S. Canada)
Transcontinental Net "TCN": 27.870 LSB
April Group: 27.755 LSB
CCO Group: 27.970 LSB
Boomerang Group: 27.145 LSB (Australia)
Australia Group: 27.445 LSB
The Norfolk Broads DX Club: 27.545 USB & 27.585 LSB
Riverside SSB Club: 27.445 LSB & 26.935 LSB (Ohio)
International DX Group: 26.585 USB & 27.995 LSB
The United Kingdom Globe Trotters Group: (P.O. Box 6, Runcorn Cheshire, England, WA75YT)
Delta X-Ray Group: 27.755 LSB (North Wales)
Pacific International DX Group
Citizens Band Radio Social Club: (Australia)
Antrim County Sidebanders: 27.940 LSB (North Ireland)
Bravo Sierra Foxtrot DX Group: (England)
Delta Club: 27.565 LSB & 27.885 LSB (P.O. Box 2 B 9078, Zaffelare, Republic of South Africa)
P.L. DX Club: (P.O. Box 141 B, 1410 Waterloo, Belgium)
Delta Whisky International: (Wigton Cumbria, England CA79NN)
Alpha Bravo Charlie DX Group: (P.O. Box 84, Liverpool, England)
Charlie Bravo Sidebanders Club: 27.910 LSB (Cymru, Wales, U.K.)
Alfa Tango DX Group: (P.O. Box 140, 14100 Asti, Italia)
World Wide Skipper Radio Club: (P.O. Box 46 Manuka Act, 2603 Australia)
Panther Charlie Citizens Radio Service: (Orange NSW Australia)
IBM Net: 27.575 USB
The Swagman QSL Swap Club of Australia
Canada Thunderbird Club SSB AM: (Box 118, Alert Bay, B.C. Canada, V0N 1A0)
Charlie Whiskey Club

HELPFUL HINTS

WANT TO GET YOUR HAM LICENSE?

We are grateful to Bill Ellis WB6USB, president of Murphy's Radio Class (4119 Sepulveda Blvd., Culver City, CA 90230) for providing the following sample Novice theory test with answer key. It provides excellent insight into what the prospective examinee might expect.

Now, how well did you do with last month's study guide? Contact a nearby ham for information on taking the test and obtaining your ham license.

