



MARCH, 1990

VOLUME 20, NUMBER 3

PROGRAM

notes

HCJB · THE VOICE OF THE ANDES · QUITO · ECUADOR

Program Line-up

For details of when the following programs can be heard in your listening area, consult our current program schedule. All days are local days, as opposed to UTC days. This distinction affects only North America. For example, *Ham Radio Today* is listed as playing on Wednesdays. However, in actual fact it is heard in North America on Thursday mornings UTC.

Happiness Is

Every day the producers of *Happiness Is* present interviews, book reviews, travel-ogues and lots more. Each day focuses on a different theme and format.

The mighty Amazon River that sweeps across the South American continent has an uncertain future. The March 2 and 9 editions of *Happiness Is* investigate the river's beauty as well as questions on the environment.

On April 6 the program will feature composer Bob Singleton and his new arrangements of old classics.

Changes are in store for *Happiness Is* and HCJB's English program lineup. On April 28 (and repeated on May 4) Jan Shober will look at the history of *Happiness Is*, where it's headed...and why.

Passport

This is HCJB's daily magazine program. The program features a variety of topics each day, including reports about Ecuador and the world beyond. On Sundays *Passport Weekend* moves up close on an event of the past week or features interviews highlighting Latin American life and culture.

The following special editions of *Passport* are scheduled:

What is the New Age? It involves everything from E.S.P. to a new type of music. But is it "new"? As Leonard and Imogene Booker discover on the March 9/10 edition of the program, some tenets have been around for centuries.

Small is relative. A rabbit is smaller than an elephant. But a rabbit is large compared to a nematoid, or dust mite. On March 16/17 Leonard and Imogene Booker will be talking about *Little Things*.

There are about 30,000 species of arachnids on earth. We know them better as spiders. Do these little critters have any value to our ecology? Scientists say, "Yes." Join Leonard and Imogene Booker on March 23/24 to find out why.

Most people like to talk about food. On the March 30 edition of *Passport* the Bookers will visit a local bakery, and Marian Osborne will talk about how to make banana pancakes.

DX Partyline

Join Brent Allred each week for HCJB's shortwave and communications program. This twice-weekly program has been cut back to one program a week. It is now heard in North America on Monday night and in Europe and the South Pacific on Saturdays.

Most people DX for a hobby. Others, like those at the BBC Monitoring Service, do it for a living. On the March 3/5 edition of *DX Partyline* Brent Allred looks at the BBC's monitoring operation at Caversham Park.

Costa Rica has a surprising number of shortwave broadcasters for its size. On March 10/12 we'll examine some of the stations. We'll also present more tips on successful QSLing.

On the March 17/19 edition of the program, Brent Allred will examine radio communication in the Soviet navy. Arthur Cushen will bring us up-to-date with the DX scene in the South Pacific and we'll have an NRC report from Fred Vobbe.

Other News

Upcoming call-ins on HCJB include the following:

Mar. 17 - *Ham Radio Today*

Apr. 14 - *Musical Mailbag*

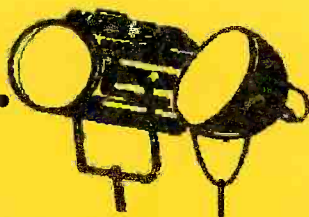
Each of these live, one-hour call-in programs will be broadcast at the following times and will replace scheduled programs: To Europe & South Pacific: 0730 UTC

To North America: 0200 UTC

To take part in these programs, dial your international access code, then 593-2-241560. This will connect you directly to our studio. Do not use this number at other times—it is only used for our call-ins.

On Sunday, May 6 HCJB's English program lineup will undergo a major transformation. We will be dropping a couple of long-running programs and introducing several new ones. The broadcast times of many of our programs will also be changed. Full details of these changes will be announced on the air during March and April.

Spotlight on...



edited by: John Trautschold

354 N. Winston Drive

Palatine, IL 60067-4132 U.S.A.

(with the help of the Altair 8800 & Atari 1040ST computers.....)

MARCH 1990

TOTAL CONTRIBUTORS: 62

1 BARRERA, GABRIEL IV	AR IC-R71D	6 LANGLOIS, HAROLD	FL
4 BERRI, JASON	CA R2000	2 LEADER, PATRICK	IR D2615
7 BISHOP, FORREST	NY RF4800	1 LEMKE, RICHARD	AB IC-R71A
1 BRONOWICZ, MICHAEL	MS DX1000	6 LEVISON, HAROLD	PA IC-R70
1 BROWN, BOB	PA	5 LUKAS, HANK	NY ICF2010
5 BROWN III, EDWARD	IL ICF6800W	4 MATSUSHITA, YUKIMASA	JP RF2200
5 CADORETTE, NORMAN	MA IC-R70	2 MORBY, LINDA SUE	NY R5000
3 CARD, PETER	RI NR515	1 MCCANTS, DONALD	AL RF2200
9 CARSON, JOHN	OK SPR4	3 PARK, DALE	HI R5000
7 CICHOREK, EDWARD	NJ FRG8800	1 PETERS, WALLACE	MN ICF2010
5 D'ANGELO, RICHARD	PA NC190	3 PRATH, JOHN	FL NR525
3 EHL, STEWART	IA IC-R71A	6 RADER, BARRY	OH
2 EVANS, JAMES	TN IC-R71A	1 RADTKE, CARL	CA SPR4
4 FAMILARO, RALPH	JP ICF6000A	6 REEVES, ROBBIE	OR ICF2010
1 FISCHER, GREG	WI NR525	1 ROBINSON, BETSY	TN IC-R71A
3 FISHER, JOHN	MA R2000	4 RYAN, TERRY	NY NR525
5 FLYNN, BILL	CA R2000	4 SAARIKKO, LARRY	NY
5 FRASER, BOB	MA XCR30	1 SABLE, THOMAS	PA TS430S
BEARS, GARY	IL IC-R71A	1 SANNIKOV, IGOR	UR
BORGE, STEVE	MA R5000	4 SEYMOUR, WOODY	NC SPR4
JEFFREY	WA	1 STRINGER, PAUL	NZ
MASTER, MIKE	JP IC-R70A	2 STROH, EDWARD	IL
SON, WILLIAM	FL R5000	3 THORNTON, DON	NJ NR525
JOHNSON, DAVID	ID FR67700	2 VALENTINE, F.A.	CA IC-R70A
JOHNSON, TIM	TN	4 WAKEFIELD, PAUL	IA ICF2010
1 JONES, BRIAN	TX IC-R70	1 WASHBURN, CHARLES	ME R1000
9 KARCHESKI, WALTER	MA R5000	1 WEBER, DONALD	OH R2000
3 KLINE, JAMES	CA FR68800	7 WESTENHAVER, WILLIAM	PQ ICF6500W
5 KUNKEL, ROLAN	CA DX440	8 WILLERS, STEVEN	SW NR525
3 LACKMANN, JOHN	VA	8 WRIGHT, PHILIP	NF DX400
4 LANDAU, ROBER	NJ NR525		

THE FOLLOWING COLUMNS DIRECT CONTRIBUTORS WERE NOT RECEIVED IN TIME:
 NESTR NEMIS/QSL/CT/UTILITIES

THE FOLLOWING COLUMNS ARE INCLUDED FROM LAST MONTHS BULLETIN:
 NESTR NEMIS/QSL/CT/AFRICA

Hi gang...well, I wonder...did March come in like a lion or a lamb? Hope your winter of DXing has been a *roaring* success! <groan> In any case, it's time once again to report on our new full members and contributors. Sorry to say this month we have no new full members <boo>...hopefully next month will make up for this month's lapse!

But, the good news is we do have a few new contributors this time, so let's roll out the red carpet for:

WALLACE PETERS.....MN
 BARRY RADER.....OH

PAUL STRINGER.....NEW ZEALAND
 Glad to have you aboard and we look forward to more contributions from you in the future as well!

NEXT MONTH IN DX MONTAGE

I've just about got it finished...SPEEDX's first "almost real" crossword puzzle designed by yours truly! I've "cheated" a bit on some of the crossword rules, but I think you'll enjoy it anyway! (Since this is my first attempt at writing a crossword puzzle, as opposed to normally just solving them, I guess I'm permitted!) See you next month!



DX MONTAGE

LETTERS AND QUIDS FROM 'ROUND THE WORLD!

TV MARTI CONTINUES TO FIGHT A TOUGH BATTLE

Syndicated columnist *Jack Anderson*, in his Jan. 29, 1990 column, had this to say:

"Fidel Castro wants Americans to know that he is serious about stopping the United States from beaming televised propaganda into Cuba. He recently invited a congressman and a few American broadcasters to Havana to show them that he means business.

"Rep. Al Swift, D-Wash., accompanied the delegation of broadcast officials who met with Castro's top aides earlier this month. The topic of discussion was TV Marti, and the Cubans were clear on that subject. They will block any TV signals that Uncle Sam tries to send to Cuba.

"That means the U.S. Information Agency is gearing up for a multi-million dollar TV broadcast that will have no viewers."

Anderson continues with a brief discussion of the type of programming that TV Marti is planning on offering and the amount of money the U.S. is planning on spending for initial testing.

"But Castro has the technology to deflect television signals (ed. note: you can't actually deflect a signal...merely jam it!), making TV Marti a multi-million dollar waste of time...

"The United States has been broadcasting radio signals to Cuba since 1982 on Radio Marti. Castro has grudgingly put up with it. But Castro knows that TV is a more powerful medium than radio...

"Commercial broadcasters in the United States hope they won't have to pay for this bit of grandstanding. As we reported last year, the Cubans have gigantic radio transmitters that pack more power than anything in use in the United States."

Ah yes...the fun just begins folks! And thanks to Harold Langlois of Florida who sent in the article, out of the *Citrus County Chemical*...1-27-90.

SHORTWAVE RADIO WEEK

Gerry Dexter's *Tiare Publications* is sponsoring *Shortwave Radio Week*, to be held from March 12-18, 1990 (and during the second full week of March hereafter). The week is listed in *Chase's Annual Events*, a book frequently consulted by media people as a source of story ideas.

Gerry says, "We are sponsoring this event in the hope of attracting greater media attention to shortwave radio in all of its aspects and applications."

Many of our members work in the media, so why not take advantage of this event to publicize *your* hobby? (Hmmm...wonder if I can get CBS News to do something on it? Hmmm....) Even if you don't work in the media, you can contribute by "telling a friend" about shortwave radio...get someone new involved in the hobby! I'm amazed at the number of people that talk about shortwave broadcasting and actually listen, but have never heard of any of the national or local clubs. Receivers are so plentiful now (and inexpensive and easy to use) that more friends and neighbors than you ever would have guessed, have them *and use them!*

So friends, go for it. Let's promote *Shortwave Radio Week*, and get a few plugs in for your favorite SW publication as well! **SPEEDX** of course!

USE OF SPECTRUM IS UNDER REVIEW

From *Insight* magazine, 1-22-90 edition
Submitted by Harold Langlois - FL

"Looking ahead to the 21st Century, the Commerce Department is undertaking a study that will assess whether the system for allocating the nation's radio airwaves needs an overhaul. The demand for channels is skyrocketing as new technologies such as cellular telephones and pagers take hold, while innovations like high-definition television promise to strain the current system even further.

"The explosive growth in demand, coupled with changing technology, makes spectrum reform more necessary today than ever before, according to Janice Obuchowski, head of the department's National Telecommunications and Information Administration, which will conduct the review. She says technologies such as fiber optics, which has become a viable alternative to microwave transmissions in some instances, make reform more feasible now.

"The first major examination of the radio spectrum since the 1960s, the study will address whether allocating frequencies in blocks, as the government has long done, impedes technological innovation. Under the current system, "there may be excess demand for particular blocks, while other blocks are underused," says the administration in a notice of intent soliciting public comment on the use and management of the spectrum. The study will also look at the possibility of raising revenues through the auction or leasing of frequencies."

So, what does that all mean for shortwave broadcasting? Stay tuned to these pages. You'll hear it here first!

SPEEDX SELF-PORTRAIT

by Robbie Reeves

I began SWLing in 1988 with an Emerson PSW-4010 (now called the Sangean SG-789) when I was 12. Despite the poor quality of the receiver, I heard stations that I never would have dreamed of hearing (such as Radio Moscow.) Before long I heard 20 stations.

It took another year for me to start writing reception reports to SW stations. My first QSL came from the VOA relay in the Philippines (ed note: I'll bet almost *all* of us received, if not the first, close to the first card from a VOA broadcast!)

Last June my radio broke, and I bought a Sony ICF-2010. Within a week after receiving it, I logged 15 more stations with just the whip antennal So far my totals are: countries heard - 52 and countries verified - 33. I joined SPEEDX in September and am loving it!

Thanks for that self-portrait Robbie. If you would like to tell us a bit about yourself just write a short report like Robbie did, send it in, and we'll publish it! I know I always enjoy learning a bit about the personalities behind the names. Robbie is one of our younger members, and we're happy to have him on board. and look at it this way, if you don't

send in *your* self-portrait, I may just have to write one up on myself! Now wouldn't *that* be exciting! (or boring or ridiculous or a waste of printed paper or...well, you get the idea! hi hi!)

SOLAR FLARES STRIKING AGAIN!

Excerpts from *A Flare for Geomagnetic Mischief*
Science Magazine...Dec. 11, 1989

"The passengers didn't feel a thing. But on Oct. 19, (1989) while soaring 60,000 feet above the Atlantic Ocean, a Concorde flight was soaked by enough ionizing radiation from the sun that the supersonic jet's radiation monitor registered for the first time ever.

"From the shower, prompted by one of the largest solar flares ever recorded, the passengers on that flight received the equivalent of one chest x-ray, says Joe H. Allen, solar-terrestrial physicist at the National Oceanic and Atmospheric Administration's National Environmental Satellite, Data and Information Service in Boulder, Colo. That small exposure was not enough to cause any kind of problems for the passengers, crew or plane, but the event reveals how powerful the sun's storms can be.

"...this year has seen one of the biggest bouts of solar activity since people began measuring sunspots, says Allen...back in March (1989), another solar flare triggered the shutdown of a power station in Quebec, blacking out most of the province for nine hours.

"...Power grids are vulnerable to the sun's activity because the same process that sets up flares "kicks out a blob" of material from the sun, says Gary Heckman, head of the Space Environment Services division of NOAA's Space Environment Laboratory. If the wayward plasma comes within about 30,000 miles of Earth, its magnetic field interacts with Earth's. Changing magnetic fields induce currents, and the longer the electrical conductor the greater the change in the current. Utility grids are very long conductors, and power stations have automatic shutoff mechanisms to protect against surges.

"Communications systems can be disrupted by the residue of solar activity as well. Ship-to-shore and airplane communications are blacked out because these are bounced off of the ionosphere, part of the atmosphere that begins about 50 miles above the planet. X rays from solar flares change the layer's temperature, density and refractive

index, so that it absorbs radio signals instead of reflecting them. Navigational systems can be thrown off."

For those of you interested in following sun-spot activity more closely, tune into WWV or WWVH. They broadcast sun-spot information, as well as A- and K-index values. You may also want to write to them for more information on interpreting the data broadcast. And, thanks to Harold Langlois of Florida for sending in that article.

FINAL CLEARANCE SALE!

INTRODUCING INTERNATIONAL RADIO

By Kenneth D. MacHarg

Kenneth is moving back to Ecuador and would like to sell all available copies of his book as soon as possible. *Introducing International Radio* is an "excellent, simplified introduction to the wonderful world of international shortwave radio." The original price was \$4.95 plus \$1.00 P&H, but now is being sold for only \$1.00 including postage! (\$1.50 in Canada and \$2.00 elsewhere). Send your check or money order directly to Kenneth at Box 1345, Jeffersonville, IN 47131. The offer ends April 15, 1990. For those of you new to the hobby, this would be an excellent book to obtain! And you can't beat the price!

DOYLE COMMUNICATIONS...

For those of you interested, *DXM* received *Doyle Communications* recent catalog, chock full of interesting items for the radio buff. Some of the items included are scanners, scanner antennas, frequency books, amateur radio books and railroad books.

If you would like a copy of their catalog, write to them at:

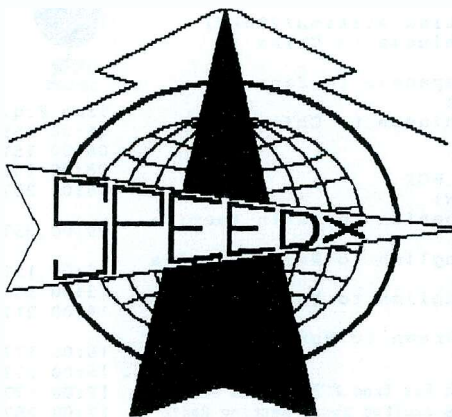
Doyle Communications
Route 8 Box 18
Lake Pleasant, NY 12108

And make sure to tell em that *SPEEDX* and *DXM* sent you!

DAVID JONES, OUR CDE SAYS:

"Please mention that I mail loggings (received) on the 6th of the month, 7th if the 6th is (a) Sunday or holiday. This deadline will be strictly enforced." Remember all you contributors out there that David has to get the stuff from his house to the editors in time for the editors to do their column. Make sure you get your logs in to David as early as possible. Also, don't forget that any last minute loggings can be sent directly to the editor as well. This saves the middle-man, should time be a factor. Most editors don't need material until the 13th or 14th of the month. Thanks for your help!

DAYTON HAMVENTION SET FOR APRIL 27 - 29

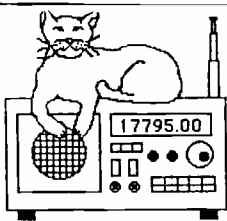


Probably the biggest radio event anywhere in the world, the Dayton Hamvention is gearing up once again for its annual gathering in April. Although it's mainly intended for amateur radio operators, just about anyone interested in something electronic can enjoy this hamfest! The flea market and exhibit areas have enough items of interest for hams, SWL's and computer nuts.

The cost to get in is peanuts (however the cost getting out is much higher since I dare any of you that attend to leave without purchasing at least *something!*) The flea market is open all three days. If you are an aspiring amateur radio operator there is on-site license exams for Novice through Extra Class.

To get the most out of this you must attend all three days (but certainly don't have to.) The cost of admission is \$10.00, valid for all three days, the Grand Banquet @ \$22.00 and the various Women's Luncheons (see...there's even activities for the YL's and XYL's) @ \$8.00 per Luncheon. For more information, write to:

Dayton Hamvention
Box 2205
Dayton, OH 45401



Continuous Tuning

Ed Janusz

Box 149

Bricktown, NJ 08723

THE LONG KNIFE OF THE ACCOUNTANT

AT THE VOICE OF AMERICA...

...six language services will be cut: Greek, Lao, Slovene, Swahili, Turkish, and Uzbek, as of April 1. This amounts to six hours daily; 57 staffers will lose their jobs.

(VOA Communications World, Feb. 4; tnx Robbie Reeves and Bill Westenhaver. Swahili is the biggest surprise, as far as I'm concerned; it's an important language with a large East African constituency, and the broadcasting superpowers traditionally put a high priority on reaching Africans.)

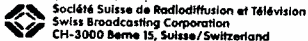
AND AT RADIO CANADA INTERNATIONAL...

...which is \$575,000 shorter than it was. How this will ultimately affect RCI's programming isn't known, but one immediate casualty is the 06:00 - 07:00 broadcast to Europe and Africa. (SWLD, Feb. 5, heard by yer redactor, who does listen to the radio once in a while).

RCI via Radio Korea
(Kimje transmitting station/250kW)
1300-1325 UTC Chinese to China
on 6150kHz
1330-1400 UTC Japanese to Japan
on 6095, 9700kHz
1430-1455 UTC Chinese to China
on 9700kHz

Radio Korea via RCI
(Sackville/250kW)
1000-1030 UTC Spanish to Latin America
on 11715kHz
1030-1100 UTC English to North America
on 11715kHz
1100-1130 UTC English to North America
on 6145kHz
1100-1130 UTC Korean to North America
on 9650kHz

(Tnx Koji Yamada, via Fax from RCI and via telephone from R. Korea. I was excited about getting Radio Korea here—finally—but 10:30 UTC is 5:30 AM here).



Société Suisse de Radiodiffusion et Télévision
Swiss Broadcasting Corporation
CH-3000 Berne 15, Suisse/Switzerland

English

NEWS: Seven days a week some 20 journalists are working round-the-clock to provide our audience with accurate, unbiased, up-to-the-minute news from around the world and Switzerland.

DATELINE: (Monday through Saturday) Our team of journalists brings you analysis of international news, comment, assessment and interpretation of current events, and presents a broad picture of what is happening in Switzerland.

SWISS SHORTWAVE MERRY-GO-ROUND: (Saturdays) The DX programme with a big difference, featuring «The Two Bobs»

THE GRAPEVINE: (first and third Sundays of the month) The programme features your comments, questions about Switzerland, music requests and listeners profiles on tape cassette. Write to Paul and Rob.

SUPPLEMENT: (second Sunday of the month) SRI journalists take a closer look at the issues behind the news in Switzerland and around the world.

ROUNDBOUT SWITZERLAND: (fourth Sunday of the month) A special programme of discovery. Join us as we take you along to explore places that make Switzerland a classic destination



**RADIO NORWAY
INTERNATIONAL**
English Mar. 4-
May 5 (Sundays
only)

Time	Freq.	Target
06:00	9590	Europe
06:00	15165	Pacific
08:00	15165	NAmerica/Pac.
08:00	25730	Far East/ Australia
09:00	25730	Far East/New Zealand/Aust.
12:00	15165	NAMERICA
13:00	9590	Europe
14:00	21710	India/SAsia/ Australia
16:00	17765	NAMERICA
16:00	21705	NAMERICA
17:00	17765	NAMERICA
17:00	25730	Africa
18:00	15165	EAFRICA/Mideast
19:00	15165	Europe
22:00	15180	WAFRICA/SAMERICA
23:00	11930	NAMER/CAmer
24:00	15225	SAMERICA

Radio Norway International broadcasts a half hour programme in English every Sunday. The programme is repeated several times to reach listeners all over the world at convenient hours. The programme - 'Norway Today' - contains a survey of the main news events from the past week in addition to interviews, short features, and music.

Your comments are appreciated. Our postal address is
**Radio Norway International, Bj. Bjoernsons pl. 1,
0340 Oslo 3, Norway.**

SWISS RADIO INTERNATIONAL English to North America

02:00-02:30	6095, 6135, 9725, 9885, 12035, 17730 (via Brasil)
04:00-04:30	6135, 9725, 9885, 12035

That Music

01:15-01:30 as 02:00 above
03:15-03:30 as 04:00 above
UTC Monday and Thursday only

ITALY

RAI broadcasts in English to North America on 9575 and 11800 kHz between 01:00 and 01:20. Fifteen minutes of each programme is news, and here's what you'll hear the rest of the time:

SUNDAY: Tunes for whistling. MONDAY: No parking. TUESDAY, THURSDAY, and FRIDAY: Light music. WEDNESDAY: Window on the bay. SATURDAY: Contrast in music.