NOVICE EXAMINATION

1. Who is a third party in amateur radio communication?
   a. A person listening to your transmissions at his own station.
   b. A person listening to your transmissions at your station.
   c. A person listening to your transmissions at the receiving station.
   d. A person that owns the property on which your station is located.
   e. A person participating in the communication, who is not licensed.
2. What, if any, transmitting frequency privileges are authorized to the Novice class operator besides those in the 80, 40, 15 and 10 meter bands?
   a. All frequencies above 30 MHz.
   b. All frequencies below 30 MHz.
   c. All frequencies where A1/CW are allowed.
   d. All frequencies if 200 watts output is used.
   e. No other frequencies.
3. What is the only emission authorized for use by Novice class operators?
   a. A1/CW
   b. FM
   c. SSB
   d. AM
   e. TV
4. Under what circumstances, if any, may the control operator of an amateur radio station willfully or maliciously interfere with or cause interference to a radiocommunication or signal?
   a. Only on the 40 meter band.
   b. During evenings only.
   c. During week ends only.
   d. If power does not exceed 200 watts.
   e. Under no circumstances.
5. With which non-amateur radio stations may an FCC-licensed amateur radio station communicate?
   a. None
   b. Any
   c. Any that are authorized to communicate with you.
   d. Any that try to communicate with you.
   e. All stations, provided that the power output does not exceed 200 watts.
6. How often does an amateur radio station need to be identified?
   a. At the beginning and end of all transmissions only.
   b. At the end of all transmissions only.
   c. At the beginning of all transmissions only.
   d. Every ten minutes and at the end of the transmission.
   e. Unnecessary to identify if both stations reside in the U.S.
7. What is the maximum transmitter power permitted to be used at an amateur radio station transmitting on frequencies available to the Novice class operator?
   a. 1000 watts dc input
   b. 1000 watts PEP
   c. 200 watts dc input
   d. 200 watts PEP input
   e. 200 watts PEP output
8. How can on-the-air transmitter tune-up be kept as short as possible?
   a. Put antennas as high as possible.
   b. Put antennas as low as possible.
   c. Use of an antenna relay switch.
   D. Use a low pass filter.
   e. Use of a dummy load for tune-ups.
9. What type of radio wave propagation makes it possible for amateur radio stations to communicate long distances?
   a. Skywave communications off of the F layer.
   b. Ground waves using high frequencies.
   c. Direct waves.
   d. Skip, provided that the surface is water.
   e. High SWR is required for long distance communications.
10. What is a convenient indoor grounding point for an amateur radio station?
    a. Hot water pipes.
    b. Cold water pipes.
    c. Front door screen.
    d. Electric stove.
    e. Radar ranges if not already grounded.
11. What type of filter should be installed on an amateur radio transmitter as the first step in reducing harmonic radiation?
    a. Brute force filter.
    b. Crystal lattice filter.
    c. High pass filter.
    d. Low pass filter.
    e. Band pass filter.
12. What station accessory is often used to measure voltage standing wave ratio?
    a. Volt meters
    b. Current meters
    c. Amp meters
    d. Line meters
    e. VSWR meters(reflectometer)
13. What type of current changes direction over and over again in a cyclical manner?
    a. Cycle current
    b. Audio waves
    c. RF waves
    d. AC
    e. DC
14. Which are higher: radio frequencies or audio frequencies?
    a. Audio frequencies
    b. Radio frequencies
    c. Neither
    d. Both
    e. None of the above
15. What is the unit of electrical current?
    a. Amp
    b. Volt
    c. Watt
    d. Ohm
    e. Power
16. What does a voltmeter measure?
    a. Voltage
    b. Current
    c. Resistance
    d. Power
    e. The quantity of electrons flowing in a circuit
17. An interrupted carrier wave is considered to be which type of emission?
    a. RTTY
    b. SSB
    c. AM
    d. TV
    e. CW/A1
18. How is the approximate total length of a half-wave dipole antenna calculated in feet?
    a. 468 divided by the frequency in megahertz.
    b. 2 pi divided by the square root of the phase angle.
    c. The product of the frequency and power, divided by the sum.
    d. The speed of light divided by the operating frequency.
    e. The frequency in megahertz divided by 468.
19. What is coaxial cable?
    a. Shielded cable for connecting the microphone to the code key.
    b. Shielded cable for the transmission of radio waves.
    c. Unshielded cable for the transmission of AC currents.
    d. Shielded cable for the transmission of audio waves.
    e. Two parallel conductor wires, separated by a dialectric.
20. Draw a block diagram for a typical Novice station including a transmitter, an SWR meter, an antenna tuner, an antenna feedline and an antenna.

LISTEN TO WORLD from p.17

with reviews of new radios, antennas and related listening accessories, and various club guests are heard every week about their activities.

This program has been going strong ever since it came on the air back in 1977. Its founder and host, Ian McFarland, has done an excellent job in putting it together and sustaining its popularity. Listen to it on Saturdays at 2130-2200 UTC on 11.945, 15.150, 15.325, 17.820, 17.875 or 21.695.

On Sundays at 1900-2000 GMT you can hear this program on 5.995 7.285 15.325 17.875 and 21.695. Also at 2330-2400 on 9.755 and 11.850. Also at 0100-0130 (after April 29 at 0000-0030) on 5.960 and 9.755. If you are home at 1900 hours on Tuesdays you can pick it up on the same frequencies as given for Saturdays.

SWL Digest is not the only outstanding program that comes down from the land of the maple leaf. Most of the others are put out during the weekends, however. During the week the regular broadcasts to North America are primarily news, weather and sports results. These are heard at 0100-0130 on 5.960 and 9.755 MHz; also at 0200-0300 on the same frequencies. The latter time gives you the well-known "As It Happens" news broadcasts which are aired on the local CBC network at the same time. Also, after April 30, you can hear "As It Happens" from 0000-0100. Same frequencies as given above.

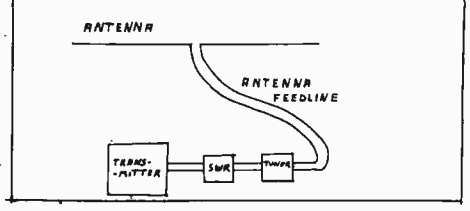
On Saturdays at 1800-1900, listen to "Canada a la Carte" on 15.260 MHz and 17.820 MHz. Here Ian McFarland and Bob Cadman bring you an informative blend of conversation, features and reports about many different aspects of life in Canada. They also play musical requests. After May 5, from 2300-2330 listen in on 5.960 and 9.755.

On Sundays from 1800-1900 on 15.260 and 17.820 MHz, listen to "Bon soir Africa" - RCI's mailbag program. "Spotlight on Science" is also part of this show.

Good listening from the North Country!

CORRECT ANSWERS

1-E	7-E	13-D	
2-E	8-E	14-B	
3-A	9-A	15-A	
4-E	10-B	16-A	
5-C	11-D	17-E	
6-D	12-E	18-A	19-B



Start Your Own Club

by Lawrence I. Cotariu

FORMATION

So, you're an avid shortwave listener and want to organize a club. You want to expand your knowledge of SWLing and have always been an organizer.

The concept seems clear in your mind; "I'll call the group - Radio Internationale, have people around the world belong to it, sell equipment, and we'll even have conventions."

Now, that is what we Americans call "shooting for the moon"--setting your sights high!

However, you might want to begin with a smaller scheme; expand later.

Try obtaining members in your own area first. But how do I get members?

To begin with, put notices on bulletin boards around your vicinity and run classified ads in your town newspaper. Don't expect hundreds of people responding to a notice that a shortwave listening club is being formed. You may get 10 to 20 potential members this way, depending upon the size of your community.

You may be in a better position to start a group at a local community center, church, temple or even at school. In that case you must contact an official of the facility and talk up your interest. Once permission is given, you have the full resources of the center to obtain membership.

Do we want formal sessions or sit around and just have informal conversations? Most clubs have a club name and members nominate and vote for officials. If a formal organization is appealing you will need a president to conduct club meetings, a vice-president to be available in case the leader cannot function in his post, a treasurer to handle any money and do light bookkeeping, and a secretary to record the minutes of each meeting. These are basic positions to organization structure. Others can be selected as the need arises, such as a sergeant-at-arms to control unruly people!

I was a "heysitdownder" in a club. Everyone knew I wanted a title. So this is what I was told: Whenever the National Anthem was announced and people were standing, I was to yell out, "Hey! Sit down der!"

MEETINGS

The first order of business is to decide on a location for your gang to meet. This may not be necessary if your organization is spread out throughout the country or it spans the oceans.

If your meetings will be attended by members, you might want to consider holding them periodically. Your own apartment or home would make a good place to begin with. Another member's home or rotating between each member's place is also a good choice.

A small group can meet at a favorite restaurant, "tavern", pub, recreational center, etc...

Decide on a date, place, and time to hold your organizational meeting. Notify the people who inquired about your club.

At the first gathering, the group can determine the way the club will be run. Should we charge dues? Have officers? What will we talk about? How often should we meet? Can we have a club bulletin?

The traditional way of conducting meetings varies throughout the world. In the United States the leader calls the session to order. He asks the secretary to read the minutes of what happened at the previous gathering. Then the leader inquires if anyone has any need to discuss old business. Then new subjects are brought up by those in attendance.

The meeting usually has a time limit as dictated by how long the meeting place is available. A limit can be decided by the group. After business has transpired, the formal session closes and the participants can socialize.