RAI can be heard to Great Britain on 7275, 9710, and 11800 kHz, 19:35-19:55. News here is only 12 minutes, and here's the rest of the story:

SUNDAY: The orchestra entertains. (I think they mean, The orchestra tunes up. -ej). MONDAY: Music for strings. TUESDAY and THURSDAY: Italian language lesson. WEDNESDAY: Sound postcards. FRIDAY: Light music. SATURDAY: Operatic music.

And, in Japan, try them from 22:00-22:25 on 9710 and 11800 kHz, with 12 minutes of news and:

SUNDAY: Italian folklore. MONDAY: Welcome to jazz. TUESDAY: Medieval and Renaissance music. WEDNESDAY and SATURDAY: Light music. THURSDAY: Evening concert. FRIDAY: Let's go to the cinema.

(Tx Peter Card)

WINB, Red Lion, PA

Saturday programme schedule:

- 16:02 International Alert (15295 kHz)
- 16:30 Music
- 17:30 RUSSIAN LANGUAGE: Faith Missions
- 18:00 Coral Ridge
- 18:30 Music
- 19:00 Grand Old Gospel Hour
- 19:30 Scripture Says
- 20:03 Freedom from Addiction
(moves at this time to 15185 kHz)
- 20:30 Seek Me Early
- 20:45 Sounds Words
- 21:00 Music
- 22:00 Happy Half Hour of Heaven
- 22:30 Old Country Church
- 22:48 Music (now to 15145 kHz)

At 23:48, WINB stays on 15145, but turns its transmitter to South America.

- 23:48 Gospel Faith Hour (Tx Don McCants)

- - - - -
Times and frequencies remain the same during the week, with different programming. PORTUGUESE at 00:00, SPANISH at 02:30, HEBREW at 17:15 (Fridays only), GREEK at 23:30 (Fridays only), FRENCH at 23:30 (Wednesdays only).

Sunday programme schedule:

- 00:00 (15145 to South America, continued) SPANISH
- 00:15 Music
- 02:00 In Defense of Truth
- 02:30 Music
- 03:00 Faith Missions
- At 03:30, WINB signs off, starting up again at 16:02 on 15295 to Europe.
- 16:02 Music
- 16:15 Old Country Church
- 16:30 Happy Half Hour of Heaven
- 17:00 LATIN MASS
- 17:30 Music
- 18:30 Scripture Says
- 19:00 Music
- 19:15 Sar Shalom
- 19:30 Music
- 20:03 (now on 15185) 20th Century Reformation Hour
- 21:00 Holy Temple Church
- 22:00 LATIN MASS
- 22:30 Voice of Revelation
- 22:35 Music (to 15145 at 22:48)
- 23:30 Holy Ghost Revival Time
- 23:48 (To South America now, still 15145) Gospel Faith Hour

RADIO SOFIA, Bulgaria: English from March 4

English to North America

00:00-01:00 11680, 15330 04:00-05:00 11720, 11735

English to Africa

04:00-05:00 11765, 15160, 15310 18:30-19:30 11735, 15310, 17825
15:30-16:30 11735, 15310, 17825

English (to Europe, I guess; doesn't say)

07:30-08:00 11720, 15160, 17825 21:30-22:00 9700, 11660, 15330
19:30-20:00 9700, 11660, 15330 22:30-23:00 11680, 15330

Starting on March 25, all of Radio Sofia's programmes will be on the air one hour earlier.

(Tx everybody in the world; this was easily the "sked of the month," as most of us were, I suppose, rather surprised to hear from Sofia after a long time.)

NEW ZEALAND

Bruce MacGibbon reports: "Heard RNZI with Waitangi Day (2/6) celebrations (probably) from 19:00 or 19:05 on 17680. Doesn't match with the sked, as if it did they would have been on at 17:00, on 17730 today, and they weren't!"

Waitangi and Steinlagers; engineers go garbanzo with their new 100-kW toy. I would, if they'd let me. -ej

Robbie Reeves (who probably should be editing this column) reports on an interesting QSL he recently got from Radio Beijing:

"I asked rather bluntly, 'What happened to Li Dan?' Quoting Li Fang in Audience Relations: 'Li Dan is now the director of the English Department, Radio Beijing. He's very busy, but sometimes he still anchors 'Current Affairs.' His wife works in the same office with me.'"

FOLLOW-UP: THE AUSTRALIA WATCH

You may remember in January's "Continuous Tuning," Bruce reprinted an alarming story about a palace coup of sorts at Radio Australia. Have any of you noticed a change in their style? If so--or if not--please write to this column with your impressions.



RODNEY THE
WOMBAT SAYS!

"Support
CONTINUOUS
TUNING, your
column for
DX redaction!"

Carson

most active contributors to "Continuous Tuning" during 1990, and it consists of an essay I'm in the process of writing (and hope eventually to get published in a reputable journal, and even paid for it) chronicling my 27 years as a fan of the Boston Red Sox. It's entitled "I Hate the Red Sox," and the penultimate draft will be sent as tokens of my appreciation to three, or four, depending on how many dimes I have left in December, most loyal contributors. It's all part of a plot to make "Continuous Tuning" the most vivid, accurate, timely, distinguished, and bouncy DX-news column around.

SOVIET POSTAGE STAMPS

will help you get replies even from 'hopeless' Soviet locals. International postage is not envisioned in their budgets, IRCs are not in practical use here - so whatever you may receive from the Soviet broadcasters which have no external services is a result of the good will of a certain person at the station. In order to make it independent of someone's likes and dislikes (and you can't expect everybody collect postcards, foreign stamps or stickers), you'll need unused Soviet postage stamps according to the following rates:

- a letter up to 20 grams via seamail - 0.3 Rbl
- the same via AirMail - 0.5 Rbl.

(in cash only)

The stamps are available for \$ 1. per each AirMail rate/2 seamail sets, plus return postage, from:

Igor Sannikov
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KIROV 610008

U S S R

DAILY OKLAHOMAN, Feb 3 >>>
tnx John Carson

Contest

CONTEST #3: SOVIET PLACE NAMES

We have four American winners (which is what happens when I don't pick up my mail for 5 days and can't read the postmarks): Sheldon DUNHAM from Virginia, Steve McNEIL from Massachusetts, Terry RYAN from New York, and Don WEBER from Ohio. We also have our first-ever overseas winner, and he's Patrick LEADER from County Cork, Ireland. The Canadian contingent was too busy talking about Meech Lake and the popular GST this time around, eh? The requisite goodies have been mailed.

No new contest this month--I lack imagination --but I promised to tell you about our Grand Prize, so I will. This one is for the three

most active contributors to "Continuous Tuning" during 1990, and it consists of an essay I'm in the process of writing (and hope eventually to get published in a reputable journal, and even paid for it) chronicling my 27 years as a fan of the Boston Red Sox. It's entitled "I Hate the Red Sox," and the penultimate draft will be sent as tokens of my appreciation to three, or four, depending on how many dimes I have left in December, most loyal contributors. It's all part of a plot to make "Continuous Tuning" the most vivid, accurate, timely, distinguished, and bouncy DX-news column around.

SOVIET POSTAGE STAMPS

will help you get replies even from 'hopeless' Soviet locals. International postage is not envisioned in their budgets, IRCs are not in practical use here - so whatever you may receive from the Soviet broadcasters which have no external services is a result of the good will of a certain person at the station. In order to make it independent of someone's likes and dislikes (and you can't expect everybody collect postcards, foreign stamps or stickers), you'll need unused Soviet postage stamps according to the following rates:

- a letter up to 20 grams via seamail - 0.3 Rbl
- the same via AirMail - 0.5 Rbl.

(in cash only)

The stamps are available for \$ 1. per each AirMail rate/2 seamail sets, plus return postage, from:

Igor Sannikov
ul.Oparina 6, kv.37
KIROV 610008

U S S R

DAILY OKLAHOMAN, Feb 3 >>>
tnx John Carson

Czech Radio Airs First Mass In 40 Years

PRAGUE, Czechoslovakia (AP) — State radio broadcast a regular Mass for the first time in four decades Sunday, and the official news agency said broadcasts of Protestant, Jewish and other Roman Catholic services would follow.

In a separate dispatch, the official CTK news agency announced officials from the new non-Communist government would meet Kremlin officials in Moscow Wednesday for talks on withdrawing the estimated 75,000 Soviet troops from Czechoslovakia.

The terse report did not specify the length of the second round of the Soviet-Czechoslovak talks or who would be participating in them.

The first round in Prague Jan. 15-16 failed to provide tangible results.

Archbishop Frantisek Vanak led worshippers through the Mass in the church of St. Wenceslas in the northern city of Olomouc, 180 miles east of Prague.

The service was the first by Czechoslovak radio's newly formed department for religious programs.

Meanwhile, at Lany, west of Prague, President Vaclav Havel met with the Dalai Lama and called on politicians around the world to respect truth and justice.

THE SOVIET UNION

The end of 1989 brought the end of Gosteleradio's monopoly of on-air broadcasting, as something called "M-1" appeared in Vilnius, running 4 kW on 73.34 MHz FM stereo, with a mixture of popular and classical music. (This freq. sounds odd, but really isn't; the USSR and much of Eastern Europe uses 66-74 MHz for FM broadcasts).

Igor Sannikov, publisher of The Soviet DX Club bulletin, has also heard the Myanmar Army Station from his home in Kirov (about 500 miles ENE of Moscow); this is what Ed Cichorek and Rolan Kunkel reported as "tentative" in last month's A/O column.

PERU

Daniel Camporini, DXing from his home in Argentina, reports a new station and was fortunate enough to catch this lovely ID: "Transmite Radio Comercial Educativa, con estudios en Jiron Trujillo 422, Distrito de La Peca, Provincia de Bagua, Departamento de Amazonas, Republica del Peru." They're on 4860 kHz; Daniel heard them from 02:07 to 03:03 in December. (DX Panorama, 2/90, edited by Daniel Camporini, Buenos Aires).

COLOMBIA

Also reported by Daniel Camporini in DX Panorama: La Voz de Antioquia, Medellin, Colombia, reactivated after many years. Try 6000 kHz; they may be on a 24-hour schedule.

CHILE

Gabriel Ivan Barrera reports that Radio Nacional de Chile will remain in the hands of the military even after the transfer of power to the democratic government on March 11. According to Sr. Manuel Dias de Valdes, Director and Manager, the law which created the state-run enterprises 16 years ago provided that the mass communications media would be administered by the armed forces; it would take an amendment or change in the law to change the structure of Radio Nacional. (Veteran DXers may remember Radio Corporacion, which was owned by the Chilean Socialist Party. The military junta which took over in 1973 expropriated all the holdings of the Socialists; Radio Nacional was created then.)

Also from the 2/90 Onda Corta: Gabriel Ivan Barrera heard Radio Yuncal Evangelica, badly, on 5825 between 01:36 and 03:04, best on LSB. Could have been a temporary thing (Gabriel was in Santiago de Chile at the time, presumably not far from the transmitter), but worth watching for. (Onda Corta, 2/90, edited by GIB, Buenos Aires)

A BREAK FOR MISCELLANEOUS TRAFFIC (FILL THAT YAP!)

We have 3 pages from Carl this time around, and a longer-than-usual What's Up update (not to mention a Utilities column which, while not a Scene any more, is still growing in scope and strength throughout the world), so I'll try, much to my chagrin, to shut up and print some nooz. **Thanks to the many of you who took the time to write in your compliments about last month's column. I appreciate it a lot, and will try to reply personally to all correspondence.

**Ed Efchak sent me a copy of the article by Kim Andrew Elliott, "Too Many Voices of America," which appeared recently in Foreign Policy (the weirdly-formatted--9" x 4" pages--magazine that wishes fewer people would confuse it with Foreign Affairs). It's ten Xerox pages, so if you wanna read it, send me a dollar and I'll make you a copy.

**For merely a postcard, I'll send you information on the various publications I have quoted in these pages.


**I'm just back from yet another splendid weekend in Kulpsville. Let's all think nice thoughts about Bob Brown, his delightful family, and the estimable WinterFest Committee for taking a lot of time out of their lives to brighten up our lives for a couple of days. I wish I had more space to run on about this event, but...CU in 363, I hope.

SRI LANKA

Sarath Weerakoon, who lives there, reports Nidhas Handa (Voice of Freedom) on 5304, 13:30-14:15, believed to be operated by the Sri Lanka security forces and aimed against the rebel JVP (People's Liberation Front). Good luck with this one, eh? (Reported in Oz DX, Jan-Feb 1990).

CANADA (AGAIN)

For some reason or another, RCI's German-language service, which was supposed to disappear last month, is still on. I suspect a successful letter-writing campaign....

73's. 



WHAT'S ON

ENGLISH BROADCAST TO NORTH AMERICA



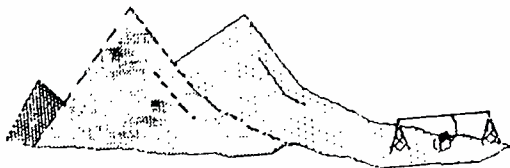
Daniel Sampson P. O. Box 31 Independence, WI 54747-0031

CHANGES ENTERED Jan. 19-Feb. 15, 1990

UTC Time	Station	Notes	Frequencies
0000-0030	kol Israel	---	11605; 9930; 9435
0000-0050	R. Pyongyang, N.K.	---	15180; 15115
0000-0100	R. Moscow, U.S.S.R.	NAm svce	17720; 17700; 17605; 15425; 12050; 11950; 11850; 11750; 11735; 9720Bu; 9685; 9530; 7310
0000-0100	R. Sofia, Bulgaria	---	15330; 11680; 11660
0000-0200	R. Australia	---	21740; 17795; 15320
0100-0130	kol Israel	---	11605; 9930; 9435
0100-0200	R. Moscow, U.S.S.R.	NAm svce	17720; 17700; 17605; 15425; 12050; 11950; 11850; 11750; 11735; 9720Bu; 9700; 9685; 9530
0200-0230	kol Israel	---	11605; 9930; 9435
0200-0300	R. Moscow, U.S.S.R.	NAm svce	17720; 17700; 17605; 15425; 12050; 11950; 11850; 11750; 11735; 9720Bu; 9700; 9685; 9530
0200-0400	R. Australia	---	21740; 17795
0300-0400	R. Moscow, U.S.S.R.	NAm svce	17720; 17700; 17605; 15425; 12050; 11950; 11850; 11735; 9720; 9700; 9685; 9530
0310-0327	Red Cross, Switz.	---	12035; 9885; 9725; 6135 -- Feb 27, Mar 2, Mar 27, Mar 30, May 1, May 4, May 29, June 1
0400-0500	R. Moscow, U.S.S.R.	NAm svce	17720; 17700; 17690; 17665; 17605; 15180; 12050; 11790; 11770; 11710; 9895; 9825; 9580; 9505; 7270; 7230
0400-0500	R. Moscow, U.S.S.R.	Wld svce	12060; 11950; 11850; 9530
0400-0500	R. Sofia, Bulgaria	---	11735; 11720
0400-0730	R. Australia	---	21740
0500-0600	R. Moscow, U.S.S.R.	Wld svce	12060; 11950; 9530
0500-0600	R. Moscow, U.S.S.R.	NAm svce	17770; 17720; 17690; 17665; 15180; 13665; 12050; 11790; 11770; 9895; 9825; 9580; 9505; 7345; 7270; 7230; 7185; 7175; 5905
0600-0700	R. Moscow, U.S.S.R.	NAm svce	17690; 17665; 15180; 13665; 12050; 12010; 11790; 11770; 9825; 9580; 9505; 7345; 7270; 7260; 7230; 7185; 7175; 5905
0700-0800	R. Moscow, U.S.S.R.	NAm svce	17665; 15180; 13665; 12050; 12010; 11770; 9825; 9580; 9505; 7345; 7270; 7260; 7230; 7185; 7175; 5905
0800-1500	R. Australia	---	9580
1100-1150	R. Pyongyang, N.K.	---	11735; 9977; 9645
1100-1200	R. Moscow, U.S.S.R.	Wld svce	17840; 17810; 9600Cu
1200-1300	R. Moscow, U.S.S.R.	Wld svce	21660; 17840; 17810; 9600Cu
1300-1350	R. Pyongyang, N.K.	---	15180; 13650
1400-1500	R. Moscow, U.S.S.R.	Wld svce	21660; 17840; 17810; 12010; 9895; 9825; 9755; 9540; 7170
1500-1600	R. Moscow, U.S.S.R.	Wld svce	17840; 17810; 12010; 11840Cu; 9895; 9825; 9795; 9755; 9540
1600-1630	R. Norway Int'l	Su	21705; 17765
1600-1700	R. Moscow, U.S.S.R.	Wld svce	17840; 17810; 12020; 11840Cu; 9895; 9825; 9795; 9755; 9540
1700-1800	R. Moscow, U.S.S.R.	Wld svce	17840; 17810; 15405; 12050; 12010; 11840Cu; 9795; 9755; 9685; 9540
1800-1900	R. Moscow, U.S.S.R.	Wld svce	17840; 17810; 15425; 15405; 12050; 12010; 11840Cu; 9795; 9755
1900-2000	R. Moscow, U.S.S.R.	Wld svce	17840; 15425; 15405; 12050; 12010; 11840Cu; 9795; 9755; 9685
2000-2100	R. Moscow, U.S.S.R.	Wld svce	17840; 15425; 15405; 12050; 12010; 11840Cu; 9795; 9755; 9685
2100-2200	R. Moscow, U.S.S.R.	Wld svce	15425; 12050; 11950; 11840Cu; 11655; 9795
2200-2300	R. Moscow, U.S.S.R.	Wld svce	17720; 17700; 15425; 12050; 11950; 11655; 9755; 9530
2200-2400	R. Australia	---	21740; 17795; 15320
2300-2330	R. Norway Int'l	Su	11930
2300-2400	R. Moscow, U.S.S.R.	NAm svce	17720; 17700; 17605; 15425; 12050; 11950; 11750; 11735; 9720Bu; 9685; 9530

RELAYS--An-Antigua, B-Bonaire, Br-Brazil, Bu-Bulgaria, By-Bethany, Cu-Havana, F-Singapore, Gu-French Guiana, Ma-Malta, Mi-Mali, S-Sackville, Sp-Spain, Wy-WYFR

Latin Notebook



Carl Huffaker.
Domicilio Conocido
Huasca De Ocampo
Estado De Hidalgo
Mexico

QTH HUASCA.

I'm not really in Huasca, but on a hill above the village. The world's out there beyond, the far corners on shortwave, American movies on TV, and even 24 hours of jazz on FM and there's DX, the sounds of places too unimportant or crises too small to warrant more than a few seconds on the satellites and international TV.

It's comfortable here, the house is small, tight, and lacks nothing of convenience. The maid arrives each morning to take care of the laundry, cleaning, dishes, etc. If it's not her, it's one of her sisters, a family project that operates on a schedule that I little understand or even try to. The days, seasons, years pass and it's hard for me to remember time. Yet these people do for I constantly meet those who remember that we met a year, ten, or twenty-five years ago. It's always been that way for each stranger is a landmark in time, and a return even more so.

To the small isolated stations, a reception report is a visit, a visit that they receive cordially, albeit a bit awkwardly as they try to establish communication. Recently several clubs and publications have stressed the importance of sending a thank-you note when receiving a QSL. It's an important Latin courtesy, but too curt a note can be counter productive. You are a stranger returning, so talk about yourself, your family, talk about reception since, but communicate. It's your obligation to international good will and to those DXers who'll send reports in the future.

It's tough in another language, but limit the computer-typed postcards to those stations that computerize their listeners, and treat the small stations as what they are, human.

In DXing, we all make our own rules, develop our equipment and systems accordingly, and all have a different answer to the question "how many impersonal QSL's are equivalent to a friend in some remote village?" All, quite properly, pursue their own personal goals. Yet perhaps we should ask ourselves "isn't the reception report becoming an endangered species before the onslaught of junk mail?"

Did you catch Radio Impacto during the Panama crisis? In replaying those tapes, Impacto appears completely in the role of a "clandestine". But they'd been fed false information and other essential information withheld so it can be credited only as a CIA blunder to have not used that resource to a better advantage.

It's more than half past January and Radio Huayacocotla is still limping along with their old transmitter. They were off the air for a few days last fall when the overvoltage took the regulators and the transmitter hastily repaired to keep them on the air while the new equipment was being

package, and the transmitter was there waiting for someone to throw the switch. But no one legally can until

In Mexico, it's the station as defined by specific equipment that's licensed and a new transmitter requires an on-site inspection and approval by the Secretariat of Gobernacion's Commission on Radio and Television. Outside of La Hora Exacta's return to private ownership, which didn't involve a change in equipment, there have been no changes in Mexican SW under the present Commission which is staggering under a workload of new TV stations, power increases, and repeaters, as well as an explosive growth in FM outlets. December came with its month-long sequence of holidays when the government was reduced to a skeleton staff, and January when all that worked during the holidays took vacations, so Radio Huayacocotla waits, looks longingly at the new transmitter, and thinks, perhaps, there's only to throw the switch

Politically, Radio Huaya's a stepchild and far from any favored treatment in the offices of the Capitol. The station, that is equipment and license, is actually owned by Ibero-Americana University, a private school that for decades has spearheaded the battle against a complete takeover by the government's "National" schools, and UNAM is a primary power in the RTV Commission. Huayacocotla is giving all-out support to the "500 Years of Resistance" to the "Spanish Invasion" while Ibero is part of that invasion on a university level. At Huaya, they say that the license for the new transmitter is "en trámite". It's a word that has a special meaning in Mexico.

I'll stop in there next month during Carnival. There's Carnival in Huayacocotla. I wonder what it'll be like so far from the sea, perhaps a bit quieter than New Orleans, Veracruz, Rio, and Mazatlan. But I was younger then

Don't forget Carnival this year. Look for special broadcasts and extended hours from most Brazilians including the riverports. In Veracruz, it's a Cuban festival. The Mexican Navy even provides a special ship for that delegation in recognition of the Afro cultural roots. And each of the Eastern-block countries send delegations usually headed by their Ambassador. This year's newcasts and interviews from XEU will reflect the situation in both Europe and Central America. (I doubt that this will arrive in time for the February issue so this will be late, but it might help explain something that you did hear.)

Huayacocotla was, as usual, a valley filled with clouds, and as I returned to Huasca, they seemed to follow. The next day, the storm in Veracruz spilled across the mountains and put a temporary end to our clear tropical days. At 6:00 the next afternoon, a duct opened up to Alabama and TV Ch 2 in Dosier came through with a beautiful signal with perfect color that, at times, equalled the quality of the repeater across the valley from here. It held for over an hour, then faded. (But not before I learned the reason for the disappearance of the dinosaurs and the problems of Alabama's medical school. In DXing, you take what you get!) Unlike last summer's openings, which started in Cuba and swung slowly west to Arizona over a period of three hours or so, this one was stationary, just Alabama for an hour and a half.