Gatherings may only be for the club officers. Maybe there will be no meetings because the club only consists of a membership list, bulletins, and personal correspondence.

A session can even be a periodic convention to give members from all parts of the world a chance to come together.

Members might be interested in making trips to an international broadcaster to see its operation. Many electronic companies might do business with the group if you purchase a quantity of the same product and you could save money for the membership.

Attracting new members is important, especially in its growing stage. Bring in people with new personalities and ideas to contribute. Word of mouth is when a loyal member tells his friends about the group and the friends tell other friends.

The same resources used to get your original members together should be continually utilized.

Now that your organization is established, it is building a reputation. Naturally, a good positive image has to be presented to members and non-members; this is known as "good press" or "positive public relations."

Many shortwave broadcasters have segments that will highlight your club, commonly called DX programs. You can reach potential members already involved with the hobby. An announcement over the air will be heard on many continents. If members are wanted in specific regions specify that in your letter. The station's announcer will usually read word for word what you write.

To attract people in general, utilize bulletin boards, news publications of the facility. Try getting publicity in the newspaper. Have an officer of the club send a press release to the news media on your members list and on world hot spots or on a member who keeps in touch with his own country...

For publicity, you might consider appointing a talented public relations director or form a committee to handle this.

It is very important to have a procedure for answering inquiries from non-members. Too often, a club just does not bother doing this. By ignoring letters, you might be losing new members.

If you have any questions, write me at: 8041 N. Hamlin Ave., Skokie, IL 60076 U.S.A. Include a stamped self-addressed envelope (US) or the proper I.R.C.s (Foreign)●

CLUB CORNER

It is with great pleasure that we introduce our new Club Corner columnist, Paul Swearingen, to fellow MT readers. Paul comes to us with excellent credentials and you will enjoy his style.

Send all club information to Paul directly for inclusion in future issues of MT.

Paul Swearingen
7310 Ensign Avenue
Sun Valley, CA 91352
(818) 765-7651

Your club activities are important to you and your members, right? You'd like to be able to attract new members to help you promote your aims and objectives, but sometimes you're frustrated by not being able to reach your potential new members. Well, Monitoring Times has come to the rescue.

From now on, you can consider "Club Corner" as your own. Each month, we'll feature a different club in a short profile, alternating between domestic and non-domestic clubs, and emphasizing those clubs which accept international members. We'll try to include news of future club events as well as news of past events, as long as the news is of current interest.

DX'ing has always been an international activity, especially for SWL's, and this column will attempt to promote the concept of a global community through international friendships--created through club activities. I can claim DX friends literally all over the world, friends whom I never would have met had I not belonged to a DX club, and we'll attempt to link readers with clubs concentrating on an area of DX'ing or monitoring.

As for myself--I have always been primarily a broadcast band DX'er, although I listen to the entire spectrum. I belong to a half-dozen or so clubs, own too many receivers, collect radio books and magazines (which crowd upon groaning shelves), and have too many things going to be able to DX as much as I'd like.

I'm a former school teacher (English, journalism, Spanish) who has worked in nearly all capacities in commercial radio and newspapering who now is involved in sales--of what else but radios, TV's, computers, and other items known in the department store trade as "brown goods."

As soon as I can get things organized, I'll publish definite deadlines so that you can plan your announcements. Please send them directly to me at the address above, or call if you have a late-breaking, hot item.

And remember--don't assume that I'll hear about your activity and will publish it for you. Reporting doesn't operate by the osmosis principle; it operates only if you take the time and effort to contact me. Send me your items--TODAY! 73.

STOCK EXCHANGE

PERSONAL

NOTE: Monitoring Times assumes no responsibility for misrepresented merchandise.

SUBSCRIBER RATES: $.10 per word, paid in advance. All merchandise must be non-commercial and radio-related. Ads for Stock Exchange must be received 45 days prior to publication date.

WANTED: Any BACK ISSUES of MT prior to March, 1984; would like to buy or exchange frequencies in SOUTHEASTERN MICHIGAN. Paul Hooper, 3151 Waters Road W., Ann Arbor, MI 48103; (313)665-0117.

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FOR SALE: INFO TECH M200 Morse Code and RTTY Terminal Unit. I will ship. $225 Cash. Cpt. James Clifford, HHB 1-18FA, APO NY 09178

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WANTED: PANASONIC RF-8000 in any condition. Write: Louis Yadevia, 601 Church Lane, Upper Darby, PA 19082.

****

FOR SALE: YAESU FRG-7000 communications receiver 0.25 MHz-29.9 MHz. Digital display. $195.00. Art Rideout, 2235 Gum Tree Lane. Fallbrook, CA 92028; (619)728-6834.

****

FOR SALE:THE GRUNDIG SATELLITE 3400, dial cord sticks, $500 plus postage. Call Ron Clark at 412-523-5070 evenings.

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FOR SALE:
1)REALISTIC DX-302 Receiver raligned this month, manual and antenna, in original box $225.00
2)COLLINS SR/-278/GR 225-399.9 MHz UHF aircraft receiver, 115 VAC $100.00
3)BC/639 VHF aircraft receiver with speaker, power supply 115 VAC and manual, excellent condition $100.00
You pay shipping. David Bonin, P.O. Box 9315, New Iberia, LA 70560

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AEA MBA-RO CW-RTTY-ASCII Reader with powersupply and stand; exlent condition. $160.00 or trade for Bearcat 100. Jeff (714)898-6118.

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BEARCAT 100. Excellent condition, NICADS, charger, case, antenna, manual. $185 firm. Will ship UPS. Cashier's check or MO. Call "JDP" at (801)521-6383 days or 531-6179 evenings.

****

MBA RO Reader CW and RTTY 32 character display $175.00. Ivan Joynt, Box 75, Holstein, NE (402)756-5353.

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MFJ MODEL 1020 Active Antenna with AC adapter-excellent. $45, ppd. Money order only. Coleman Clarke, 1401 Blair Mill Road #1701, Silver Spring, MD 20910.

****

For Sale: BEARCAT 300 Scanner. Excellent condition. All accessories. $265 ppd. Money order only. Coleman Clarke, 1401 Blair Mill Rd #1701, Silver Spring, MD 20910.

****

BEARCAT 4-6TS. Mint Condition, Accessories. Make Offer, MUST SELL! Write to: Jim Stroika, 4817 N. Elkhart Avenue, Whitefish Bay, WIS 53217.

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INFOTECH M200F RTTY/Morse /ASCII demodulator, new with warranty and free RF modulator for TV hookup; retail $495; one only $425 including shipping.

SCRIPTOMATIC 84 automatic addressing machine, compact, new condition. Modern computerized desktop machine. Ideal for clubs, businesses, churches. Cost $6000; make offer or swap.

JACOB'S LADDER (climbing spark apparatus); build your own Frankenstein's laboratory! Tiny portable 40,000 volt generator makes terrifying sparks! Originally designed by GE for testing dielectric oils (includes cup). Throws hairy spark nearly a foot long at peak of climb! Not for sale to minors (lethal voltage). $100 includes shipping.

Contact Bob Grove 1-704-837-2216, or write P.O. Box 98, Brasstown, NC 28902.

COMMERCIAL

$25 payment must accompany ad. Send 2 1/4" wide x 2" long camera-ready copy or we will type copy (35 words maximum).

NOSTALGIAPHILES:

We have approximately 35 hours of WW II sound nostalgia on excellent quality cassettes - material from both Axis and Allied sides. Fascinating listening!

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Clifton, NJ 07011-1579

INFORMATION PLEASE

MONITORING TIMES WILL PRINT AT NO CHARGE (AS SPACE PERMITS) ANNOUNCEMENTS AND QUESTIONS OF A NON-COMMERCIAL SERVICE NATURE.