I was able to determine that there was a ducting involved as the direction of the antenna made absolutely no difference except in terms of local interference. Later, I checked the position of the air mass coming down from the north (the satellite pictures on the TV weather reports) and the duct was parallel to its edge.

But ducts are a two-way pipe and it left me wondering. Do any of you up north (that would be the southern US) receive Mexican TV? We're in a period of chaotic propagation and meteorologic conditions so this area of

specialized DXing, especially as it pertains to air mass behavior, seems important. It's part of "DXing the Latins", so I'll use this column for any reports you send.

Several publications have been promoting the new Sukay album. It's good Andean music, at least the older recordings that I have here, but I do feel that it echos a bit of reconstruction. Yet without having heard it, I'd recommend the album for your LA collection.

There is an album, although I've only heard broadcasts of part of it, and the young lady herself in concert, that may be available through the larger importers. It's Tanya Libertad, a Chilean who sings some of the Afro-Chilean and Chilean-colonial songs. It's not only enjoyable listening, but seems authentic.

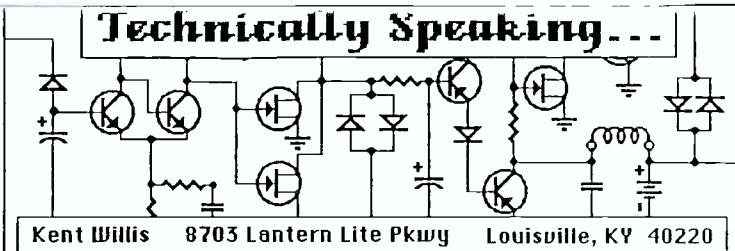
Not available to the best of my knowledge, is the sound track recording from "Cumbia" a very old Colombian musical. Filmed in Cartagena just after WW II, it features the old drum-and-flute cumbias in their original form. I caught the movie on the late show a couple of weeks ago, and as I remember Cartagena, it is authentic.

At times, CARACOL has been resorting to hours-long blocks of a particular music type. They do have an extensive library that provides a good reason to keep the recorder on.

But for the collector, I'd recommend second-hand stores and searching for the 33's from the ethnic music explosion of the late 40's.

It was an era, recording techniques had become reasonably good, and the producers looked, not towards those who reconstructed, but towards the old-timers that remembered. Electronics, two generations, and the standardization forced by international radio brought it to an end. But it's in that music that you'll hear the pure form of the differences that echo slightly in today's radio.

13
Cair



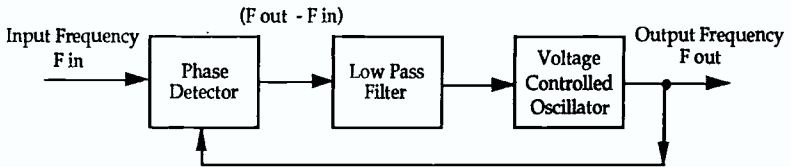
Welcome. This month we feature another installment in our series on communication receivers. A recent letter inquired: "What is a PLL, how does it work, and do you have to be over 18 years of age to purchase one?" Because a PLL is found in virtually all solid state communications receivers, I thought it would be appropriate to devote a column to the basic theory and application of this interesting device.

The Phase-Locked Loop: Basic Principles and Receiver Applications

Advertisements for modern receivers often hype the feature often described as "PLL Tuning!" What is it and is it any better than other types of tuning? We will attempt to answer these and other unasked questions. The Phase-Locked Loop, hereafter "PLL", has nothing to do with loop antennas or a pair of kissing 14 year-olds with braces (that would be "face-locked"). It has everything to do with frequency synthesis (generation), tracking, tuning stability and accuracy.

A PLL is essentially an electronic control device. All true electronic "control" devices contain a loop or path where part of an output signal is fed back into the input of the circuit in order to achieve a desired function. "Feedback" permits stable control of operating characteristics of mechanical and electrical devices. The theory behind the PLL was developed in the early 1930's. However the cost of such a device was prohibitive until the early 1960's when integrated circuit (IC) technology permitted fabrication of a virtually complete circuit on a single monolithic substrate. This decreased the cost considerably and opened the application floodgates.

Superheterodyne receivers were considered state of the art in the '20's and '30's, but they required many stages of mechanically tuned circuits which had to tune or track very closely together in order to work properly. Any system (electrical or mechanical) that has many modules that must all synchronize exactly invites the possibility of a single malfunction that may render the entire system unusable. Radio engineers sought a simpler solution to reliable signal detection. British engineers developed the "homodyne", also known as the "synchronodyne" which consisted of little more than a wideband RF amplifier, a local oscillator, a mixer and an audio amplifier. The concept was mathematically and electrically pure and simple and worked quite well, but the receiver would drift because of the inherent instability of the local oscillator. Therefore, the key to solving the problem of the synchronodyne receiver was to improve the stability of the local oscillator. This is where the concept of the PLL was developed. The process is simple. First, let's compare the frequency of the local oscillator with the incoming frequency using a phase detector. The phase detector is simply a device which has an electrical output voltage which is proportional to the difference between two input signals which are being compared. If the frequencies of the two signals are very close, the output voltage is very small. Ideally, if the two input frequencies are exactly equal, there is no output voltage. If the frequencies are far apart, the output voltage is large, up to some maximum determined by the desired application. This output voltage is the control or correction voltage which is then fed into a low pass filter which will remove high frequency noise, providing essentially a direct current (DC) output voltage. This output voltage is fed into a voltage controlled oscillator (VCO). A VCO is just what the name implies. The frequency of oscillation is determined by the DC voltage being fed into it. The output of the VCO is connected back to the phase detector and forces the local oscillator to "keep up" with the incoming frequency. The local oscillator "locks on" to the incoming frequency and maintains the desired receiver tuning stability. A simplified block diagram will help to illustrate the concept. A complete mathematical analysis of the device is rather complex; therefore we have sacrificed accuracy for the sake of simplicity.



Phase-Locked Loop Simplified Block Diagram

Note the connection from the output back into the input. This is the feedback path which is the heart of every control system. The VCO operates at some frequency determined by an external resistor and inductor/capacitor circuit. The output signal F_{out} is fed back to the phase detector so it can be compared to the input signal F_{in} . The output of the phase detector will be a function of the phase and frequency differences between these two signals. The output of the phase detector is the "error voltage", or F_{out} minus F_{in} . This voltage is usually low-pass filtered through a rather simple resistor-capacitor (RC) network known as the loop filter. Although this part of the circuit is very simple, it is also very critical and must be carefully designed. The loop filter determines the finite range over which the PLL can "lock onto" the incoming signal as well as the range over which the PLL can "capture" an incoming signal in order to lock onto it. The loop filter also determines just how stable the whole system will be in the event of sudden changes in input frequency.

The error voltage forces the VCO to change frequency (either up or down) in such a way in order to make the difference between F_{in} and F_{out} as small as possible. As the VCO begins to change frequency, the PLL is in the "capture" mode. The VCO continues to change its frequency until it matches the input frequency. When they are exactly equal, the whole loop is synchronized or "phaselocked". Only the frequencies are equal. The phase between the two signals is not zero, that is, the signals are slightly out of phase. This slight phase difference is required in order to produce an error voltage from the phase detector in order to keep the loop in the phase-locked state. The whole process is repetitive and continuous, automatically following any change in frequency, like turning the tuning knob of your receiver.

The PLL operates in one of three modes: "free running", "capture" and "phase locked". Every PLL circuit has a finite range over which it can follow changes in the incoming frequency known as the lock range. If the incoming signal is "out of bounds", the PLL circuit will not be able to track or follow it. The range of frequencies over which the PLL can become phased-locked is the "capture range" which is always less than or equal to the lock range. The loop filter has a definite cut-off range because it is a simple low-pass filter. If the difference between the input and VCO is too large, the phase detector output signal will be too high in frequency to pass through the low pass filter. This will put the incoming signal outside of the capture range of the loop and there can be no tracking.

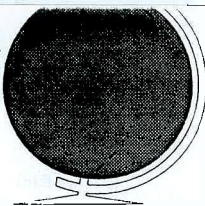
There are many applications for the phase-locked loop. Modern communication receivers and electronic test equipment all use some type of analog and/or digital PLL. In addition, PLL's find widespread use in FM stereo decoders, frequency synthesizers (including frequency multipliers and dividers), extremely sensitive satellite receivers, CB radios, Televisions and VCR's. In other words, just about everything electronic has some type of PLL.

For the purest possible reception of transmitted FM stereo, minimum distortion is required in the tuning circuitry. The local oscillator in an FM receiver (and other AM types) must generate an extremely precise and stable output in order to present the correct signal to the mixer so that the intermediate (IF) frequency output from the mixer contains essentially undistorted audio.

We often take for granted the 7 digit electronic frequency readout which is accurate to the nearest 10 Hz, but without PLL technology, such precision would be virtually impossible! 30 Years ago such technology would have added hundreds of dollars to the cost of a receiver. Today, a complete PLL based frequency display can be assembled for about \$10 to \$20!

It is interesting to note that radio engineers simply trying to build a better "DX machine" led to significant improvements in many other electronic devices!

Western Hemisphere



Loggings by the 12th of the month to:

Thomas F. Sable
University of Scranton
Scranton, PA 18510

ALASKA***KNLS***

7365 1115 CC; Mx, OM and YL chatting (444 1/30 Levison-PA)
9785 0925 RR; "Govoryashchaya Bibliya" (232 1/30 Lackmann-VA)

ARGENTINA***Radio Nacional***Radio Argentina Exterior***

6060 0915 RN ID, TC, temperature, nx by 2 OM (333 1/25 Westenhaver-QU)
15345 2344 RAE Location Buenos Aires, guitar mx (444 1/17 Westenhaver-QU)

BRAZIL

4755 0120 R Educacion Rural OM talks into mx (222 1/28 Bishop-NY)
4805 2223 R Diffusora do Amazonas Language class, mx (333 1/11 Bishop-NY)
4875 0215 Super R Romraima OM talks, YL sings (222 1/17 Bishop-NY)
4955 0246 R Marajoara Belem OMs talk it up (433 1/29 Bishop-NY)
4985 0015 R Brasil Central Pop mx program, ads, frequent IDs by OM (333 1/23 Prath-FL)
6000 2318 R Guaiba Talk by OMs Brazil-Poland soccer match (343 1/17 Westenhaver-QU)
11745 0247 R Bras EE; Today's engineers, Braz mx, Freqs (222 1/22 Brown-IL) (Bishop-NY)
11830 0110 R Anhanguera Pop mx, IDs, address (444 1/24 Flynn-CA)

CANADA***Radio Canada International***British Broadcasting Corporation relay***Radio Japan relay***relay***Northern Quebec Service***

5960 0301 RJ Gorbachev meets JJ prime minister (333 1/15 Brown-IL) (Cadorette-MA)
6015 0552 BBC Illiteracy (444 2/1 Westenhaver-QU)
6070 0840 CFRX Harrod's to open boutique in Toronto (444 1/25 Westenhaver-QU)
6120 1116 RJ Coldest wx of year (444 1/17 Brown-IL) (Fraser-MA)
6130 1826 CHNX Pop mx 433 1/24 Bishop-NY)
6160 2359 CKZN Newfoundland wx, regional nx (333 1/17 Westenhaver-QU) (Ryan-NY)
9625 0103 NQS Abortion law in Calgary (333 1/15 Brown-IL)
9755 0100 RCI "Coast to Coast" (444 1/13 Brown-IL) (Reeves-OR)
11730 2305 RCI SWLs' Digest (444 1/21 Brown-IL)
11845 0230 RCI Director of Club Med interview (333 1/12 Brown-IL)+1
11880 2143 RCI Ethiopian food relief (333 1/24 Famularo-JP)
11940 0129 RCI "It's a Matter of Survival" (333 2/4 Reeves-OR)
15425 1350 RCI FF; Soybean alternative in cattle feed (434 1/22 Westenhaver-QU)

CHILE***Radio Nacional***

9550 1106 "More Sports!" football at Chilean universities (333 1/26 Westenhaver-QU)

CLANDESTINE

6315 0108 R Patria Libre SS; Latin vocals, ID " la voz de nueva Colombia" (343 1/28 D'Angelo-PA)
7340 1135 V C.I.D. SS; Political commentary (333 1/11 Westenhaver-QU)
9940 1253 V C.I.D. SS; Piano instrumental, chimes, IS (444 1/21 Cichorek-NJ)
9965 0204 R Caifan SS; talk, mx, economic program (333 1/22 Reeves-OR)

COLOMBIA***CARACOL***

4845 0124 CC Bucaramanco OMtalks, LA mx (222 1/16 Bishop-NY)

Colombia (cont.)

4865 0032 V Cinaruco OM reads mx (333 2/3 Thornton-NJ) (Bishop-NY)
5075 0138 CC Bogota OMs chat (322 1/23 Bishop-NY)
11820 2345 R Nacional de Colombia Bachelor's Degree by Radio (322 1/18
Lackmann-VA)
11895 0248 V Rio Arauca OMs ID (433 1/23 Bishop-NY)

COSTA RICA

5045 0101 R Impacto address and ID (433 1/23 Bishop-NY)
6150 0030 R Impacto ID between mx (322 2/2 Thornton-NJ)
6175 1133 Faro del Caribe San José address, Bible reading (333 1/18
Westenhaver-QU)
21565 2315 R Peace International EE; World ecological concerns (343 1/20
Saarikko-NY)(Ryan-NY)

CUBA***Radio Habana Cuba***Radio Moscow relay***Radio Rebelde

5025 0046 RR Drugs in Washington (433 1/23 Bishop-NY)
6045 0031 RM MIR space mission (444 1/10 Westenhaver-QU)
9550' 0946 RHC OM talks into brief mx (222 1/26 Famularo-JP)
11820 0126 RHC EE; Show on Guatemala (444 2/4 Reeves-OR) Book review, "Dance
in Cuba" (555 2/9 Robinson-TN) (Fraser-MA)

DOMINICAN REPUBLIC

4800 0258 R Norte LA mx (433 1/12 Bishop-NY)

ECUADOR

3220 0020 HCJB Quecha; mx, OMs chat (222 1/12 Bishop-NY)
3315 0115 R Pastaza YL talks (222 1/12 Bishop-NY)
4680 0124 R Nacional Espejo Drama with OM and YL, ads (433 1/12 Bishop-NY)
4815 0337 R Paz y Bien Om talks into mx (333 1/12 Bishop-NY)
4870' 0015 R Rio Amazonas Andean flute mx, vocals, panpipes (222 2/3
Thornton-NJ) (Bishop-NY)
4920 2350 R Quito Ballads, EZL mx, (433 2/1 Thornton-NJ) (Bishop-NY)
4960 0020 R Federacion Campo mx with accordian (222 2/2 Thornton-NJ)
5030 2359 R Catolica Soft instrumentals, ID (333 2/1 Thornton-NJ)
(Westenhaver-QU) (Bishop-NY)
5040 0110 V Upano LA mx z9333 1/23 Bishop-NY)
5050 0123 R Jesus Gran Poder OM talks (522 1/23 Bishop-NY)
9585 0730 HCJB EE; "Happiness Is" Andean flute mx (222 1/14 Famularo-JP)
9745 0200 HCJB "Musica del Ecuador" (333 1/21 Brown-IL) (Cichorek-NJ)
11775 0125 HCJB Bible Program (4443 2/4 Reeves-OR)
15155 0203 HCJB EE; National Radio Club report (444 1/15 Brown-IL) (Bishop-
NY) (Fraser- MA)

FRENCH GUIANA***Radio France International relay***Radio Japan relay***Radio
France Overseas***

5055' 0258 RFO 2 OMs, YL, mx (222 2/5 Westenhaver-QU) (Bishop-NY)
9800 0322 RFI French president on African scene (444 1/26 Brown-IL)

GUATEMALA

3318' 0144 R Chortis Chorti; mx, OM talks (322 1/28 Bishop-NY)
4800 0025 R Buenas Nuevas Children sing, ID with call letters TGMI, mx (333
1/24 Prath-FL)
4835 0059 R Tezulutlan Peruvian-sounding mx (433 1/16 Bishop-NY)
4845 2320 R K'ek'chi Local mx, OM in local language, ID in SS (333 1/23
Prath-FL)
17767 1820 Union R SS; Religious talk, mx, IDs (232 1/12 Flynn-CA)

HAITI

4930 2237 4VEH YL talks, ID, religious talk, organ mx (343 1/21 D'Angelo-PA)

HONDURAS

3250 1135 R Luz y Vida OM mentions US, local mx, ID (343 2/3 Prath-FL)
4755 2300 Sani R VV; OM chatting (222 1/24 Bishop-NY)

MEXICO

6105 1255 Tus Panteras Upbeat mx, pops, promo, ID (242 1/27 Prath-FL)

MONTERRAT***Deutsche Welle relay***

9545 0335 DW Beer price rise in Bavaria (333 1/26 Brown-IL)

NETHERLANDS ANTILLES***Radio Nederlands relay***Trans World Radio***
6020 1054 RN Media Network: Radio Vilnius, propagation report (333 1/18
Brown-IL)
6165 0028 RN Romanian government problems, Beirut fighting (444 2/1 Brown-IL)
11720 0328 RN Arms reduction talks, Media Network (444 1/25 Brown-IL)
11815 1115 TWR ID, mx, Bonaire description and wx (333 1/17 Brown-IL)
15315 0030 RN Gorby visits Lithuania, Newslite (444 1/11 Brown-IL) (Reeves-OR)
21515nd 1745 RN Dutch; Kosovo situation (444 1/31 Westenhaver-QU)

PARAGUAY***Radio Nacional***
9735 0037 OM with mx (222 1/2 Reeves-OR)

PERU

4752 0142 R Huanta 200 LA mx, OM talks and IDs (222 1/12 Bishop-NY)
4790 0203 R Atlantida OM talks about the republic (433 1/12 Bishop-NY)
4991 0010 R Ancash OMs talk, IDs with echo (333 1/22 Prath-FL)
4995 2345 R Andina Nonstop talk by OM, promo, ID (343 1/22 Prath-FL)

PIRATES***

7415 1654 WLAR Pop mx, QSL info for Wellsville, NY (454 1/21 Karcheski-MA)
(Flynn-CA)

UNITED STATES OF AMERICA***Voice of America***Voice of Free China
relay***Radio Marti***

5950 0232 VOFC Comments on credit cards (434 1/10 Levison-PA)+1
7315 0229 WHRI Christian Countdown America (433 1/28 Bishop-NY)
7520 0310 WWCR Profile perspective: Abortion; Prophecy and the Scriptures
(333 1/22 Brown-IL)
9505 0026 WYFR Spiritual message (444 1/22 Reeves-OR)
9525 0230 RM SS; Ad, TC, Nx (444 1/25 Brown-IL)
9590 0145 BBC Hunting in Great Britain (444 1/17 Brown-IL)
9815 0037 VOA Special EE; Nx, Alice in Wonderland (333 1/20 Brown-IL)
9815 0330 KUSW Stamps ad (333 1/26 Brown-IL)
9840 0059 VOA Nx (444 1/22 Reeves-OR)
11760 2120 VOA World Report (444 1/12 Ryan-NY)
13760 2210 WHRI How to be saved (544 1/23 Bishop-NY)
15195 2055 WINB Religious talk (333 1/19 Ryan-NY)
15205 0023 VOA "American Viewpoints" (555 1/21 Reeves-OR)
15215 2212 WYFR Bible reading into mx (433 1/15 Bishop-NY)
15280 2210 KGEI "Hour of Decision" (433 1/14 Bishop-NY)
15355 1504 KGEI SS; nx, promo for Year of the Bible (333 1/26 Westenhaver-QU)
15400 0152 VOA SS; Poindexter and Reagan papers (444 2/1 Ehly-IA)
15420 2112 WRNO LSU vs Notre Dame basketball (555 1/20 Brown-IL)
15580 0110 KUSW Continuous rock mx (444 2/4 Reeves-OR)
15590nd 2017 KUSW World wx, ad for KUSW souvenirs (333 1/30 Westenhaver-QU)
15690 0111 WWCR Human merits and demerits (333 2/4 Reeves-OR) (Bishop-NY)
17555 2321 WSHB Bible program (444 1/20 Reeves-OR)
17775 2203 KVOH UPI nx, Good News of the Day (433 1/23 Bishop-NY)

VENEZUELA

4830 0052 R Tachira OM with canned ID, LA mx (433 1/16 Bishop-NY)
4840 0145 R Valer Romantic vocals (232 1/23 Flynn-CA)
4940 1100 R Continental ID, "futbol professional" nx (545 2/10 Robinson-TN)
4970 0034 R Rumbos LA mx, songs (433 1/23 Bishop-NY) (Cichorek-NJ)
4980 0039 Ecos del Torbes OM chats, ID as "Radio Nacional" (433 1/23 Bishop-NY)
(Levison-PA)
9540 1100 R Nacional nx by YL, ID (333 1/18 Ryan-NY)
9660 2243 R Rumbos Lively mx, commercials (333 1/18 Ryan-NY)

The fate of proposed shortwave station NDXE seems bleak. The FCC recently turned down H. Dickson Norman's Petition for Reconsideration of the cancellation of his construction permit for NDXE which was to be located in Opelike, Alabama. ANARC has forwarded to the Commission numerous complaints from people outside the US who paid for memberships in the "NDXE Listeners' Club" with credit cards and subsequently had unauthorized charges made against their accounts by NDXE.

Bye for now

T. J. S.

EUROPE

Daniel Sampson
 P. O. Box 31
 Independence, WI 54747-0031



Deadline: 12th
 Times/Dates: UTC
 Frequencies: KHz

BOARDING PASS
 Row
 Seat Window Center Aisle
 Flight
 Destination: _____

EUROPE

- ALBANIA** Radio Tirana
 6120 2352 RT EE; cont. cl flute/piano mx, 2355 brief closing ID, "Internationale," 2357* (343 1/17 Westenhaver-QU)
 7205 0634 RT EE; nx, U.S. nuclear test in Nevada (433 12/10 Carson-OK)
 9760 2329 RT EE; Bulgarian Communist authorities, American military, YL singer, 2357*, // 11825 (242 2/3 ed.) 0330 EE; nx, "the Eastern winds will not blow in Albania" (222 1/11 Fisher-MA) 2334 EE; listener's letters, theater of Tirana & culture (422 1/18 Cichorek-NJ)
- AUSTRIA** Radio Austria International
 5035 1224 Schulungssender des Osterreichischen Bundesheeres GG; folk mx, OM w/ ID, freq anmt., address, Morse code lesson (344 1/10 Willers-Switzerland)
 6155 *1130 RAI EE; SW Panorama, R. Islam from Sweden will close down for one year, 1500* (455 12/17 Willers-Switzerland)
 9875 0145 RAI EE; intvw on the new Romanian provisional Gov't, // 9870 (554 1/20 Fraser-MA) 0156 GG; mx, GG nx, "Nachrichten" (433 1/21 Bishop-NY)
 11780 1400 RAI GG; 'La Bomba' sung in GG, nx, spts freq info (545 1/14 Robinson-TF)
 13730 1950 RAI EE/GG; tlk about an Austrian composer, inst mx (322 12/10 Carson-OK)
 21490 1435 RAI EE; nx, Austrian beer production up almost 2% in 1989, but beer exports were up 28% (433 2/1 Westenhaver-QU)
- BELGIUM** Belgische Radio en Televisie
 5910 *1830 BRT EE; nx, wx, ban on night work for women dropped, listeners letters, 1855* (534 12/12 Willers-Switzerland)
 6035 0802 BRT EE; hurricane-force winds sweeping Belgium, RTBF HS antennas blown down, so Providence of Luxembourg is w/out radio/TV (444 1/26 Westenhaver)
 9925 0028 BRT EE; IS, ID, nx, rpt on the visit of the Japanese PM (232 1/10 Brown-IL) *0030 EE; domestic & int'l nx, mx, Belgian Cooking (444 1/11 Card-RI)
 11695 0807 BRT EE; Radio World, DX nx about R. Prague, pop mx (333 12/11 Park-HI)
 17580 1645 BRT EE; selections by rock groups, tourism (433 1/12 Flynn-CA)
 21460t 1650 RTBF FF; accordion jazz pieces, opera song by OM (433 1/4 Park-CA)
 21820 1340 BRT EE; DX pgm, nx of Romania's new IS (343 1/20 Prath-FL) 1331 EE; listener's letters & rpts, DX nx, Flemish rock mx, tourism (353 2/10 ed.)
- BULGARIA** Radio Sofia
 7115 0401 RS EE; nx, relations between Bulgaria & Canada (Levison-PA)
 9700 2145 RS EE; Music from Bulgaria, regional folk mx (444 1/13 Fraser-MA) 0003 EE; corruption charged against former leaders (332 12/9 Carson-OK)
 11680 2305 RS EE; tlk about the Bulgarian economy, // 9700 (433 1/21 Prath-FL)
 11720 0729 RS EE; tragic events in Romania (343 12/20 Carson-OK)
- CZECHOSLOVAKIA** Radio Prague
 5930 0115 RP EE; Basic Czech (343 1/28 Westenhaver-QU) 0100 EE; nx, comtry on Soviet troops (434 1/14 Levison-PA) 0100 EE; Czech lang lessons (444 1/5 Langlois-FL)
 7345 0100 RP EE; Youth Magazine, revival of Boy Scouts & Girl Guides in Czech. (444 1/31 Seymour-NC) 0120 EE; forming a new democratic Gov't (554 1/27 Fraser)
 9540 2300 RP SS; s/on w/ new IS, nx, // 7345 (333 2/3 Prath-FL)
 11990 0300 RP EE; problems in Romania & Panama (323 12/25 Carson-OK)
 15110 1810 RP EE; OM w/ mx requests, // 21505 (232 1/20 Prath-FL)
 21505 1450 RP EE; letters from Asian listeners (242 1/20 Prath-FL) 1756 EE; cultural pgm, opening of Andy Warhol exhibition in Bratislava (232 2/1 Westenhaver)
- DENMARK** Radio Denmark
 25850 *1857 Danish; IS, OM w/ ID in Danish/EE; nx about Romania, spts (353 12/28 Matsushita-Japan)

9645 0015 RF EE; rpt on Finland's relations w/ the two Germany's, // 11755 (444 2/4 Prath-FL) 0025 FF; intvw w/ university professor (554 12/13 Wright-NF)
 11755 0004 RF EE; Business Monday, interest rates still high, United Paper Mills takeover (333 1/21 Brown-IL)
 21550 1445 RF EE; Europe 1992, Finland's role in a changing Europe (444 1/7 Prath-FL) 1424 EE; nx about Monte Carlo rally, (555 1/28 Cadorette-MA) 1400 EE; affect of pollution on Finnish forest industry (444 1/21 Saarikko-NY) 1404 EE; business rpt, Finnish business investments (444 1/15 Cichorek-NJ)

FRANCE Radio France International

5945 0228 RFI FF; Souvewnir des autres pgm (444 1/28 Westenhaber-QU)
 6240 1725 R. Rainbow Germany EE; Dutch DJ, U2, Tracy Chapman, many ID's, site mentioned in France, used 25 watts (333 12/25 Willers-Switzerland)
 6520 0942 R. Waves Int'l FF; French pop mx, 'Heaven Can Wait,' DJ, ID @ 1040 (211 12/17 Willers-Switzerland)
 9790 0327 RFI EE; Iranian official is coming to Paris today (333 1/24 Brown-IL)
 15155 1245 RFI EE; ID, Top 5 Countdown (333 2/3 Prath-FL)
 15190 1358 RFI FF/RR; theme mx, FF ID into RR ID, nx (fr 1/31 Famularo-Japan)
 15300 1445 RFI FF; soccer match, ID, short musical interlude (444 12/17 Wright-NF)
 21770 1422 RFI EE; spts rpt, late nx on the kidnapping of Kashmir Nat'l Liberation Front, pop mx, FF anmt @ 1430 (222 12/11 Park-HI) 1410 EE; rpt on Greenpeace investment, press review (343 1/20 Cichorek-NJ)

GERMAN DEMOCRATIC REPUBLIC Radio Berlin International

6080 0215 RBI EE; rpt about arms reduction in the G.D.R. (322 1/14 Prath-FL)
 6115 1919 RBI unid; OM tking (221 1/4 Bishop-NY)
 7260 +1815 RBI EE; ID, nx, U.S.A. will close two military bases in Greece, listener's mailbag (544 1/28 Willers-Switzerland)
 9730 2200 RBI EE; politics in the G.D.R. (333 1/8 Langlois-FL)
 11785 0432 RBI EE; comments on bats, Poland, rel (444 1/21 Levinson-PA) 0445 EE; nx, comtry on German Demonstrating Republic, RBI DX Club (434 12/12 Carson-OK)
 15125 403 RBI EE; Czech pres. Havel visits G.D.R., stamp corner (434 1/3 Carson-OK)
 21465 1310 RBI EE; OM signing off to SEAs w/ sked, // 11970 (333 1/6 Prath-FL)

GERMANY, FEDERAL REPUBLIC OF Deutsche Welle

6030 1414 Suddeutscher Rundfunk GG; live show from car & bicycle exhibition, intwvs & mx from Beatles 'You Can Drive My Car' (555 1/26 Willers-Switzerland)
 6075 0500 DW GG; nx, ID (444 2/10 Bronowicz-MO)
 6085 0110 Bayerischer Rundfunk GG; Nacht Express w/ Face in the Suds mx & jazz (353 2/2 Kunkel-CA) 0806 GG; EE pops/country mx, OM DJ chat w/ TC & "Radio BR" (333 1/26 Westenhaber-QU)
 6145 0149 DW EE; ending of NAM pgm, freqs, time, 0150* (444 12/18 Carson-OK)
 7265 1049 Sudwestfunk 3 GG; SWF 3 Funk Boutique, mx from Phil Collins, ads, nx, wx, traffic rpts (544 1/10 Willers-Switzerland)
 11795 2305 DW GG; nx, political tkl by OM, // 3995 (333 1/27 Prath-FL)
 11985 0758 R. Liberty Ukrainian; IS, nx, many ments of Romania (322 12/23 Carson-OK)

GREECE Voice of Greece

7430 1923 VOG EE; nx, many people killed in Romania, tkl about Acropolis, into FF @ 1929 (444 12/22 Willers-Switzerland) 0130 EE/GG; nx of Greek radical movement (545 2/9 Robinson-TN) 0347 EE; nx of Greece (333 1/12 Bronowicz)
 9420 0145 VOG EE/Greek; Greek mx, Greek/EE ID, rpt on Greek mx (333 1/21 Brown-IL)
 9700 1920 VOA relay EE; rpt on India-Sri Lanka relations, // 9760 (242 2/4 Prath-FL)
 11595 1450 Thessaloniki Greek; OM/YL in discussion, ID, Greek mx, // 9935 (544 1/26 Willers-Switzerland)
 11805 0601 VOA relay EE; nx, ID, Newslne, VOA Friday (222 1/19 Ryan-NY)

HUNGARY Radio Budapest

9585 2200 RB SS; IS, nx, tkl, // 9835 (322 1/21 Prath-FL)
 9835 0030 RB EE; Hungary has ambassador in Vatican (555 2/9 Robinson-TN)
 11910 1955 RB EE; s/off in EE, IS, back in Hungarian @ 2000 (322 1/21 Prath-FL)

ITALY Radiotelevisione Italiana

7230 1030 Adventist World R. EE; ID, rel song, tkl about Winter effects on human behavior (555 1/10 Willers-Switzerland)
 9515 1116 RAI II; lots of intwvs & phone-ins, II mx, ads, nx, ID as "Radio Uno" (333 1/10 Willers-Switzerland)
 9575 0100 RAI EE; monotone YL ancw w/ nx, rpt on the election process in Italy, dentist office mx (333 1/17 Brown-IL)
 9860 1103 Italian R. Relay Svce EE; mailbag, IRRS will test on 13790 @ 1230 Su, ID, address, 1130* (344 12/17 Willers-Switzerland)
 11905 0358 RAI EE; rpt on a performance of an opera, mx (121 1/16 Brown-IL)

LUXEMBOURG Radio Luxembourg6090 0050 **EE**; cont. rock & roll mx, promos for Dating Sue, ID (322 12/26 Carson-OK)**MALTA**7110 2100 **IBRA Radio** **EE**; Don Kishia tking about God, // 7225 (221 1/23 Bishop-NY)
9565 0117 **DV relay** **EE**; U.S./Soviet military cuts, protests in Prague, Science & Technology (554 12/6 Wright-NF)
11925 1403 **V. of the Mediterranean** **EE**; YL, thought for today, contry about Finland, Greek mx, ID (555 1/12 Willers-Switzerland)**NETHERLANDS Radio Nederland**6020 0105 **RM** **EE**; Media Network (253 2/2 Kunkel-CA) 0050 **EE**; Media Network, rpt on radiowaves & earthquakes (333 1/18 Brown-IL)
6206 1205 **R. Orang Utan Int'l** **EE**; Dutch DJ, ID, address, great reception for 10 minutes then f/out (444 12/24 Willers-Switzerland)
7309.3 1106 **Free R. Service Holland** **EE**; Dutch DJ, record requests, pop mx, ID, address @ 1139 (211 12/24 Willers-Switzerland)
9715 1130 **RM** **EE**; Happy Station, birthday greetings, 1225* (555 12/17 Willers-Switz.)
13770 1502 **RM** **EE**; Media Netw., Dutch TV stations relaying foreign b/c (333 1/4 Park)**NORWAY Radio Norway International**9605 2315 **RNI** **EE**; Trends & Traditions, new museum of cont art (544 1/14 Fraser-MA)
11850 2309 **RNI** **Norw./EE**; Listener's Choice, X-mas Day pgm (433 12/25 Carson-OK)
15310 1826 **RNI** **Norwegian**; OM, **EE** ID @ 1827, into pop mx (333 1/15 Cichorek-NJ)
21705 1559 **RNI** **EE**; IS, Norway Today, S. Afr., fishermen demanding more Gov't aid, rock mx (343 2/4 ed.) 1600 **EE**; Norway Today, nx, intvw w/ new Ambassador to Norway, // 17765 (545 1/21 Ryan-NY)**POLAND Radio Polonia**6135 2240 **EE**; mx requests pgm, Request Concert, // 7270 (322 1/21 Prath-FL)
7270 2326 **EE**; U.S. dollar see-sawing in value (535 1/6 Leader-Ireland) 2240 **EE**; What We Said (343 1/20 Prath-FL) 2230 **EE**; New Year's Day pgm, mx, some nx (444 1/1 Card-RI) 2230 **EE**; tlk of Polish PM, nx, jazz (545 2/9 Robinson-TN)**PORTUGAL Radio Portugal**9600 0230 **RDP** **EE**; pgm notes, nx, Port. PM return from the U.S. (333 1/15 Brown-IL)
9680 2320 **RDP** **PP**; YL w/ mx leads, // @ 0000 w/ 9705 (353 1/21 Kunkel-CA)
9705 0235 **RDP** **EE**; nx, Pres. of W. Germ. will visit Port. (322 1/17 Brown-IL)
11840 0242 **RDP** **EE**; DX show (222 2/3 Reeves-OR) 0250 **EE**; yuletide long & Port. mx (433 12/21 Carson-OK)
11885 0052 **R. Liberty** **RR**; unrest in Communist world, ID, nx (522 12/11 Wright-NF)
21495nf 2125 **RDP** **PP**; "RDP International" ID, Portugal Desportivo pgm, live football match from Oporto (343 1/27 Westenhaver-QU)**ROMANIA Radio Bucharest**5990 0236 **RE** **EE**; Listener's Letterbox, admitting that letters critical of RB were ignored before 12/22, QRM de WYFR-5985 (333 1/15 Westenhaver-QU)
6155 *0200 **RE** **EE**; ID, YL w/ nx, new IS, // 9510 (343 1/14 Prath-FL) 0257 **SS**; new 9-note IS, 0300 YL Romanian/OM **SS** ID's, **SS** sked, nx (343 1/9 Westenhaver-QU)
9570 0200 **RE** **EE**; IS, s/on, nx (322 1/31 Seymour-WG) 0200 **EE**; tlk of free elections, trade unions, Workers Party (545 2/9 Robinson-TN)
9690 1951 **RE** **EE**; Romanian folk instrumentals, sympathetic statement by U.S. congressman on Romania (433 1/6 Cichorek-NJ)
11940 1627 **RE** **multi-ling.**; IS, waltz-like mx, ID @ *1630, multi-ling. nx of current revolution, vocal mx @ 1651, IS (444 12/24 Karcheski-MA) 0405 **EE**; Revolution spoken about (222 1/1 Carson-OK)**SPAIN Radio Nacional de España**9630 0145 **RNE** **EE**; opera mx (222 2/4 Reeves-OR) 0020 **EE**; U.S.S.R.'s new "convertible" ruble to spur the economy (545 1/27 Fraser-MA) 0115 **EE**; Panorama, rock-a-billy (444 1/31 Cadorette-MA) 0020 **EE**; wld nx (333 2/3 Bronowicz-WO) 0115 **EE**; peace in Eur & oil spill off Morocco (444 1/5 Langlois-FL) 0059 **EE**; political strategy on German reunification (544 12/13 Wright-NF)
9690 0315 **R. Beijing relay** **EE**; criticism of the Dala Llama, Chinese New Year (333 1/24 Brown-IL) 0239 **CC**; inst mx, IS, ID, 0300 **EE** nx (554 1/8 Kline-CA)
11790 *2100 **RNE** **EE**; wld nx, Spanish pop mx, contry on Chile (fr 1/31 Famularo-Japan)
11880 0045 **RNE** **EE**; nx, nx, Soviets take measures in Azerbaijan, contry on E. Eur. (444 1/19 Brown-IL) 0020 **EE**; tlk about cocaine in LAm (433 1/21 Bishop-NY) 0103 **EE**; nx, press review, Panorama (454 12/9 Carson-OK)
15130 1000 **R. Liberty** **RR**; theme mx, YL w/ ID, OM w/ nx (353 12/19 Matsushita-Japan)
17845 1926 **RNE** **SS**; **NA**, OM w/ anmt "...Esta es R. Nacional de España, R. Exterior..." (222 12/10 Park-HI)
21555 1715 **RNE** **SS**; 2 OM w/ coverage of futbol game (444 2/4 Prath-FL)

SWEDEN **Radio Sweden**
 6065 *1800 RS EE; Weekday, Sweden Calling DXers, 1830* (545 12/12 Willers-Switz.)
 9655 2120 RS EE; mailbag show, Stamp Corner (333 1/7 Westenhaber-QU)
 11705 0230 RS EE; review of events in Sweden in the 80's, // 9695 (444 1/7 Prath-FL)
 0230 EE; Nordic Newsweek, Cabinet shakeup in Sweden (333 1/13 Brown-IL)
 0240 EE; SW in 1989, jammers: U.S.S.R. & China (433 1/2 Carson-OK)
 11740 1230 RS EE; nx of Swedish Gov't & Bulgaria, Indian & Swedish media, "the Communist Party has to change..." (545 1/13 Robinson-TN)

SWITZERLAND **Swiss Radio International**
 3985 2245 R. Beijing relay II; CC mx, OM w/ ID (333 1/27 Prath-FL) 2222 poems, 'Elegy for an Eagle,' & 'The Wild Horse Herd' (544 1/6 Leader-Ireland)
 6135 0200 SRI EE; nx, Army & Air Force units displayed in Yugo. (333 2/1 Brown-IL)
 0217 EE; Swiss SW Merry-Go-Round (433 1/28 Bishop-BY)
 6190 2250 SRI EE; listener's letters, mx requests (444 1/21 Prath-FL) 2251 EE; Dateline, Swiss mx (434 12/26 Carson-OK)
 9535 0754 SRI EE; receivers & filters, TV DXing (555 1/6 Leader-Ireland)
 9885 0201 SRI EE; nx, Soviets tear down fence in Moldavia, Dateline, rpt on Mandela's possible release (444 1/10 Brown-IL)
 12035 0210 SRI EE; Dateline, rpt on arms tlks, women in politics in Japan, Vietnamese refugees (444 1/26 Brown-IL)
 13635 2130 SRI EE; Church & Gov't in G.D.R. (444 1/4 Langlois-FL)
 21630 1625 SRI EE; wld nx (333 2/5 Bronowicz-MO)
 21695 1315 SRI Esperanto; s/on in EE, into Esperanto w/ nx, tlc (444 1/27 Prath-FL)

UNITED KINGDOM **British Broadcasting Corporation**
 3955 2135 BBC EE; Learning World, TC @ 2145, Media Watch (423 12/28 Karcheski-MA)
 6312 1938 R. Freedom (Scotland) EE; English DJ, pop mx, ID, bad QRM & QSB (211 12/25 Willers-Switzerland)
 6319 2233 R. Stella Int'l (Scotland) EE; DJ, Level 42 'Lessons in Love,' ID @ 2242, address (111 12/24 Willers-Switzerland)
 6320 0420 R. Stella Int'l (Scotland) EE; Jack Wilson hosting rock mx pgm, playing requests, ID "Radio Stella International" (232 1/28 D'Angelo-PA)
 7235 2220 BBC EE; Ceausescu execution (323 12/25 Bronowicz-MO)
 9331 1846 AFRTS feeder EE; spts comtry via Barford from AP radio (433 1/24 Bishop)
 9915 0415 BBC EE; rpt on the Iran-Iraq prison negotiations, relations between the U.S. & U.S.S.R. on the Bering Strait (333 1/12 Brown-IL)
 12095 0205 BBC EE; nx, Noriega appears for a bail hearing (333 1/26 Brown-IL)
 17705 0830 BBC EE; Anything Goes w/ X-mas songs (232 12/18 Matsushita-Japan)
 17715 2100 BBC EE; soccer scores & coaches cheating (444 1/18 Langlois-FL)

VATICAN CITY **Vatican Radio**
 6150 0050 VR EE; violence between Azerbaijan & Armenia (222 1/15 Brown-IL)
 6190 2101 VR EE; nx, s/off @ 2109 followed by IS, // 7250 & 9645 (323 1/19 Ryan-NY)
 9605 0049 VR EE; nx, Deng lifts marshal law in China, Romanian situation (555 1/10 Brown-IL) 0050 EE; nx about Pope's travel to Chad (555 1/31 Cadorette-MA)
 11715 1913 VR Finnish; Stevie Wonder-style harmonica mx, YL w/ ID "Taala Radio Armatikaana..." tlc, // 9755 (222 12/10 Park-HI) *1814 Armenian; s/on in Armenian under VOA (232 1/26 Kunkel-CA)
 11725 0320 VR EE; the difference between Methodists & Catholics (333 1/25 Brown-IL)
 11780 0050 VR EE; IS, ID, story of Bernidate (322 1/14 Brown-IL)
 15120 1552 VR EE; Afro choral singing, Afr nx by 2 OM, ID, address (pr-fr 1/31 Famularo-Japan)
 17705 0714 VR EE; IS, drum, OM w/ ID, X-mas in Romania, // 15195 (353 12/27 Matsushita-Japan)
 17735nf? 2327 VR PP; IS/bells to 2330, ID & anmt w/ no ment of this freq, wld nx pgm Sete Dias (343 1/23 Westenhaber-QU)

WEST BERLIN **RIAS-Berlin**
 6005 1750 GG; long rpt on local elections w/ intvws, pop mx, no nx on the hour, ID (544 1/28 Willers-Switzerland)

YUGOSLAVIA **Radio Yugoslavia**
 6005 0138 RY EE; discussion of economics (433 12/30 Carson-OK)
 7215 2200 RY EE; IS, nx, comtry, // 9660 (333 1/20 Prath-FL)
 9620 2200 RY EE; nx, rpt on the possible reunification of Germany (232 2/3 Prath-FL)
 9660 2203 RY EE; YL w/ nx, ID, comtry on Albania, Science & Technology rpt (434 1/18 Ryan-NY) 2115 EE; wld nx (333 1/8 Langlois-FL)
 11735 0101 RY EE; nx on Kosovo, World Economic Forum (444 2/3 Reeves-OR) 0120 EE; tourist rpt, direct flights now from Miami to Yugoslavia (333 1/24 Brown-IL) 0128 EE; juvenile delinquents (434 12/14 Carson-OK)
 15325 1300 RY EE; Alb. military forces, football might have originated in Dalmatia (545 1/14 Robinson-TN) 1319 EE; bicycling in Yugo. (343 1/21 Cichorek-NJ)



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USSR Radio Moscow Radio Kiev Radio Vilnius Radio Tashkent
Radio Station Peace and Progress Radio Yerevan