I am willing to share aircraft/frequency information from my DOD/FLIP chart en route IFR supplements with anyone sending specific frequency listing questions and an SASE. Information includes tower, arrival/departure, radar weather, air/ground, ATIS, dispatch, Capsule broadcasts and other frequency information for military bases and air fields in US, Canada and Mexico. Philip Humes, Box 3816, Santa Rosa, CA 95402.

(Thanks, Philip; it's always nice to see someone who is offering to share his information).

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WANTED:Addresses for Shortwave broadcast stations to obtain program, frequency and broadcast schedules. Michael Bennett, 1420 N Center, Bonham, TX 75418

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WANTED: EUROPEAN Police, Fire, Railroad, Airport, Marine frequencies. Jim Clark, 210-04 42 Avenue, Bayside, NY 11361.

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I am seeking a manual for the Navy issue IM-52A/URM-17 or NM-20 Radio Interference Field Intensity Meter, 325-1000 MHz, manufactured by Stoddart Aircraft Radio Co, Inc. Contact: Steve Sorman, P.O. Box 75363, St. Paul, MN 55175.

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I am looking for any DXers or SWLs who live outside of N America who might be interested in corresponding by cassette tape. Locations of interest: England, W Germany, Holland, France, Switzerland, Austria, Denmark, Sweden, Norway, Greece, Japan, Australia, New Zealand, S Korea, Singapore, Israel, Tahiti, Philippines, Alaska, S Africa and Ireland! I will be very glad to supply the cassette!! Please send me a letter first. I am interested in 55-77% correspondence talk; 14-39% recordings from shortwave. Rob Harrington, P.O. Box 3434, Littleton, CO 80161.

****

DIRECTION FINDER information wanted. I want to build or buy an SWL-RDF system for locating unidentified transmissions. My location is far west and north, 120 mi north of Fairbanks, Alaska and should be good for triangulation. Need to know about practical books, magazine articles, or equipment. (Hobby use only.) Doug Vander Laan, P.O. Box 287, Ft Yukon, AK 99740.

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WANTED: Ling Temco Vought G175F, G227, G133; ESL(TRW) C-8829/URC-66(V); Technical manuals for Ling Temco Vought G133, G166H, G175, G276A, G568; Collins AM-4823/U, 51S1, PRC-47; Stoddart-Singer NM-62A repair manual; Aul SG-1056/U; TMC 401. Al Smith P.O. Box 280, Wamsutter, WY 82336.

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WANTED: Any information on the NY State police such as zone boundaries, codes, assignments, etc. Also, any pertinent information on NY State agencies such as governor, etc. Freqs & codes. Will swap what information I have on Syracuse and local areas. Christoper Smallman, 306 Third St., Liverpool, NY 13088.

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WANTED: Owner's manuals for RADIO SHACK Pro 7B VHF 8 channel scanner, catalog #20-173; RADIO SHACK 4 channel handheld scanner; RADIO SHACK DX150A communications receiver, catalog #20-150. Information on scanner clubs in San Francisco Bay area. D.M. Gunn, P.O. Box 11025, Oakland, CA 94611 (415)849-0919.

LISTENERS LOG from p.7

Ch	
1	257.8 FAA/Charleston,Raleigh,Winston-Salem; Asheville,Fayettvlle
2	255.4 FAA/","Hickory;Newb
3	348.6 FAA/",Fayette,Greensboro,RDU,Wilmingtn, Winston-Salem
4	388.0 FAA/Raleigh-Durham
5	302.7 N&AF Experimental
6	241.0 Army Ft Bragg
7	289.4 N/New River
8	307.8 FAA/Hickory
9	363.8 AF/Seymour Johnson
10	246.6 Tactical
11	234.4 Army/Ft Bragg
12	243.4 Tactical
13	363.1 Tactical
14	322.3 FAA/Greensboro
15	246.1 Tactical
16	236.6 AF/Pope&Seymour-J
17	237.5 Army/Ft Bragg
18	359.7 N/Cherry Pt
19	304.6 Army/Ft Bragg
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