- 4740 0320 R. Afghanistan Relay-Ashkhabad: Pusto/Dari; M tkl, lcl vocal ax (222 1/4 Karcheski-MA) (Bishop-NY)
- 4785 *0300 RM (DS1)-Baku (PNBR); RR; Soviet NA, M/W wish listeners "Dobroye utro, zdrastvuyte tovarishi" (Good morning, hello Coerades), date, TC (322 12/18 George-MA)
- 4957.5t 0309 RM (DS2)-Baku (PNBR); Azerbaijani; vocal ax, W vern. tkl (323 12/26 Karcheski-MA)
- 5970 0050 R. Alma Ata-Alma Ata (ILB); RR; W in RR w/ ax, lcl IS @ 0100, into tkl (252 2/2 Kunkel-CA)
- 6055 1800 R. Minsk-Siaferopol (ILB); Byelorussian; ID, M/W tkl, QRM de co-channel R. Prague (221 1/4 Bishop-NY) (ILG lists start as 1830 -ed)
- 6090 0835 R. Tikhiv Okean-Khabarovsk (ILB); EE; M w/ cntry on Armenian-Azeri civil strife, ID "...listening to R. Pacific Ocean...", RR pop ax, || 11665 (222 1/20 Park-HI)
- 6145 1751 RM; EE; "Sidelights on Soviet Life" (333 1/16 Park-HI)
- 7175 0606 RM-Khabarovsk (ILB); EE; nx on E. German & Czechoslovak govt. changes, "Moscow Mailbag", QRM (423 12/10 Carson-OK)
- 7195 1308 RSP&P-Komsomolsk (ILB); EE; nx, cntry on Gorbachev visit to Lithuania, ID, || 7330 (fr 1/15 Faularo-JP) (Westenhaver-OU)
- 7260 1530 RM; EE; nx, "Your Request Weekend Show", || 6165 (222 2/3 Park-HI)
- 7360 2250 RSP&P-Kharkov (ILB); EE; RR ax, ID, s/off anat @ 2256, RM in SS @ 2300 (444 2/3 Prath-FL) (Carson-OK)
- 7380 2300 R. Rodina-Sverdlovsk (ILB); RR; IS, ID, s/on w/ nx, tkl, || 4765 (343 1/20 Prath-FL)
- 7400 0300 RK-Alma Ata (ILB); EE; nx & cntry (555 1/24 Lukas-NY) (Carson-OK)
- 7400 0356 RY-Alma Ata (ILB); EE; M nx abt problems w/ Azerbaijan (433 2/5 Thornton-NJ) (Carson-OK) (Lukas-NY)
- 7400 2303 RY-Alma Ata (ILB); EE; Lithuanian nx, mailbag, nx, sports (544 1/2 Carson-OK) (Cichorek-NJ)
- 9450 1113 RM-Novosibirsk (ILB); KK; W nx, ID "Yogineun Mosuko pangsong ianida", || 7420, 7135 (323 2/5 Park-HI)
- 9540 1220 RI-Tashkent (ILB); EE; ax, listener's letters (333 1/13 Prath-FL)
- 9635 1905 R. Afghanistan Relay(?); EE; M nx abt Afghanistan, ax, ID, cntry (544 1/1 Willers-Switzerland) (Cichorek-NJ) (This frequency listed as from Kabul in ILG, PNBR & Jan. 90 USSR column, but xmitter power is only 50 kw. An SID of 544 would seem to indicate a USSR relay - anyone have definitive information on the xmitter site? -ed)
- 9685 *2300 RM-Chita (ILB); Indonesian; ID - "Inilah R. Moscow...", sked, nx, QRM de co-chan. RM NA svc! (323 2/4 Westenhaver-OU)
- 9710 0000 R. Atlantika; RR; IS, ID, nx, || 4765 (322 2/4 Prath-FL)
- 9715 2100 RM; EE; M tkl on US in Panama (444 1/4 Langlois-FL)
- 9765 0621 RM-Lvov (ILB); EE; "Inside Report", nx headlines @ 0630 into "Update", QRM de RCI on 9760 (333 12/15 Carson-OK)
- 9765 0045 RK-Lvov (ILB); EE; "The People and the Economy" - rpt on economic future of Ukraine (554 1/17 Fraser-MA) (Levison-PA) (Lukas-NY)
- 9765 0350 RY-Lvov (ILB); EE; class. ax, M ID @ 0354, Armenian nx (434 1/17 -ed) (Lukas-NY) (Park-HI)
- 9765 0200 R. Rodina-Lvov (ILB); RR; IS, ID into W/M nx (444 1/8 Prath-FL)
- 9820 2337 RM-Yerevan (ILB); SS; ID @ 2339, nx, rpt on Soviet Human Rights Congress, tkl on constitution (554 12/12 Wright-NF)
- 9860 1900 RM-Ivanofrankovsk (ILB); EE; ID, nx, mailbag pgs (322 2/4 Prath-FL)
- 11730 1705 RM-Vinnitsa (ILB); EE; wld nx, "Inside Report" (443 2/7 Park-HI)
- 11745 2045 RM-Vinnitsa (ILB); EE; African svc, "Party on the Road to Renewal" pgs (333 1/12 Ryan-NY)

11785 1332 RI-Tashkent (ILG); EE; sports review, folk song, M ID & closing annt @ 1357 (343 12/1 Matsushita-JP)

11880 0617 RM; EE; tlc abt increasing Soviet exports (333 1/30 Westenhaver-QU)

12000 1300 RM (DS2)-Kazan (ILG); RR; IB, s/on, Mayak pgs, M nx (343 1/20 Prath-FL)

12050 0232 RM; EE; "Inside Report" w/ promo for "Weekend" (433 12/18 Carson-OK)

15130 2342 RM-Vladivostok (ILG); EE; RR lang. lesson, M ID & theme @ 2358, 2400* (444 12/16 Matsushita-JP)

15160 0122 RM-Nikolayevsk (ILG); CC; W tlc on Romania, inst. mx, ID @ 0127, M/W tlc (333 1/16 Westenhaver-QU)

15305 1530 RM-Tula (ILG); EE; "Science & Engineering" - Soviet scientist career, mx (533 12/17 Wright-NF) (Lukas-NY)

15480 0505 RM-Orsha (ILG); EE; wld nx & sports, "Newmarket", !! 7310, 17600, 17855 (222 2/28 Park-HI)

15490 1250 RM-Tula (ILG); EE; class. mx, ID @ 1258, mx, carrier until 1302* (454 12/30 Karcheski-MA)

15560 1520 RM-Serpukhov (ILG); EE; tlc abt Romanian government's support of Warsaw Treaty (434 1/8 Westenhaver-QU)

17600 0548 RM-Moscow (ILG); EE; pgn abt Mstislav Rostropovich (121 1/18 Park-HI)

17605 0030 RM-Petropavlovsk (ILG); EE; M/W tlc on economic effects of Glastnost (333 2/9 Valentine-CA)

17665 2310 RV-Petropavlovsk (ILG); EE; rpt abt Gorbachev's visit to Lithuania, !! 7400 (343 1/13 Prath-FL)

17690 0309 RK-Petropavlovsk (ILG); EE; "Dialogue" pgn (444 2/4 Reeves-OR)

17690 2325 RV-Petropavlovsk (ILG); EE; rpt on pop mx in Lithuania, !! 7400 (232 1/20 Prath-FL) (Reeves-OR)

17690 2330 R, Minsk-Petropavlovsk (ILG); Byelorussian; organ IS, *2330 w/ "Govorit Minsk" ID, M/W tlc (454 12/29 Karcheski-MA)

17720 0145 RM-Petropavlovsk (ILG); EE; M tlc on longest railroad in USSR, (444 2/8 Valentine-CA)

17755 0438 RM-Irkutsk (ILG); RR; RR variety mx, !! 17695, 17740, 17870 (353 1/18 Kunkel-CA)

17825 0400 RM-Irkutsk (ILG); EE; nx - KGB troops dispatched to Armenia (242 1/18 Kunkel-CA)

17840 1310 RM-Vinnitsa (ILG); EE; "Focus on Asia & Pacific", !! 15475 (343 1/13 Prath-FL) (Westenhaver-QU)

21470 0130 RM-Petropavlovsk (ILG); EE; M/W tlc on peace in the world (444 1/8 Valentine-CA)

21690 0100 RM-Khabarovsk (ILG); EE; tlc on decision to adopt multi-party system in USSR (444 2/8 Valentine-CA)

Relays

6045 @ 2250 in EE - via Havana, Cuba

Schedules

Radio Afghanistan USSR Relays

3965	0130-1930	Dushanbe	50 kw	9635	0130-2000	Kabul (?)	50 kw
4740	0130-1930	Ashkhabad	120 kw	9665	1730-2000	Armavir	240 kw
4760	0130-1930	Dushanbe	50 kw	11715	1700-1730	Kiev	500 kw
4940	0130-1930	USSR site	-	11820	0130-0430	Kazan	240 kw
6020	1730-2000	Moscow	240 kw	15435	0130-1700	Tula	100 kw
9515	1700-1730	Ryazan	240 kw	17720	0430-1700	Kazan	240 kw

[D89 ILG, 1990 FWBR]

No SCDX news this month due to several problems, hopefully I will be able to catch up next month. Thanks again to those who have written recently, I appreciate your comments, etc. Lots of logs from the Soviet republics this month, reflecting interest in the events in Armenia, etc. no doubt. Logs are down a little this month in general however, as you can see from the amount of space left here - more space for your editor to ramble on, hi! Actually, that's all I have for this month, so I will leave the rest of this page for Eddie. 73! -Jason

AFRICA

Editor: Don Thornton

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Hello again. Another month of good DX/SWling, at least it would seem from you reports. There are a couple of infrequently reported stations this month so let's get right to the loggings!

ANGOLA

3376 0310 R. Nacional: PP: Light mx which I couldn't stand, followed by lively local mx. Heavy CW QRM (233 1/8 Kunkel-CA)

ASCENSION ISLAND

15260 0024 BBC: EE: Nx about Canadian sprinter Ben Johnson (444 1/21 Reeves-OR) @ 0035 Interview in EE with Rolling Stones band member Keith Richards, report on wind surfing in Great Britain (333 1/15 Brown-IL)
 15400 2132 BBC: EE: Prog. "Rock Solid", anmts; Christmas carols (454 12/27 Karcheski-MA) @ 2055 in EE w/quiz prog w/prize of £100 (333 1/21 Brown-IL)

AZORES

13584t 2003 R. Club do Angra: PP: M tx in PP, @ 2021 rock mx; 2100 TPs; M & W w/anmts; EE vocal music. I tuned out at 2100; no positive ID heard; decent signal, muffled audio (342 1/13 Evans TN)

BENIN

4870 2130 ORT du Benin: FF: M tx w/drum rolls for background accompaniment (332 1/5 Bishop-NY) @ 0638 Native African mx w/W anncr in FF (232 2/8 Johnson-IL)

BOTSWANA

4830 0400 R. Botswana: EE/SET: Annrc giving prog sked (1/2 Lukas NY) @ 0358 w/IS; NA--swamped by LA station on this freq. (212 1/8 Karcheski-MA) (Walter knows that's R. Tachira, Venezeuala, 10 kW, & they do not always s/off at 0400 as scheduled--ed)

CAMEROON

4850 2145 CRTV FF: CRTV theme mx, EE ID & nx; another ID at the end of the nx @ 2110 then into hilife mx. (333 12/20 George-MA) @ 2145 tx in FF by M & W (322 1/12 Bishop-NY) @ 2210 M reads pres nx; "Ici Cameroon, Yaunde, poste nationale de la CRTV" @ 2214, into hilife mx (222 2/3 Thornton-NJ)

CENTRAL AFRICAN REPUBLIC

5034.5 0455 RTV Centraficaine: VERN: Mx; I believe the language spoken was Sango but I'm not certain of it (353 1/12 Kunkel CA)

CHAD

4904v 2123 Radiodiffusion Nationale: FF: M tx in FF then into program of Afropops mx (433 1/22 Bishop-NY)

EGYPT

9770 0300 R. Cairo: AA: "Voice of the Arabs" prog; M tx & AA mx (333 1/4 Kunkel-CA)
 9850 0305 R. Cairo: AA: Prog of readings from the Holy Quran //9755 (444 1/4 Kunkel-CA)
 9900 2115 R. Cairo: EE: W w/ID, prog skeds, nx prog "Night News Sunday" inc tx abt the Nile River. (544 1/14 Willers-Switzerland)
 11715 0100 R. Cairo: SS: M tx in SS //9475 & //9740 QRM de R. Beijing via Mali (233 1/4 Kunkel-CA)

EQUATORIAL GUINEA

5003.7v 2142 R. Nacional: SS: From studio in Bata, mx & tx in SS, NA 2200* (152 1/9 Lukas-NY) @ 2132 M tx in SS; much QRM de UTE (322 1/22 Bishop-NY) @ 2053 songs from Bob Marley, nx read by M & W; heard "Radio Nacional" mentioned frequently (1/29 Willers-Switzerland) @ 2156 in SS; s/off w/M annrc; NA (222 1/31 Johnson-IL)

6149.8 2141 R. Nacional: SS: Mx, W tx, then NA; broadcast is via Malado (152 1/9 Lukas-NY) @ 2144 M w/ID inc QTH, followed by SS mx (333 1/19 Karcheski-MA)

GABON

- 4890 0459 RFI: FF: Europop mx; ID "RFI" (Air-Eff-ee; TPS at 0500 (322 George-MA)
- 9580 2215 Africa #1: FF: M anncr w/ID & modern African mx (433 1/31 Johnson-IL)
- 9645 0304 R. Japan: EE: Long anmnts of freqs inc this one; then back to nx w/item abt Taiwan-Hungary trade ties (222 1/8 Westenhaver-PQ)
- 11835 2105 R. Japan: EE: ID, freqs, report on upcoming Japanese election (222 1/21 Brown-IL)
- 15475 1855 Africa #1: EE/FF: End of EE nx; into FF--transmitter off @ 1859 which is not the scheduled s/off (343 2/1 Seymour NC)
- 17630 0724 Africa #1: FF: ID as Afrique Int't; African pop mx; into nx prog at 0731 ((333 1/5 Carson-OK)
- 21700 1535 R. Japan: EE: Prog "DX Corner" inc report on New Zealand, ID, report on Japanese mx scene (344 1/14 Willers-Switzerland)

GHANA

- 3366 2245 GBC 2: EE: ID "This is the Ghana Broadcasting Coproration" then into national nx (433 1/14 Bishop-NY)
- 4915 1925 GBC 1: VERN/EE: Long tx by M & W; nx in EE @ 2000 read by W; best in LSB! (333 1/29 Willers-Switzerland) @ 2127 two M tx in local vernacular (433 1/22 Bishop-NY) @ 0529 in EE w/drums in background followed by ID & nx (342 2/7 Johnson-IL)

GUINEA

- 4900 2055 R. Nacional: FF/VERN: M tx in vern; W tx in F @ 2059 ments of Guinea; then back into vern (232 George-MA)

KENYA

- 4934 2100 Voice of Kenya: EE: Regional nx followed by evening devotional message (232 1/10 Saarikko-NY)

LESOTHO

- 4800 2156 LNBS: SESOTHO: M anncr tx; then into NA (221 1/11 Bishop NY)
- 11940 0434 BBC: EE: ID "BBC World Service for Africa" then into prog "Network Africa" w/report on new Namibian Constitution (Only BBC site listed in ILG for this freq) (333 1/17 Westenhaver PQ)

LIBERIA

- 4760 2115 ELWA: EE: Start of EE service; M tx abt God, followed by a hymn of praise. (322 1/2 Bishop-NY)
- 11835 0320 VOA: EE: Report on the political crisis in Bulgaria; report on an East-West financial conference (222 1/14 Brown-IL)
- 15600 2050 VOA: EE: "Nightline Africa" inc report on Harry Belafonte (333 1/21 Brown-IL)

LIBYA

- 15454t 2000 R. Jamahiriya: AA: Presumed drama, //15415; drifting up abt 100 hz every 5 minutes (343 1/25 Hanson-WA)

MADAGASCAR

- 5010p 0247 R. Madagasikira: VERN: M & W in informal conversation; similar to FF but definitely not FF (probably Malagasy) Pop/hilife mx @ 0257; @ 0300 ID sounded like "Radio Madagascar" (222 1/29 George-MA)

MALI

- 4835 2057 RTV Malienne: VERN: M w/commentary abt Africa; freq ments of Bamako & Gabon (444 1/19 Willers-Switzerland) @ 2119 two M anncrs tx in FF (221 1/5 Bishop-NY)
- 5995p 0718 RTV Malienne: FF/VERN: Two M reading list of obituaries w/many ments of Bamako; local instrumental mx 0728-0730; then vern anmts & tx by 2 M anncrs (343 2/1 Westenhaver-PQ)
- 9665 0030 R. Beijing: EE: Prog "Current Affairs" solar activity center & ancient Chinese city may have been founded by Roman soldiers //11715 SIO 454 (454 1/10 Fraser-MA)
- 9770 0001 R. Beijing: EE: Prog on how to learn to speak CC; cultural interchange across China (SIO? 12/28 Rader-OH)
- 11715 0301 R. Beijing: EE: Official says China will have no problems w/servicing foreign debt; some countries may lift sanctions against China (333 1/22 Brown-IL)

MARUITANIA

- 4845 2208 ORT de Mauritanie: AA: Tx in AA inc freq ment of Mauritania;

local mx (434 12/29 Karcheski-MA) @ 2036 in AA inc M into long tx abt Israel; mx. QRM de unid UTE (322 1/19 Willers-Switzerland) @ *0628 IS on stringed instrument--theme & variations. M tx @ 0630 ments "Muritaniyyah"; soon into recitation (343 1/22 George-MA)

MOROCCO

17595 1540 RTV Marocaine: EE/FF: ID as "EE prog from the Int'l Service of Moroccan Radio"; non-stop US pops (inc "Super Bowl Shuffle" to 1559 then in FF nx by W (333 1/17 Westenhaver PQ) @ 1630 in EE w/"The Story of EE"; non-stop pop mx, ID, off abruptly at 1659 (444 1/26 Willers-Switzerland)

NIGER

9705 0708 La Voix du Sahel: FF: African mx; children chanting w/drums accompaniment, M anncr (333 2/8 Johnson-IL)

NIGERIA

3326 0445 R. Nigeria: EE: M tx w/ pres nx //4990 (353 1/8 Kunkel CA)
4770 2210 R. Nigeria: EE: Tape of United Nations prog re world garbage disposal problems; @ 2214 M gives ID & local TC for Nigeria "...it is now 11:14" (322 2/8 Thornton-NJ)
4990 2202 R. Nigeria: EE: Woman reads nx in EE (232 1/10 Bishop-NY)
7255 0510 Voice of Nigeria: EE: ID, time check by M anncr (222 2/4 Reeves-OR) @ 0510 special edition of "Morning Flight" for New Year & decade @ 0532 Int'l nx begins (434 1/1 Carson-OK)

RWANDA

15270 0105 R. Deutsche Welle: GG: Nx; recent events in GDR; symphony mx (353 12/11 Wright-NF)

SEYCHELLES

9630 2055 BBC: EE: BBC World Service relay site ID given (222 2/6 Johnson-IL)
11750 0300 BBC: EE: BBC nx; tensions rise in Azerbaijan, anti-Communist rally in E. Germany, over 100 drown in Bangladesh flood (333 1/14 (Brown-IL)
11915 1520 FEBA: AA:IS @ 1900 began w/ID interspersed "Huan Al-Idhaatu Saut...Min Say' Shul" Strong QRM de DW in RR which was already on the freq. (333 1/14 Lackmann-VA)
15205 0258 FEBA: FARSI: "Inja Radio Feeba" IDs @ 0259; ID & anmt in Farsi then mx followed by M tx in Farsi (222 Westenhaver-PQ)
15330 1520 FEBA: EE: Listener's letters from India; western + Afro pop mx; W prgm host (fr-gd 1/26 Famularo-Japan)

SOUTH AFRICA

3320 2054 R. Orion: EE/AF: C&W mx, M anncr in EE; TPs; ID in Afrikaans @ 2100 followed by nx (433 12/29 Karcheski-MA) @ 0129 in EE/AF middle of the road mx; no ID @ 0130 (322 1/28 Bishop-NY)
4800 0329 R. Suid Africa: AF: ID @ 0330, nx on US capture of Noriega (333 1/4 Ehly-IA) @ 0326 in AF w/M tx; into African mx; ID @ 0330 (433 1/12 Bishop-NY) @ 2111 R. Five in EE w/prog of rock mx; ads; ID @ 2114 "Radio Five--in stereo" (444 12/29 Karcheski-MA)
4945nf 2138 RSA: VERN: Afro pop mx w/annmts in vern; RSA IS 2159 TPs 2200* (434 12/29 Karcheski-MA)
7295 0430 RSA: EE: ID in EE; followed by prog in FF (222 12/17 Bronowicz-MO)
9580 0158 RSA: EE: IS, ID @ NA (444 2/4 Reeves-OR) @ 0220 EE report on protest abt visit of British cricket team (333 1/22 Brown-IL)
9615 0158 RSA: EE: IS, ID, nx--US hopes the Angolan gov't will return to negotiating table; cyclone hits Madagascar (333 1/13 Brown IL)
11795 0428 RSA: FF: IDs in EE/FF; opening annmts; prog preview into nx @ 0432 //15365 SIO 444; //15220 unhrd (343 1/17 Westenhaver PQ) @ 0425 IS + ID in EE into prog in FF (333 12/15 Carson OK)
11935 0212 RSA: EE: Mailbag prog inc PO Box #, @ 0230 into "Saturday RSA" (44 12/31 Carson-OK)
15120 0200 RSA: EE: Entire prog devoted to President de Klerk's historic speech (444 2/3 Seymour-NC) @ 0330 in EE, ID; report on the Soviet approach to South Africa (333 1/26 Brown-IL) @ 0155 in EE w/Bokmacteria bird IS (555 2/4 Reeves-OR)
17710nf 1955 RSA: PP: "Africa nos ultimas 24 horas" nx briefs; Afropop vcl filler mx; TPs for 2000; ID; w/frqs //11950 SIO 434 (434 1/26 Westenhaver-PQ)
21515 1820 RSA: DUTCH: Prime Minister's speech; W/w ID, NA, 1825* Never heard them on this freq before, not listed anywhere! (455 2/2

Kunkel-CA)
 21535 1934 RSA: EE: Pop mx inc Johnny Clegg + Savuka; 1936 critique abt a play; 1942 amatuer radio spectrum (343 1/6 Cichorek-NJ)
 25790 1531 RSA: EE: World nx, commentary & interviews abt cricket team (454 1/23 Levison-PA) @ 1504 nx inc Kenya receives its first 757 airplane; mailbag show (555 1/16 Willers-Switzerland)

SUDAN

9540 1530 R. Omdurman EE: Either this or R. Sudan; Nx at 1530 - 1550 1601* New ID seems to be "Radio Sudan"; signal reached S9 + 20db! (422 1/10 Flynn-CA)
 11625 1845 R. Omduran AA: M into long talk abt Islam; QRM de AIR and unid station @ 1900 (Actual ID not heard but I will try again) (433 1/29 Willers-Switzerland)

SWAZILAND

3200 0318 TWR: EE: Reading from the Book of Revelations. 0330* (354 Kunkel-CA)
 3240 0321 TWR: M + W annrcs tx in unknown LL (possibly Ndebele) (252 Kunkel-CA)

TOGO

5046.5 0605 Radiodiffusion tel Togolaise: FF: FF mx, W + M in disc; ID as "Radiodiff Television Togolaise"; nx @ 0615 (444 1/29 Willers-Switzerland)

TUNISIA

12005.1 2057 RDT Tunisienne: AA: Arabic mx w/W anncing titles, ID by M at 2100 ending in "Jumhuriya at-Tunisia" in nx by same M. (343 1/11 Lackmann-VA)

ZAMBIA

4910 0359 ZNBC: VERN/EE: M annrc w/"Zambia Natonal Broadcasting Corp oration" over drums; several IDs in different langs inc EE + verns, into nx in vern. (322 George-MA)
 4910 0306 ZNBC: VERN: M & W talk in vern (221 1/17 Bishop-NY)

ZANZIBAR

11734.2 1805 Voice of Tanzania-Zanzibar: SWAHILI: M tx w/nx, ments of Dar-es Salaam; @ 1815 other M w/Muslim salutation, poss relig tx to 1834* Off suddenly w/out anmnts NA, ect. (232 1/23 Lackman-VA) @ 1817 in Swahili; W + W w/commentary; ID @ 2130 carrier to 2131* (423 1/21 Karcheski-MA)

CLANDESTINE & UNIDs

5015t 0410 R. Truth: EE: Vcl mx in vern; Afro-pop mx w/EE vocals; anmts; Reggae style mx followed by deep fade-- returned w/chorus of a capella style mx in vern; tx at 0428 (222 1/1 Karcheski MA)
 15205 0230 Unknown station in unknown lang w/ethnic musical selections; M tx between selections--did not recognize IS. After IS M tx for 13 minutes- then mx w/M vocal 0313 @ 0330 chimes then s/off w/out ID heard (555 1/20 Levison-PA)

FILL THAT GAP! Suddenly, it seems recent events in South Africa have turned the continent into a news and DX hotspot. Let's hope we see many logs next month not only from RSA but from the rest of the world on these developments as well, with their description and interpretation of events. I've tried to listen to nx reports from the South African regional stations in the tropical bands, trying to hear what the government of South Africa is telling its own people, as well as what RSA is telling the rest of the world. I think that is what makes tropical band listening so much fun, hearing things which are meant primarily for the local folks...on 2/11 RSA carried live Nelson Mandela's release from prison on 21535kHz long past the usual s/off time...just a reminder of how the DX season is changing; now in ECNA the afternoon window to hear the tropical band African stations is rapidly disappearing and will be just about finished with the month's end and beginning of DST... by then we'll have to try for the pre-African dawn s/on ... on a good night we can follow the local sunrise across the continent...do it now before summer thunderstorms make this much more difficult...again a reminder to try to send current loggings--for the April SPEEDX, I would prefer logs only for dates after 2/1/90... until next month, remember to have fun with your radio!



ASIA/OCEANIA

William Westenhaver
3525 Aylmer St., #610
Montreal, Quebec, Canada
H2X 2C1

Deadline: 12th
Dates/Times: UTC
Frequencies: KHz

Welcome to the March column! There are a lot of loggings to fit in this month, so I'll just start off by thanking all contributors for their fine work, and by offering a special welcome to this month's new contributors, especially Paul Stringer, our only member in New Zealand.

AUSTRALIA

VLM Brisbane Radio Australia

4920 1037 VLM4: EE: Country mx px ("It's moo and dust time again...watch out you sheep herders!") (252 1/5 Kunkel-CA)
 7120 1250 RA: CC: Mx; W tlk; CC/EE ID; //11765 (232 1/6 Prath-FL)
 9580 1200 RA: EE: "International Rpt" (333 2/6 Bronowicz-MO) @ 1311 w/ Commonwealth Games nx (444 1/30 Cadorette-MA) @ 1230 w/special "Soundabout" for Elvis' birthday (454 1/8 Fraser-MA)
 9710 1106 RA: EE: world/Australian nx (333 1/13 Fisher-MA)
 11880nf? 2123 RA: EE: M/W tlk on home ownership; ID (fr-gd 1/31 Famularo-JP)
 11930nf 1405 RA: EE: IS to abt 1427, when into EE px; had been in EE before 1400; this is via Brandon site (333 1/6 Park-HI)
 15160 2056 RA: EE: IS/frq info; nx on the hour (222 2/11 Fisher-MA)
 15245 1723 RA: EE: Mx; ID's; co-channel VOA QRM (222 2/11 Cichorek-NJ)
 15285nf 0645 RA: EE: Commonwealth Games coverage to 0700, when into mainstream RA px (343 1/31 Seymour-NC) @ 0945 w/Games coverage (seemed HS relay); joined mainstream RA @ 1000 (434 1/26 ed.) (Probably a special frq used only during the Games.-ed.)
 15320 2204 RA: EE: "Int'l Rpt" on Azerbaijan (433 1/15 Bishop-NY)
 21525 0118 RA: EE: Live Australia-Pakistan cricket cmty; this frq @ this time usually used for sports specials (343 1/16 ed.)
 21740 0045 RA: EE: Comparison of Australian and Japanese crime rates (444 2/8 Valentine-CA) @0057 w/mx; ID/frqs (333 2/6 Cichorek)
 21775nf 0923 RA: EE: Commonwealth Games coverage (good 1/26 Famularo-JP) (Also probably a special frq used only during the Games.-ed.)

BANGLADESH

Radio Bangladesh

11705 *1230 RB: EE: IS; s/on anmt ment 11705//15195; nx/cmty; hrd // 15197 which was much stronger (232 1/20 George-MA)

BHUTAN

Bhutan Broadcasting Service

5023.1 1210 (t)BBS: VERN: M tlk; quiet oriental mx bridge and 2nd M tlk; @ 1215 mx bridge; 2nd M excited tlk to 1220 fade-out (211 1/3 George-MA) (Hope that this was them, Steve!-ed.)

CHINA

Central People's Bcst Stn Radio Beijing

RFI relay RCI relay

4735 1535 XINJIANG PBS: UIGHUR: CC classical mx w/W tlk between cuts; ID was "Xinjiang..."; //5800 was bad (344 1/12 Willers-SW)
 4875 1155 (t)VQ JINLING: CC: Soft mx; @ 1200 TP; M/W (p) nx; no ID hrd; signal fair w/CW QRM (323 2/8 Fisher-MA)
 5915 2300 CPBS-1: CC: Classical CC vcls w/stringed instruments; 5+1 TP at top of the hour (222 1/10 Thornton-NJ)
 7125 1410 BFI: EE: End of nx; review of French preparations (222 1/7 Park-HI)
 9064 2325 CPBS-1: CC: M/W tlk; CC mx; W ID @ 2330; 9064 continued but //7935 signed off @ 2330* (242 1/21 Prath-FL)
 9665 1122 RB: EE: Rpt on Chinese Olympic preparations (333 1/17 Brown-IL) @ 1218 w/sports; "China Anthology" (433 2/11 Cichorek)
 9945 1252 (t)RB: CC: CC classical mx; blocked @ 1253 by carrier of LV del CID, so no ID hrd (232 1/21 Cichorek-NJ)
 10245 2320 CPBS-1: CC: M/W tlk; CC mx; W ID; //11330 (232 1/27 Prath-FL)

(More China overleaf....)

CHINA continued...

11375 0020 (t)CPBS MINORITY SERVICE: CC: Px of CC mx; off 0026* but back on *0030 w/IS (?); ID tent, but was //15670 (232 1/16 Prath)

11955 1310 RCI: EE: "Canadian Journal"; off 1329* w/anmt that this beamed to India/SEAsia (122 1/6 Park-HI)

12110 1213 RB: (p)TAGALOG: M tlk w/many EE words mixed in; mx 1220-1223; frq anmt w/EE numerals; 1225* (354 1/30 George-MA)

12200 2345 CPBS-2: CC: Trad CC mx; W tlk; //11040 (232 1/21 Prath-FL)

15135 0933 RB: MALAY: W nx to 0946; M full ID/tlk; //17680 (333 1/31 ed.)

15670 0101 (T)CPBS MINORITY SERVICE: (1)KAZAKH: Chinese NA; M/W anmts and tlk; very fluttery w/bassy mod; no ID hrd (232 1/16 ed.)

COOK ISLANDS

Radio Cook Islands

11760 0603 (t)RCI: EE: Hrd weakly after Havana s/off w/W nx; occ fade-ins; no ID hrd (222 1/6 Cichorek-NJ) (t) @ 0618 w/mix of M and W tlk; sig unusable by 0630 (152 1/1 Karcheski-MA)

CYPRUS

Cyprus Best Corp BBC relay

7180 2221 CBC: GREEK: Greek Christmas mx (454 1/14 Lukas-NY)

11945 *1545 BBC: EE: EE by R. "for listeners w/a strong command of EE--so I tuned out" (333 1/31 Hanson-WA)

FRENCH POLYNESIA

RFO Tahiti

11827 0300 RFO: FF: Audible after AIR s/off w/lcl mx (353 1/18 Kunkel-CA)

GUAM

KTWR KSDA High Adventure Radio

11650 1530 KTWR: EE: Hymn; ID and rlg px (122 1/4 Ryan-NY) @ 1535 w/ "Through the Bible" px (322 1/15 Bishop-NY) @ 1600 w/rlg px (333 1/28 Karcheski-MA)

11805 0927 KTWR: EE: IS to 0930; ID/anmt ment this frq beamed to PNG and ANZ; into "Insight for Living" (343 1/31 ed.)

11980 1559 KSDA: EE: M w/full ID/address/frqs/ call letters; mx; tlk; muddy audio quality on voices (333 1/28 Karcheski-MA)

13720 0355 KSDA: CC: End of rlg px; EE anmt of upcoming Hakka px and ID (323 1/7 Park-HI)

15225 0600 HAR: EE/CC: "From the Island of Guam, this is High Adventure R., the Voice of Hope for all of Asia"; ment xmtg via KSDA; gave address Box 22228, Guam 96921; into CC rlg px; hrd past 0630 (555 1/15 Hardester-JP) (Apparently this relay is until HAR can get their own station built.-ed.)

INDIA

All India Radio

4860 0036 AIR DELHI: EE: M nx; ID @ 0039 nx-end; then carrier cut (252 1/22 D'Angelo-PA) @ 0123 in HINDI w/IS: "Ye Akashvani" ID and into M tlk (353 1/13 Kunkel-CA)

7140 1247 AIR: (1)SINDHI/BALUCHI: Sindhi (?) M tlk; lcl mx; @ 1300 dif-ferent lang w/M tlk; splatter de RM-7135 in JJ (poor 1/15 Famularo-JP)

9535 0130 AIR: HINDI: Vividh Bharati px w/s/on; into snake-charming mx ("I think I even heard a hisssss") (353 1/17 Kunkel-CA)

9565 1328 AIR: EE: IS to 1330; W ID as GOS of AIR; then M world nx (333 1/25 ed.) @ 1349 w/M hosting Indian mx px; @ 1400 ID and nx (222 1/30 Cichorek-NJ)

11620 2115 AIR: EE: W ID; tlk on Indian oil production (333 1/18 Langlois-FL) @ 2034 w/"Women's World" px; //7412, 9910 (444 1/14 Cichorek-NJ) @ 1305 in SINHALA w/exotic mx and M ancr; // 15020 was SIO 333 (333 2/6 Johnson-IL)

11810 2123 AIR: EE: Retelling of plot of Indian film w/songs from the film; ID @ 2150; better than //11620 (433 1/28 ed.)

15360 *1800 AIR: EE: GOS ID; W nx/cnty/mx (332 1/31 Hanson-WA)

17387 1030 AIR: EE: W/M answering listeners' letters (323 1/15 Willers-SW) @ 1155 in (1)TAMIL w/lcl vol mx; brief W anmt; @ 1200 AIR ID and more vol mx (333 1/25 ed.)

INDONESIA

Radio Republik Indonesia

3325 1053 (t)RRI PALANGKARAYA: IN: M tlk in soft voice; no ID on hour but "Palangkaraya" ment twice; into inst mx (353 2/1 Hardester)

3345 1103 (t)RRI TERNATE: IN: W nx; several ments "Ambon"; inst mx w/M voiceover; M/W tlk w/reverb (352 2/1 Hardester-JP)

IRAN

VOIRI logged in EE on 9022 kHz by Cichorek-NJ, Johnson-IL and Langlois-FL.

in EE by Bishop-NY, Brown-IL; 9930 kHz in EE by Carson-OK; 11605 kHz in EE by Brown-IL, Cichorek-NJ; 17630 in RR by Pamularo-JP. Reshet Bet relay logged in HH on 9385 kHz by Bishop-NY and on 21760 kHz by Pamularo-JP.

JAPAN

Nihon SW Besting Radio Japan

9595 0916 NSB: JJ/EE: EE lesson to 0930; M ID; into drama px; //6055 was very poor (353 1/8 D'Angelo-PA)
11840 2342 RJ: IN: M tlk followed by mx (454 1/21 Kunkel-CA)
17810 2315 RJ: EE: "This Week" magazine show (333 1/20 Reeves-OR)
21610 2330 RJ: EE: "R. Japan Journal" on San Francisco earthquake relief (454 1/17 Flynn-CA) @ 2320 w/travel px visiting Kyoto and several SEAsian locations (222 2/1 Thornton-NJ)

JORDAN

Radio Jordan

9560 2338 RJ: AA: W tlk on Washington's Mideast policy @ 2341 M full ID; AA vol mx; not usually here now--test? (444 1/18 ed.)
13655 1420* RJ: EE: Classical mx px w/Beethoven's 5th (454 1/13 Card-RI)

KOREA, D.P.R.

Radio Pyongyang logged in RR on 9645 by ed.; in EE on 9977 kHz by Cichorek-NJ; on 13650 kHz by Cichorek-NJ; on 15115 kHz by Reeves-OR. KCBS logged on 11680 in KK by Reeves-OR.

KOREA, REPUBLIC OF

Radio Korea

9750 1426 RK: EE: "From Us to You" on bamboo and its tradition (434 1/6 Carson-OK) @ 1157 w/IS w/EE/KK ID's; @ 1200 into KK px (333 2/11 Fisher-MA)
15575 0018 RK: EE: Mailbag px (433 1/8 Bishop-NY)

KUWAIT

Radio Kuwait

13610 1845 RK: EE: M ID; px of mx requests (222 1/26 Langlois-FL) @ 1915 w/Friday request px--same host on px for past 15-20 years! (343 2/2 Seymour-NC)

LEBANON

King of Hope

6280 2127 KoH: EE: Christian mx; ID as "Voice of Hope" (not "King of Hope"); into Charles Swindell px (322 1/12 Bishop-NY) (Technically, the ID is supposed to be "Voice of Hope" on MW/FM and "King of Hope" on SW, but they don't always get the separate ID's straight when simulcasting.-ed.)

MARIANA ISLANDS

KFBS

9465 1656 KFBS: RR: M/W tlk; ID @ 1700 giving CA address (433 1/15 Bishop-NY)
11650 1150 KFBS: RR: M tlk; California address; "KFBS Saipan" ID; mx (444 1/20 Willers-SW)
12025 *0900 KFBS: CC: W anmts/mx; rlg tlk; more mx (333 1/12 Karcheski-MA)

MALAYSIA

Voice of Malaysia

15295 1158 VOM: CC: Soft inst mx; W ID/tlk; @ 1200 2 TP/ID (232 1/19 Cichorek-NJ)

NEW ZEALAND

Radio New Zealand International

9850 0800 RNZI: EE: M rx w/ID @ 0805; Commonwealth Games coverage; new 100 kW xmtr (544 1/30 Matsushita-JP) @ 0844 w/ID; Games coverage w/mayn "New Zealand 1990" promos...0908* (444 1/26 ed.)
15485 1747 RNZI: EE: Tlk abt NZ; TP @ 1800 and RNZ nx; bad QRM; hard to really hear; finally got this one after trying for a year! (322 1/23 Willers-SW) (And you did it on the old 7.5 kW xmtr --congratulations!-ed.) @ 0420 w/oldies (Neil Diamond/Stan Getz); M chat/"National R." ID/5:25 TC; into Maori tlk (333 1/17 ed.)
17680nf 0415 RNZI: EE: Commonwealth Games nx; ads for Goodyear/Toyota; 1st day best from new 100 kW xmtr?; superb signal! (444 1/23 Thunberg-PA) @ 0430 w/Commonwealth Games and NZ-India cricket; relay HS AM Network (454 1/28 D'Angelo-PA) @ 0632 w/Games bcst; ID/anmt of frq as "16 8 70 kHz" (454 1/28 Hardester-JP) (At least they didn't get the mb wrong-hi!-ed.) @ 2130 w/swimming competition (243 1/28 Lackmann-VA) @ 2137 w/Games coverage; hooray for new 100 kW xmtr! (222 2/2 Thornton-NJ) @ 0309 w/rpt on toll-free number for reporting beached dolphins and whales on NZ beaches (343 2/5 ed.)

NEW ZEALAND continued...

- 17705 0718 RNZI: EE: Various nx items w/bits of interspersed Xmas and native South Pacific mx (222 1/5 Carson-OK)
- 17730 1735 RNZI: EE: "Morning" px w/lcl weather rpts and px previews (232 1/12 Flynn-CA) (Bill, I wonder if this was a test xmsn, since they don't seem to be using this frq regularly?-ed.)

PAKISTAN

Radio Pakistan

- 13665 1605 RP: EE: ID; nx/wx for Pakistani regions; cmtly on development aid; @ 1615 slow-speed EE nx (222 2/3 Thornton-NJ)
- 15190 0150 RP: (1)BANGLA: M/W discussion; lots of sub-cont songs till 0215, when nx theme/ID/M nx (fair 1/27 Pamularo-JP)
- 17579.4 1600 RP: EE: "This is R. Pakistan" and into nx of Azerbaijan/India/Pakistan; also hrd very weakly //15603.7 (nominal 15605) (243 1/20 Lackmann-VA) @ 1605 on 17579.5 w/nx concentrating on Mideast/SASIA; Pakistan wx; cmtly on Pakistan politics (343 1/20 George-MA) (Looks like you guys are psychic, even if your receivers aren't-hi!-ed.)
- 17725 0445 (t)RP: (1)GUJURAFI: Lots of sub-cont mx; sub-cont lang tlk; 0500* (pr-fr 1/23 Pamularo-JP)
- 21575 *1100 RP: EE: W nx, first at regular speed and then slow-speed; 1120* (444 1/13 Willers-SW)

PAPUA NEW GUINEA

- 3385 1225 R. EAST NEW BRITAIN: EE/PD: Nice island mx; @ 1230 "The time now on R. East New Britain is eleven-thirty"; into more island vcls (353 1/4 D'Angelo-PA) (They're on DST?-ed.)

PHILIPPINES

Radio Veritas Asia VOA relay

- 9520 1227 RVA: EE/JJ: M w/several EE ID's and amnt of JJ px to begin @ 1230, which tid (333 1/6 Prath-FL)
 - 9555 1456 RVA: EE: M w/EE ID; frq; fill mx; co-chan QRM (323 1/4 Berri)
- Lots of VOA relay loggings this month, as follows:
- 6110 kHz in EE by Stringer-NZ and ed.
 - 7105 kHz in CAMBODIAN (//11930) by Pamularo-JP
 - 9575 kHz in EE by Stringer-NZ
 - 9760 kHz in EE by Brown-IL and Cichorek-NJ
 - 11705 kHz in EE by Brown-IL
 - 15155 kHz in EE by Stringer-NZ
 - 15425 kHz in EE by stringer-NZ
 - 17765 kHz in CC by ed.
 - 17820 kHz in EE by Reeves-OR
 - 21545 kHz in EE by stringer-NZ

SINGAPORE

BBC relay

- 3915 2010 BBC: RR: W/M in discussion about Azerbaijan/Russia; then two M tlk (333 1/19 Willers-SW)
- 11750 1715 BBC: EE/HINDI: End of EE by R. px; ID "London Calling in the Eastern Service of the BBC"; into Hindi (444 1/13 Flynn-CA)
- 15360 0203 BBC: EE: Nx; ID; rpt on life in Liverpool (222 2/3 Cichorek)

SRI LANKA

VOA relay DW relay

- 15250 0130 VOA: EE: "VOA Wednesday Morning" on oat bran controversy (343 1/31 Hanson-WA) @ 0227 w/"Newsline" (333 1/30 et.) @ 0234, badly splattered by BBC-15260 (333 1/16 Stringer-NZ)
- 17810 1909 DW: EE: "Newsline Cologne" on Green Party reaction to Panama Invasion (252 1/17 Hanson-WA)
- 21560 1750 DW: GG: W/M nx and political tlk (333 1/21 Prath-FL)

SYRIA

Radio Damascus

- 9950 2044 RD: EE: Press cmtly; ID; Mideast mx "selected by our engineer" (444 1/10 Cichorek-NJ) @ 2035 w/AA mx to 2104; nx; NA; 2106* (544 1/14 Willers-SW) @ 2038 w/exotic mx (333 2/6 Johnson-IL)

TAIWAN

Voice of Asia

- 7445 1129 VOA: EE: Choral mx; @ 1130 "This is the Voice of Asia" and address; tlk abt art works in Taiwan (232 2/12 Cichorek-NJ)

(Not enough room to start Thailand here. I forgot to mention above, under the Philippines, that Yukinasa Matsushita has written to say that Radio Veritas Asia has discontinued its English broadcasts. If anyone has any further information on this surprising move--Why? Will they be reinstated?

9655 2350 HT: STEEZE/ROCK mx w/US-accented DJ; @ 2359 "This is Radio Thailand external service"; march mx; w cmtly (222 1/26 George-MA) @ 2300 w/IS once; NA; following speech not readable acct splatter de R. Rumbos-9660--wish I had better filters in the R-71A! (222 1/28 Lackmann-VA)

TURKEY

Voice of Turkey

9445 2330 VOT: EE: "Development of Turkish Democracy" px (554 1/15 Fraser-MA) @ 2306 w/nx and Turkish press review (333 1/13 Brown-IL) @ 0138 in TURKISH w/lcl mx (333 2/4 Reeves-OR)
9460 2020 VOT: TK: Turkish mx w/W host (343 2/6 Johnson-IL)
11925 0459 VOT: TK: Frq anmt; @ 0500 PP/lcl TC; ID; nx leading w/Azerbaijan situation (344 1/24 ed.)

UNIFIED ARAB EMIRATES

UAE Radio Dubai logged on 9565 by Leader-IR; on 17775 in EE by ed.; on 21605 in EE by Willers-SW.
VO UAE Abu Dhabi was logged on 11985 in EE by Kunkel-CA and Ryan-NY; on 13605 in EE by Cichorek-NJ, Saarikko-NY and Seymour-NC; on 17855 in AA by ed.; on 21735 in AA by Famularo-JP.

VIETNAM

Voice of Vietnam

7416.1 1120 VOV: EE: Letterbox px; xylophone mx; ID "...transmitted from the Voice of Vietnam"; //weaker 9731.5 (232 1/24 George-MA)
9840 1601 VOV: EE: W tlk; mix of various mx (242 1/28 Karcheski-MA)
10059 1315 VOV: VV: M tlk; listed as HS relay (242 2/6 Johnson-IL)
15010 1331 VOV: EE: M nx to 1340; ID; cmtly on Cambodia; back on this frq after several months' absence (343 2/16 ed.)
(Yukimasa Matsushita notes that VOV's JJ px have been shortened from 45 to 30 minutes in length, now bcst @ *1200, *1400, *2130.-ed.)

VANUATU

Radio Vanuatu

3945 0801 (t)RV: VERN/EE: M Vern nx; EE tlk @ 0812; drum/flute mx bridge; more M/W tlk (322 1/11 Karcheski-MA)

YEMEN ARAB REPUBLIC

Radio San'a

5950.1 2059 RS: AA: "Idha'atu al-jumhuriya al-arabiya al-yamaniya"; 2 mins nx; 4 mins Qur'an; s/off anmt w/ID; NA; 2108* (242 1/14 Lackmann-VA) on 5950.0 @ 2057 w/quiet M tlk to 2105; Qur'an; M tlk; (p)NA; 2110*; no definite ID hrd but was //9779.8, which was stronger (333 1/20 George-MA)

CLANDESTINE

3480 2213 (t)VO NATIONAL SALVATION: (p)KK: Hymn-like choral mx; @ 2222 possible cock crow; fading out; rarely-hrd KCBS-2850 also hrd, and faded out along w/this stn (343 1/28 George-MA)
3888.5 1850 VO COMMUNIST PARTY OF IRAN: TK?: M tlk abt communism; W ID "This the Voice of the Communist Party of Iran" w/address in UK; //4480, 3610 (322 1/15 Willers-SW)
4159.4 1640 VO THE WORKER: FARSI: M/W in long discussion; AA-style mx; address given but was unreadable; 1657* (322 1/12 Willers)
11490 1230 VO UNITY: DARI or PASHTO: Lots of M/W tlk; many ments of "mujahedin" and "Pakistan"; lively AA mx; //12230, 15685 (444 1/13 Willers-SW)
11615 0330 IRAN'S FLAG OF FREEDOM RADIO: FARSI: IS; Farsi ID; M EE ID "This is Iran's Flag of Freedom Radio"; anthem; nx w/lots of ments of Khomeini; good signal but jammed at times (323 2/12 Fisher-MA)

Thanks to all contributors for another fine turnout this month!
By the way, I have a message for those who contribute via the CDE: Can you please make sure to get your loggings to David by his deadline of the 5th of the month. If he's to get the loggings to us on time, he can't delay mailing them out, in order to wait for late arrivals. If your loggings get to him after his deadline, they'll end up being held over until the next month, when they'll most likely be too old to use. (That happened with a couple of contributors this month.) If you have to mail late, you could try sending them directly to me; my deadline is technically the 12th, but I usually don't type up the column until a few days after that. Thanks in advance for your help! See you again next month!

73 — Bill

QSL REPORT



Ray Forsgren 4856 Inlet Drive Chippewa Falls, WI 54729

AFRICA

- BURKINA FASO/ RTV Burkina: 4815 f/d Form ltr/ sked in 208 ds for a FF rpt & ms. (Ryan-NY).
MADAGASCAR/ R Nederland Relay: 17575 f/d Happy Station cd in 30 ds. (Ashimori-JN).
NAMIBIA/ SWABC: 3290 f/d Desert Hills cd w/ sticker & sked in 6 mo for \$2. V/S D.J. Van Schalwyk. (Eckert-PA).
NIGERIA/ VoN: 7255 f/d Murtala Airport cd w/ sked in 86 ds for ms. (Ryan-NY). FRCN Enugu: 6025 f/d pfc w/ ltr in 96 ds after f-up for \$1. V/S L. Nnamuchi. (D'Angelo-PA).
SOUTH AFRICA/ Radio RSA: 11935 p/d ZS6RSA cd in 70 ds. V/S Hans van de Groenendaal. (Westenhaver-PQ). 21535 & 25790 f/d Flowers cd in 32 ds for an irc. (Carson-OK).

ASIA

- BANGLADESH/ R Bangladesh: 15195 & 17710 n/d Bengal Tiger cd w/ ltr & info in 27 ds for \$1. (Ryan-NY).
CHINA/ R Beijing: 9665 f/d Cloth Ornament cd w/ sked in 33 ds. (Makarcheski). CPBS-1: 7525 f/d Great Wall folder cd w/ Holiday cd in 21 ds. (Karcheski-MA).
HONG KONG/ BBC Relay: 21715 p/d ltr in 39 ds for \$1. V/S Ron Patterson (Hardester-JN).
INDIA/ AIR: 9910 f/d Kangha & Velha cds w/ sticker in 61 ds for 2 ircs. (Hunt-FL).
IRAN/ VoIRI: 9022 f/d Khomeini/Logo cd w/ sked & books in 100 ds. (Cichorek-NJ).
ISRAEL/ KOL Israel: 11605 f/d cd w/ sked in 38 ds for 2 ircs. (Hunt-FL).
JORDAN/ R Jordan: 9560 f/d Map cd w/ sked in 295 ds for ms. (Ryan-NY).
KUWAIT/ Bahrain B' Casting Relay: 15505 p/d form ltr in 415 ds for 2 ircs. V/S Abdul Rahman Abdulla. (D'Angelo-PA).
NORTH KOREA/ R Pyongyang: 11735 f/d Flower cd w/ lots of goodies in 360 ds after 3rd f-up for an irc. Sent via Canada. (Card-RI).
OMAN/ 11890 f/d folder cd in 1 yr after 3rd f-up for 2 ircs. V/S Rashid Haroon. (Fisher-MA).
PHILIPPINES/ R Veritas: 15445 f/d People Power cd w/ pennant, sticer, sked & postcard in 64 ds for 2 ircs. V/S Ms. Cleofe R. Labindao. (Westenhaver-PQ).
SINGAPORE/ SBC: 5052 f/d Skyline cd in 122 ds for \$1, which was re turned with a request for ircs instead of cash. (Cichorek-NJ).
SOUTH KOREA/ R Korea: 9750 & 15575 f/d Palace & Bridges cds w/ sked in 16 & 27 ds. (Lemke-AB). 15575 f/d Mask Dance cd in 33 ds. (NY-Bishop).
TURKEY/ VoT: 9445 f/d cd w/ pennant, sked & form in 18 ds. (Lemke-AB).
U.A.E./ Voice of UAE: 11985 f/d form ltr w/ sked in 43 ds for 2 ircs V/S Ahmed Sadul. (Hunt-FL).

EUROPE

- ALBANIA/ R Tirana: 9500 p/d Stadium cd w/ sked & info in 25 ds. (Lemke-AB).
AUSTRIA/ RAI: 9875 f/d Costumes cd w/ sticker & forms in 14 ds. (NJ-Janusz). f/d cd w/ form in 32 ds. (Lemke-AB). 13730 f/d cd w/ sticker & sked in 15 ds for an irc. (Hunt-FL). f/d cd in 21 ds. (Gerstner-NY). f/d cd w/ sticker & forms in 37 ds. (Bishop-NY).
BELGIUM/ BRT: 9925 f/d Painting cd w/ map, sticker, sked & book in 42 ds for 2 ircs. (Carson-OK). 17595 f/d cds w/ forms in 20 & 31 ds (Lemke-AB). 21810 f/d Library cd w/ map & info in 62 ds for 2 ircs. (Carson-OK).

- BULGARIA R Sofia: 7115 f/d Stadium cd w/ skeds & forms in 83 ds.
(Lemke-AB). 15330 f/d cd w/ ltr & sked in 61 ds for 2 ircs. (FL-Hunt).
- CZECHOSLOVAKIA R Prague: 11990 f/d Caateau cd in 42 ds for an irc.
(Carson-OK).
- FRANCE RFI: 11670 n/d form ltr w/ sked in 33 ds for 2 ircs. V/S
Simson Najovits. (Hunt-FL). 17620 f/d Paris cd w/ sked in 36 ds
(Schulsinger-OH). 17650 f/d Bridge cd in 24 ds. (Gerstner-NY).
- G.D.R. RBI: 11785 3 f/d cds in 25 ds for an irc. (Carson-OK). f/d
1926 Receiver cd in 32 ds for an irc. (Carson-OK). 11785 & 15125
f/d Berlin cd in 34 ds for an irc. (Carson-OK).
- G.F.R. Sddeutscher Runfunk: 6030 f/d Buildings wd in 31 ds for ms;
which were returned. (George-MA).
- HUNGARY R Budapest: 9835 f/d Parliament cd w/ forms & skeds in 18
ds (Lemke-AB). f/d Budapest cd w/ sked & sticker in 57 ds. (SW-
Willers).
- ITALY RAI: 9575 f/d Cario Carra cd in 151 ds for a Tri rpt. 4 ms.
(Ryan-NY). Italian Radio Relay Service: 9865 f/d Logo cd in 73 ds
(Willers-SW).
- LUXEMBOURG R Luxembourg: 6090 f/d Antenna cd w/ stickers in 25 ds
for 2 ircs. (Ryan-NY).
- MALTA DW Relay: 11865 f/d Sri Lanka cd w/ pennant & sticker in 62
ds for 2 ircs. (Carson-OK).
- MONACO TWR: 9485 f/d Map cd w/ sked in 35 ds for an irc. (Karcheski-MA).
- NORWAY RNI: 9560 f/d Aluminum Works cd w/ sticker & sked in 62 ds
for 2 ircs. (Hunt-FL). 21705 f/d cd in 24 ds. (Brown-IL). f/d cd in
31 ds. (Schulsinger-OH). 21710 f/d Romsdalshorn cd w/ stickers &
skeds in 72 ds for 2 ircs. (Carson-OK).
- SPAIN REE: 9630 f/d Madrid cd w/ sked, fomr & ltr in 87 ds. (Bishop-NY).
9690 f/d Silk Figure cd w/ sked & sticker in 22 ds for 3 ircs.
(Ryan-NY)... This was for R Beijing Relay...
- SWEDEN RSI: 7265 f/d Castle cd in 7 ds for a tape. (Willers-SW).
9695 f/d Orebro cd in 38 ds. (Brown-IL). 11705 f/d Stockholm cd
in 15 ds for an irc. (Carson-OK). 2 f/d cds w/ stickers & skeds in
20 & 31 ds. (Lemke-AB).
- SWITZERLAND SRI: 3985 f/d Solothurn cd w/ sked in 4 ds. (Willers-SW).
9885 f/d Berne cd in 14 ds. (Brown-IL). f/d Bellizona cd in 40 ds
(Brown-IL), 12035 f/d Aarau cd w/ sked in 20 ds. (Lemke-AB). 15570
f/d cd in 24 ds. (Gerstner-NY).
- VATICAN CITY R Vaticana: 9605 f/d Pope Pius XI cd in 40 ds. (Brown-IL).
f/d Antenna cd in 50 ds. (Brown-IL). 9605, 9645 & 11780 f/d cds in
51 & 69 ds for 3 ircs. (Lemke-AB).

U.S.S.R.

- R Kiev: 9610 f/d Painting cd w/ stamps, bookmarks & calendar in 63 ds
for an irc. (Carson-OK).
- R Moscow: 9765 f/d cd in 71 ds for 2 ircs. (Hunt-FL). 12010 & 15425-
Petropavlosk Kamchatsky f/d cd in 62 ds. (Carson-OK). 7150- Armavir
f/d cd in 48 ds. (Carson-OK). 12060- Vinnitsa f/d cd in 3 mo. V/S
Tanya Lavrova. (Eckert-PA).
- R Peace & Progress: 11980 f/d Map/Logo cd w/ bookmarks & calendar in
65 ds for an irc. (Carson-OK).
- R Yerevan: 13645 f/d cd w/ sked in 146 ds. (Ryan-NY).

NORTH AMERICA

- ALASKA KNLS: 9815 f/d Map cd w/ ltr & sked in 25 ds. (Ashimori-JN).
- CANADA CFCK: 6005 p/d Montage cd w/ sked in 23 ds for ms. V/S John
Stubbs. (Karcheski-MA). CKZN: 6160 f/d Folder cd in 28 ds for ms.
(Ryan-NY). f/d Folder cd in 30 ds for ms. V/S R. Knowles. (MA-
Karcheski). RAI Relay: 6015 f/d DIY cd in 9 ds for ms. (Lemke-AB).
- GUATEMALA TGNA: 3300 p/d Quetzal cd w/ ltr & sked in 182 ds .V/S
Wayne Berger. (Bronowicz-MO).
- MEXICO R Huayacocotla: 2390 f/d pfc w/ personal ltr & poster in 37
ds for a SS rpt & \$1. V/S Elvia Sanchez Alvarez. (D'Angelo-PA).
- NETHERLANDS ANTILLES TWR: 9535 & 11930 f/d Anniversary cd w/ calendar
& sked in 33 ds for 2 ircs. V/S Sally Rork. (Carson-OK).

U.S.A./ KUSW: 15580 f/d Utah cd w/ goodies in ?? ds. (Schulsinger-OH).
15650 f/d cd in 22 ds. V/S Sheryl Sheafor. (Gerstner-NY). WHRI:
7520 & 17830 f/d Map cds w/ sked in 58 & 235 ds for 2 ircs. (AB-
Lemke). WMLK: 9465 f/d ltr w/ books in 90 ds. V/S Jacob O. Meyer
(Royston-HI). WYFR: 6065 f/d Staff cd w/ sked in 20 ds. (Lemke-AB).

OCEANIA

AUSTRALIA/ R Australia: 9580 f/d Sydney cd w/ sticker & sked in 497
ds. (Kline-CA).
PAPUA NEW GUINEA/ R Sanduan: 3205 f/d ltr in 35 ds for \$1. V/S Gabriel
Deckwalen. (Royston-HI). R Manus: 3315 p/d ltr in 67 ds for ms.
V/S Eliun Sereman. (D'Angelo-PA). R North Solomons: 3325 f/d
friendly ltr in 30 ds for ms. V/S A.L. Rumina. (Karcheski-MA).
R Western Highlands: 3375 f/d Map cd w/ ltr in 27 ds for \$1. V/S
Esau Okole. (Royston-HI).
SOLOMON ISLANDS/ SIBC: 5020 f/d Logo cd in 33 ds for \$1. (Royston-
HI). 9545 f/d cd in 21 ds for 3 ircs. (Pagano-DC).

SOUTH AMERICA

ARGENTINA/ R Rivadavia: 4588 f/d Logo cd in 61 ds after f-up for a SS
rpt & \$1. V/S Ing. Jorge Armando Falcone. (George-MA). RAE: 11710
f/d Logo cd w/ sked & info in 97 ds for 3 ircs. V/S Silvana
Licciardi. (Carson-OK).
BRAZIL/ RadioBras: 11745 f/d Rio cd w/ sked in 54 ds for 2 ircs. (AB-
Lemke). R Anhanguera: 4905 n/d ltr w/ sticker in 56 ds for a PP
rpt & 3 ircs. (Pagano-DC).
ECUADOR/ HCJB: 9610 f/d Hero cd in 25 ds. (Lemke-AB) 11775 f/d cd in 24
ds for an irc. (Carson-OK). 15155 f/d cd in 18 ds. (Lemke-AB).
FRENCH GUIANA/ RFI Relay: 9800 f/d cd w/ sked in 26 ds. (Lemke-AB).
VENEZUELA/ R Nacional: 9540 f/d cd w/ ltr & info in 66 ds after f-up
for a SS rpt & ms. V/S Ivan Russa Crespo & Mei-Ling Talaveras
Rojas. (George-MA).

UTES

BELGIUM/ OST 62: 17187 f/d cd in 12 ds for 2 ircs. (Hunt-FL).
CANADA/ UAI: 17175.2 f/d cd in 18 ds for ms & 2 ircs. (Hunt-FL).
CHILE/ CBV: ??? f/d cd in 30 ds for EE/SS rpt & 2 ircs. (Hunt-FL).
DENMARK/ OXZ3: 6446.75 f/d cd in 29 ds for 2 ircs. (Hunt-FL).
ECUADOR/ HD2IOA: 3810 f/d Logo cd in 465 ds fro a SS rpt & 3 ircs.
(Pagano-DC).
FRANCE/ PFL: 4328 f/d Ship cd in 40 ds for 2 ircs. (Hunt-FL).
ITALY/ IRM: 22525 p/d Logo cd in 24 ds for ms. V/S Dr Nino Rizzo.
(George-MA).
JAPAN/ JJY: 15000 f/d Studio cd w/ info in 19 ds for 2 ircs. (MA-
Karcheski).
MEXICO/ XFL: 4250 f/d pfc in 48 ds for a SS rpt & ms. (George-MA).
MARTINIQUE/ FUF: 8478.5 f/d cd in 41 ds for an EE/FF rpt & 2 ircs.
(Hunt-FL).
MONACO/ 3AF: 8728.2 n/d ltr in 47 ds for \$1, which was returned. V/S
L. Biancheri. (Watts-KY).
USA/ WLO: 4257.5 f/d cd in 39 ds for ms- which was returned. (Hunt-FL).
NOB: 5695 f/d pfl in 39 ds for ms. V/S K.M. Long. (Watts-KY).
NOR: 5696 f/d pfl in 9 ds for ms. V/S M.L. Gildea. (Watts-KY).
KMI: 8728.2 f/d site cd in 11 ds for ms. (George-MA): NOJ: 8765.4
f/d pfl in 15 ds for ms. V/S R.R. McIntyre. (Watts-KY). AMI4:
8984 f/d pfl in 18 ds for ms. V/S T.S. Brown. (Watts-KY).
SHIPS/ NRLT: 6506.4 f/d pfl in 65 ds for ms. V/S B.F. Peven. (Watts-KY).
NHNC: 8250.5 n/d ltr in 20 ds for ms. (Watts-KY). KHLD: 12504.5
f/d pfc in 18 ds for ms. V/S Craig Johnson. (Gerstner-FL). NKRV:
12504.5 f/d pfc in 60 ds for ms. (Gerstner-FL).
AIRCRAFT/ Speedbird London: 5535 f/d Ltr in 40 ds for \$1, which was
returned. V/S E.E. Brown. (Watts-KY).

Sorry to say, there's just no room for the Clandestines & Pirates
this month; too bad, some great stuff !! Check out next months'
Speedx for them! 'Till then,

73.



UTILITIES

Editor: Paul Lannuier, N2HIE
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SPACE COMMUNICATIONS UPDATE

Upcoming Shuttle Launches: The following schedule of 1990 space shuttle launches was released by NASA in February:

<u>DATE</u>	<u>SPACECRAFT</u>	<u>MISSION</u>
02/22/90	Atlantis (STS-36)	DOD payload that is reportedly an advanced reconnaissance satellite (KH-12). [Flight postponed as of press time... ed.]
04/18/90	Discovery (STS-31)	Hubble Space Telescope.
05/09/90	Columbia (STS-35)	Astronomy Laboratory and WA4SIR operating SAREX (Shuttle Amateur Radio Experiment).
07/08/90	Atlantis (STS-38)	DOD payload.
08/29/90	Columbia (STS-40)	Space Life Sciences Laboratory.
10/05/90	Discovery (STS-XX)	Ulysses spacecraft to study the sun.
11/01/90	Atlantis (STS-37)	Gamma Ray Observatory to study deep space.
12/12/90	Columbia (STS-42)	International Microgravity Laboratory.

The new schedule reflects a delay in two of the first three missions and a shifting of some flight priorities, as well as a reduction in the number of flights in 1990, from 10 to 9. The dropped, that of a SDI payload, was put off nearly 14 months until January 1992. No specific reason was given for the long delay.

The space agency's new long-range schedule calls for 8 flights in 1991, 12 in 1992, 13 in 1993, 11 in 1994, 11 in 1995, and 10 in 1996.

Delays in the LDEF and HST flights apparently prompted the change.

New OSCAR Satellites Launched: Seven new OSCAR satellites were successfully launched in less than three weeks during late January and early February, 1990.

A European Space Agency (ESA) V-35 rocket launched from Kourou, French Guiana, carried OSCARs 14 - 19 into low Earth orbit. Just over two weeks later, on Wednesday, February 7, a Japanese H-1 rocket launched Fuji-OSCAR 20 from the National Space Development Agency of Japan's (NASDA)Tanegashima Space Center.

The following table summarizes these new birds, and lists the beacon frequencies and modes:

SPACECRAFT	COUNTRY OF ORIGIN	OSCAR NUMBER	BEACON FREQ.	MODE
UoSAT-D	England	UO-14	435.070	1200/9600 bps AFSK Tlm & AX.25
UoSAT-E	England	UO-15	435.120	1200/1200 bps AFSK Tlm & AX.25
PACSAT	USA	PO-16	437.025	1200 bps PSK AX.25
DOVE	Brazil	DO-17	145.825	1200 bps AFSK AX.25 (FM)
WEBERSAT	USA	WO-18	437.075	1200 bps PSK AX.25
LUSAT	Argentina	LO-19	437.150	1200 bps PSK AX.25
"	"	"	437.125	12 WPM CW telemetry
JAS-1b	Japan	FO-20	435.795	CW and PSK
"	"	"	435.910	PSK AX-25

Since all of these satellites are in relatively low orbits, they are very easy to hear with minimal equipment. Obviously, a more elaborate setup is required if one wishes to receive all of the various digital modes. In the case of the DOVE satellite, only a simple 2-meter receiver and packet TNC (PK-232, KAM, etc.) is needed to receive telemetry. Several software applications are available from the **Radio Amateur Satellite Corporation (AMSAT)** for decoding the 8-bit telemetry data. For more information contact AMSAT, 850 Sligo Avenue, Silver Springs, MD 20910.

Any attempt to go into detail about the amateur satellite program in the limited space afforded this column would be futile. Therefore, for those who seek more information, I recommend **The Satellite Experimenter's Handbook** and **The ARRL Satellite Anthology** (both published by ARRL). The **AMSAT/DRIG BBS** (at (214) 394-7438) is a good source of online information. Finally, the **AMSAT HF Information Net** is held every Tuesday night at 9:00 PM EST (0200 UTC Wednesday).

[Thanks to SpaceNews, February 12, 1990]

SPECIAL THANKS TO...

Jason Berri - Torrance, CA
 Michael Bronowicz - Grover, MO (DX-1000)
 Peter Conway - Hastings, East Sussex, ENGLAND (TS-930S, PK-232)
 Fisher - WI
 Bill Flynn - San Jose, CA (R71A)
 Steve George - MA
 Andrew Gordon - Manchester, CT (NRD-515, ICF-2010)
 Mike Hardester - Okinawa, JAPAN (R70)
 Karcheski - MA
 John Lackmann - Lexington, VA (R71A, M-7000)
 Mick Lindley - Birmingham, AL (TS-430S)
 Hank Lukas - Plainview, NY (ICF-2010)
 Linda Morby - Scotia, NY (R-5000)
 Neal Perdue - Madison, AL (R4B, DX-400)
 Rader - OH

... for sending in loggings this past month. **73** until April!



SPEEDX UTILITY STATION LIST

Part 3: 12000.0 - 15999.9 kHz
March 1990

KHZ	MODE	COUNTRY	CALL	LOCATION	UTC	REMARKS	CONTRIBUTOR
12047.0	RTTY	Senegal	...	Dakar (?)	....	425/50: PANA Nx in EE & FF	Moon-RSA
12070.0	RTTY	Japan	JAL32	Tokyo	0549	850/50R: KYODO Nx in EE	Blair-CA
12080.0	RTTY	Kuwait	9KT292	Huban	1500	350/50S: KUNA Nx in AA	Uerlings-OR
12133.0	USB	England	6KX51	Portishead Radio	1912	Working aircraft	Karcheski-1A
12174.0	RTTY	Ethiopia	ETD3	Addis Ababa	2055	170/50: AFTN. 'VJA' circuit. DE Marker	Conway-UK
12175.0	USB	USSR	...	Unknown	....	Radio Moscow Feeder	Moon-RSA
12186.0	RTTY	Libya	5A062	Tripoli	1800	425/50N: JANA Nx in EE	Agner-MD
12212.5	RTTY	Yugoslavia	YZ07	Belgrade	1530	425/50N: TANJUG Nx in EE	Uerlings-OR
12223.5	RTTY	Morocco	....	Tangier	2205	425/75: VOA/USIA. RYRYRY	Conway-UK
12236.5	CW	Indonesia	PLZC	Ujang Padang	....	....	Moon-RSA
12278.2	RTTY	Unknown	....	Unknown	2345	850/75N: Tfc in unid lang. Bulgarian Embassy?	Lannuier-NJ
12653.0	CW	Chile	CBV	Valparaiso Radio	0130	CQ Marker	Perdue-AL
12658.0	CW	Japan	JNA	Tokyo Radio	2303	Clg CQ	O'Connor-NH
12659.4	CW	Singapore	9V637	Singapore Radio	2235	V Marker. QRM from WLO	Rocker-MS
12660.0	CW	Zaire	9PA	Banana Radio	2002	V Marker	Conway-UK
12660.5	CW	USSR	UNQ	Novorossiysk Radio	2031	wkg t/c	Conway-UK
12663.0	CW	Chile	CBV	Valparaiso Radio	0534	CQ Marker	Moon-RSA
12664.5	CW	Society Is.	FUM	Papeete Naval	0413	French Navy V Marker	Alexander-1A
12678.0	CW	Malaysia	9M63	Penang Radio	1550	CQ Marker	Conway-UK
12662.5	CW	Indonesia	PKF	Makassar Radio	1255	CQ Marker. QRM from LFC	Conway-UK
12687.0	CW	Finland	OFJ4	Helsinki Radio	0017	ID Marker	Quaglieri-NY
12688.5	CW	USSR	UOK	Riga Radio	0301	Very fast telegraphy	Bevens-1A
12690.0	CW	Albania	ZAD2	Durrës Radio	1301	V/CQ Marker & GTC List	Conway-UK
12691.0	CW	Reunion	FUX	Le Port Naval	1355	French Navy V Marker	George-1A
12699.0	CW	Panama	HPP	Panama Intelmar Radio	1252	CQ Marker	Hogan-IL
12700.0	CW	China	XSQ4	Guangzhou Radio	2058	CQ Marker	Conway-UK
12700.0	CW	Fiji	3DP3	Suva Radio	0350	CQ Marker	Berri-CA
12700.0	CW	USSR	UXN	Arkhangelsk Radio	1018	Beacon Marker	Bevens-1A
12703.0	CW	Mexico	XFL	Mazatlan Radio	1045	CQ Marker	George-1A
12704.5	CW	Japan	JFM	Muroto Radio	1930	Manual CQ call	Conway-UK
12709.0	CW	Bahrain	A9M	Manama Radio	0315	DE Marker	Bevens-1A
12709.0	CW	Barbados	8PO	Barbados Radio	0143	DE Marker	Perdue-AL
12709.0	CW	New Caledonia	FJP23	Noumea Radio	0806	CQ Marker & Tfc list	Conway-UK
12710.0	CW	India	VvB	Bombay Radio	1617	CQ and Wx broadcast	Conway-UK
12714.0	CW	USSR	UXN	Arkhangelsk Radio	0849	DE Marker	Conway-UK
12714.0	USB	Unknown	....	Unknown	2005	Numbers by YL in German	Moon-RSA
12723.0	CW	USSR	UAH	Tallin Radio	1400	QTC list	Conway-UK
12728.0	CW	Argentina	L2C	Buenos Aires Naval	0340	Wx broadcast in SS	Berri-CA
12730.0	CW	USSR	UMV	Murmansk Radio	2105	Wkg ULYS	Conway-UK
12730.0	CW	France	FUB	Paris-Houilles Naval	0328	French Navy. CQ Marker	Bevens-1A
12736.5	CW	Turkey	TAH	Istanbul Radio	2338	CQ Marker	Bevens-1A
12740.0	CW	France	HWN	Paris-Houilles Naval	....	French Navy	Moon-RSA
12740.0	CW	New Zealand	ZLB5	Awarua Radio	0535	DE Marker	Hawkins-TX
12741.0	CW	France	HWN	Paris-Houilles Naval	0415	V Marker	Alexander-1A
12741.6	FAX	England	6ZZ44	London Naval	1810	120/.... RN. Map	Delaunoy-FR
12750.0	CW	Australia	VHI	Unknown	1626	RA Navy? V Marker	Conway-UK
12750.0	CW	Unknown	VHI2	Unknown	....	Marker	Moon-RSA
12750.0	CW	Uruguay	CWA	Cerrito/Punta Arenas Radio	2345	DE Marker	Perdue-AL
12753.0	CW	Canada	CKN	Vancouver Radio. BC	1309	Canadian Forces. V Marker	Conway-UK
12757.0	CW	USSR	RCV	Moscow Naval	1600	Soviet Navy. Manual call	Conway-UK
12772.5	CW	S. Africa	ZSC38	Capetown Radio	2035	CQ & GTC list	Conway-UK
12775.0	CW	Mexico	XFU	Veracruz Radio	1323	Clg CQ	Hogan-IL

12780 0	CW	Angola	D3E61	Luanda Radio	1845	CQ Marker	Flynn-CA
12780 0	CW	Yugoslavia	YUR	Rijeka Radio	0050	V Marker	Flynn-CA
12781 0	CW	Malaysia	9MB	Penang Naval	1655	V Marker	Flynn-CA
12781 0	CW	Turkey	TAH	Istanbul Radio	0353	DE Marker	Perdue-AL
12785 0	CW	Taiwan	XSX	Keelung Radio	2247	CQ Marker	Rocker-M1S
12788 0	CW	Japan	JFA	Matsudo Radio	2117	CQ Marker	Conway-UK
12792 0	CW	Cuba	CLA31	Havana Radio	1312	CQ Marker	Hogan-IL
12800 0	CW	Thailand	HSA	Bangkok Radio	1220	CQ Marker and t/c list	George-MA
12800 0	CW	Netherlands	PCH51	Scheveningen Radio	1922	Marker	Flynn-CA
12804 0	CW	Romania	YGI	Constanta Radio	1414	Manual CQs	Conway-UK
12808 5	CW	India	VTG7	Bombay Naval	1924	Indian Navy, V Marker	Conway-UK
12824 0	CW	Gibraltar	GYU	Gibraltar Naval	0122	RN "DE GYU" tape. Slow & buried in QRM	Agner-NY
12826 5	CW	Japan	JCS	Choshi Radio	1702	CQ Marker	Morby-MD
12828 0	CW	Philippines	DZF	Manila Radio	2335	Clg CQ	O'Connor-NH
12829 5	CW	Mexico	XFM	Manzanillo Radio	0901	CQ Marker	Bevens-MA
12849 0	CW	S. Africa	ZSJ	Cape (Silvermine) Naval	0400	CQ Marker	Hogan-IL
12856 0	CW	China	XSG7	Shanghai Radio	1856	DE Marker	Berri-CA
12857 0	CW	Senegal	6WW	Dakar Naval	..	French Navy	Moon-RSA
12860 0	CW	USSR	UGF2	Unknown	1047	4LS DE UGF2 QSX 8406 PSE K	Conway-UK
12870 0	CW	Bulgaria	LZS	Sofia Naval	1931	Bulgarian Navy Number group t/c. Clg LZSN	Conway-UK
12876 0	CW	Canada	VAI	Vancouver Radio, BC	0344	CQ Marker	Hogan-IL
12876 0	CW	USSR	URL	Sevastopol Radio	0541	CQ Marker	Morby-NY
12880 0	CW	Sweden	SAG	Goteborg Radio	0420	CQ Marker & t/c list	Perdue-AL
12886 5	RTTY	USA	WLO	Mobile Radio, AL	0225	SITOR-A: T/c list in CW, then SITOR broadcast.	Alexander-IA
12887 5	CW	Spain	EAD44	Aranjeuz Radio	0427	ID & QSX freqs	Perdue-AL
12888 8	CW	Philippines	DZK	Manila (Bulacan) Radio	1239	Manual CQ	Conway-UK
12916 5	CW	Denmark	OXZ	Lynby Radio	0408	CQ Marker	Bevens-MA
12923 0	CW	S. Korea	HLW2	Seoul Radio	0834	CQ Marker	Conway-UK
12925 0	CW	USSR	UQA4	Kiev Radio	0925	Clg 4LS	Conway-UK
12935 0	CW	S. Korea	HLG	Seoul Radio	1959	CQ Marker	Hogan-IL
12940 0	CW	Bulgaria	LZW	Varna Radio	0220	DE Marker	Hogan-IL
12943 4	CW	New Zealand	ZLP2	Waiouru Naval	0901	RNZ Navy, V Marker	Bevens-MA
12948 0	CW	Japan	JJF	Tokyo Naval	1431	Japanese Navy, DE Marker	Conway-UK
12952 5	CW	Australia	VIS5	Sydney Radio, NSW	0907	V Marker	Bevens-MA
12963 0	CW	Hungary	HAR	Budapest Naval	1931	Hungarian Navy, V Marker	Conway-UK
12965 5	CW	Morocco	CNP	Casablanca Radio	1033	CQ Marker	Conway-UK
12969 0	CW	Egypt	SUH	Alexandria Radio	1706	Frequency varies Poor tone	Conway-UK
12970 5	CW	Indonesia	PKX	Jakarta Radio	1325	CQ Marker	Conway-UK
12977 0	CW	USSR	URL	Sevastopol Radio	1837	CQ Marker	Conway-UK
12979 5	CW	Brazil	PPL	Belem Radio	0125	V Marker	Hawkins-TX
12980 0	RTTY	USSR	UPB	Providenia Eukhta Radio	0315	170/S0N: Msg to unid station	Berri-CA
12984 0	CW	Australia	....	Canberra, ACT	2155	Time signal pulses	Karcheski-MA
12984 8	CW	Kuwait	9KK	Safat Radio	1336	V Marker. Slightly off 12895.0	Conway-UK
13000 0	CW	USSR	UBE2	Petropavlovsk Radio	0508	RR & coded t/c (wx?), wkg EKYM	Berri-CA
13009 9	CW	USSR	UQA4	Kiev Radio	1635	DE Marker	Kuroda-JP
13012 0	CW	Pakistan	AQP	Karachi Naval	1220	Pakistan Navy CQ Marker	George-MA
13013 5	CW	Italy	IAR	Rome Radio	0110	V Marker	Hogan-IL
13015 6	CW	Israel	-XO	Haifa Radio	0120	CQ Marker	Hogan-IL
13019 8	CW	England	GKC	Portlisshead Radio	0211	DE Marker	Hogan-IL
13020 4	CW	Hong Kong	VPS60	Hong Kong Radio	1436	DE Marker	Conway-UK
13023 5	CW	Angola	D3E	Luanda Radio	....	Marker	Moon-RSA
13024 5	CW	Pakistan	ASK	Karachi Radio	1441	Manual CQ & short QTC list	Conway-UK
13031 2	CW	Martinique	FUF	Fort de France Naval	0101	French Navy, V Marker	Hogan-IL
13042 5	CW	Curacao	PJC	Willemstad Radio	1951	CQ Marker	Hogan-IL
13042 5	CW	Djibouti	FUV	Djibouti Naval	0230	French Navy, V Marker	Bevens-MA
13045 0	CW	USSR	ROT	Moscow Naval	1712	Soviet Navy, CQ Marker	Morby-NY
13046 0	CW	Surinam	PZN4	Paramaribo Radio	0018	CQ DE QSX Marker	Berri-CA
13049 0	CW	Greece	SVA	Athens Radio	0157	DE Marker	Hogan-IL
13051 0	CW	USA	WPD	Tampa Radio, FL	0052	CQ Marker	Hogan-IL
13055 0	CW	USSR	UJQ	Kiev Radio	0328	CQ Marker	Bevens-MA
13057 0	CW	Argentina	LSA	Boca Radio	0358	V Marker	O'Connor-NH
13059 0	CW	Spain	EBA	Madrid Naval	1950	Spanish Navy, CQ & Wx msgs	Conway-UK
13060 0	CW	USSR	UFJ	Rostov Radio	1442	V Marker	Conway-UK
13060 5	CW	South Yemen	70A	Aden Radio	1336	DE Marker	George-MA
13063 0	CW	Japan	JOB	Nagasaki Radio	0820	CQ Marker	Conway-UK
13063 5	CW	Argentina	LSA	Boca Radio	0332	V Marker	Bevens-MA
13065 0	CW	USSR	RKDF	Unknown	1201	V Marker. "VVV DE RKDF QSX 8650/13063/17105 ANS..."	Conway-UK
13075 5	CW	Chile	CBV	Valparaiso Radio	0009	ID Marker	Berri-CA
13077 5	RTTY	USA	KPH	San Francisco Radio, CA	0045	SITOR-A: Wx forecast	Hawkins-TX

13085.0	PTYT	England	GKP5	Portishead Radio	1540	SITOR-A: Tfc to GBFB	Blair-CA
13093.0	CW	S Africa	ZSC63	Capetown Radio	1625	DE ZSC SITOR SVC K	Kuroda-JP
13100.8	USB	Taiwan	BVA	Taipei Radio	1501	Tfc list in Chinese	Blair-CA
13100.8	USB	Catar	A7D	Doha Radio	1908	Cig ROMELA	Karcheski-MA
13145.0	RTTY	Netherlands	PCW1	The Hague	2004	SITOR-A MFA Idling	Moon-RSA
13159.7	USB	Argentina	LPL4	General Pacheco Radio	1544	Voice Marker	Moon-RSA
13181.2	USB	USA	...	Several tactical stations	0139	USH ZULU 1 KILO (net control?) wkg ZULU 7 HOTEL, FOXTROT 3 LIMA & OSCAR 3 ROME0	Perdue-AL
13181.4	USB	Spain	EHY	Pozuelo del Rey Radio	1839	4L6 series	Karcheski-MA
13183.6	USB	Argentina	LPC42	Ushuaia Radio	0034	Test tape in English and Spanish	Karcheski-MA
13199.0	RTTY	Easter Is.	CAI7E	Mataveri	0115	425/50N. AFTN RYRYRY and ID	Flynn-CA
13200.0	RTTY	Easter Is.	CAI7E	Mataveri	0020	650/50N: AFTN RYRYRY into messages	Agner-ID
13200.0	USB	Greenland	...	Thule AFB	0030	USAF GCSS. EAM Beacst (off frequency)	Battles-NH
13201.0	USB	Guam	AIE2	Andersen AFB	0814	USAF Wkg EGGPLANT	Stringer-NZ
13231.0	USB	W Germany	DHM195	Lahr	1920	Canadian Forces. Meteo	Karcheski-MA
13244.0	USB	...	...	WORLDWIDE USAF FREQUENCY	...	Air-to-ground tfc	...
13247.0	USB	USA	...	Fl. McCoy, WI	2010	USAF. Cig Andrews AFB, MD.	Battles-NH
13254.0	USB	Canada	CJX	St. John's Military. Nfld	1626	RCAF. Wx for Gander & Goose Bay	Morby-NY
13261.0	USB	Congo	...	Brazzaville Volmet	2000	Aero Wx broadcast	Rocker-MIS
13270.0	USB	USA	WSY70	New York VOLMET, NY	2339	Meteo H+00.30	Berri-CA
13270.0	USB	Canada	...	Gander, Nfld.	0429	Meteo H+20.50	Lindley-AL
13275.0	USB	USSR	...	Khabarovsk VOLMET	0805	Wx (in EE?) for Khab., Pet-Kam, Novosibirsk, Irkutsk. "Khabarovsk out" at 0811	Park-HI
13279.0	USB	USSR	...	Novosibirsk Volmet	0250	Aero Wx for Irkutsk & Khabarovsk	Rocker-MIS
13282.0	USB	Japan	JMA	Tokyo VOLMET	1242	Meteo H+10.40	Karcheski-MA
13282.0	USB	Hong Kong	...	Hong Kong VOLMET	1245	Meteo H+15.45	Karcheski-MA
13338.0	USB	Saudi Arabia	...	Jeddah	1558	Wkg SAUDIA 121	Conway-UK
13354.0	USB	Hawaii	...	Honolulu	0016	ICAO CEP-5 area. Wkg many airplanes	Thompson-CA
13354.5	USB	USA	...	San Francisco, CA	1940	ICAO CEP-5 area. Wkg DELTA 105	Berri-CA
13360.0	RTTY	Vietnam	XVT57	Ho Chi Minh City	0500	425/50R: QRA DE XVT57 RYRYRY...	Kuroda-JP
13360.0	RTTY	England	GPA5	[Portishead Radio?]	0550	SITOR-A. Idling	Moon-RSA
13360.0	CW	Costa Rica	TIM	Limon Radio	2057	CQ Marker	Berri-CA
13360.0	RTTY	Portugal	CUA67	Lisbon	1630	ARG-HI2/96: Idling & tfc to Vatican	Conway-UK
13387.0	CW	USA	KKN39	Washington DC	2239	US State Dept. QRA marker	Rocker-MIS
13391.0	RTTY	E. Germany	...	Berlin?	1632	425/50. ADN Nx in French	Moon-RSA
13416.5	RTTY	Netherlands	PCW1	The Hague	...	SITOR-A	Moon-RSA
13432.3	USB	USA	KZU	Harvey, LA	0433	Wkg tug GULF MISS	OConnor-NH
13509.6	RTTY	Canada	CFH	Halifax, NS	1730	850/75N. Meteo	Uerlings-OR
13510.0	RTTY	Canada	CFH	Halifax, Nfld.	1953	850/75. Meteo	Moon-RSA
13533.0	RTTY	S Africa	...	Pretoria	0727	425/50. Meteo	Moon-RSA
13540.5	RTTY	Argentina	LRO81	Buenos Aires	0220	850/50: TELAN: Nx in SS	Lannuier-NJ
13542.0	RTTY	S Africa	...	Pretoria	...	425/50: Meteo	Moon-RSA
13560.0	CW	Taiwan	BMB	Taipei Naval	1619	Rep of China Navy Wx report	Kuroda-JP
13571.0	RTTY	Switzerland	HBD20	Berne	1641	SITOR-A: MFA. Tfc to Stockholm	Conway-UK
13580.0	RTTY	North Korea	HMF36	Pyongyang	0400	200/50R: KCNA Nx in EE	Blair-CA
13600.0	PTYT	China	BBE23	Shanghai	1328	425/50R Wkg Rangoon, Burma	Kuroda-JP
13602.3	CW	Poland	SPW	Warsaw	0621	CQ Marker. QSX 12526.5	Rocker-MIS
13630.0	USB	USA	WHX44	Unknown	2050	YL exchanging signal reports. [WHX44 listed as Seattle. Same QTH??? ...ed]	Flynn-CA
13636.0	CW	Unknown	F	Unknown	...	Beacon	Moon-RSA
13639.0	RTTY	S Africa	...	Pretoria	...	425/50: Plain text Wx	Moon-RSA
13656.0	RTTY	Vietnam	...	Hanoi	...	425/50: VNA Nx in Vietnamese	Moon-RSA
13665.5	RTTY	Senegal	6VU73	Dakar	0212	850/50N: Meteo & ID tape	Lannuier-NJ
13709.0	RTTY	Zaire	...	Unknown	...	425/50: AZAP Nx in FF	Moon-RSA
13735.0	USB	USSR	...	Unknown	0634	Mayak Radio (domestic BC) feeder	Rocker-MIS
13737.0	RTTY	Kenya	5YD	Nairobi	11816	425/50: AFTN KSA' circuit to Khartoum	Conway-UK
13752.0	RTTY	Saudi Arabia	HZJ	Jeddah	0210	400/50R: AFTN. Coded Wx	Agner-ID
13756.0	RTTY	Zaire	...	Unknown	...	425/50: AZAP Nx in FF	Moon-RSA
13779.0	RTTY	China	BCA95	Shanghai	1134	425/50N: RYRYRY	Kuroda-JP
13780.0	RTTY	North Korea	HME28	Pyongyang	0400	280/50R: KCNA Nx in EE	Uerlings-OR
13803.0	RTTY	USSR	RCR78	Khabarovsk	0421	1000/50R: Coded meteo	Blair-CA
13820.0	USB	USSR	RWV55	Moscow	0430	Radio Orbita Feeder? Very weak	Lannuier-NJ
13826.0	USB	Antarctica	NNNONUJ	Byrd Surface Camp	0230	USN MARS station. Wkg NNNOPRQ	Gordon-CT
13826.0	USB	Antarctica	NNNONWB	South Pole Station	0315	USN MARS. Phone patch via NNN0GKF. "Temp has moderated to 55."	George-MA
13848.0	RTTY	Zaire	...	Unknown	...	170/50: Commercial tfc	Moon-RSA
13852.0	RTTY	Zaire	...	Kinshasa	...	170/50N: Tfc	Moon-RSA
13869.0	RTTY	Zaire	...	Kinshasa	...	SITOR-A: Diplo tfc	Moon-RSA
13870.0	RTTY	Burundi	9UA	Bujumbura	2050	425/50: AFTN 'BDA' circuit tfc	Conway-UK
13873.0	RTTY	Hungary	HGX32	Budapest	1613	425/100R: MTI. "HGX32 UR CALL PSE UR CALL TKS"	Alexander-IA
13895.1	RTTY	E Germany	Y2V47	Berlin	1145	425/50: ADN Nx in Arabic. Fair to good copy	...

13960.0	USB	USSR	ROW27	Moscow	0420	Radio Moscow Feeder. Unknown language	Lackmann-VA
13974.0	USB	Antarctica	NNNOICE	McMurdo Station	0435	USN MARS. Phone patch t/c	Lannuier-NJ
13974.0	USB	....	....	WORLDWIDE USN MARS FREQ.	....	Fixed and mobile station t/c	Lindley-AL
13997.5	LSB	USA	AAR4JUSC	Unknown	2326	MARS. Wkg ACMUSC w/lfc & phone patch. Which service?	....
13998.0	RTTY	France	FTN99	Paris	1658	350/50N: DIPLO Nx in FF	Lindley-AL
14362.0	RTTY	Poland	S00236	Warsaw	1210	425/50N: PAP Nx in Polish	Blair-CA
14370.5	RTTY	Saudi Arabia	HJZ	Jeddah	2043	425/50R: AFTN 'KSA' circuit t/c	Kuroda-JP
14373.0	RTTY	Iraq	YIL73	Baghdad	1600	425/50N: INA Nx in EE	Conway-UK
14383.2	USB	....	....	WORLDWIDE USN MARS FREQ.	....	Fixed and mobile station t/c	Uerlings-OR
14390.5	RTTY	USA	AIR	Andrews AFB, MD	2050	170/75: USAF MARS. Wkg AFA2X0. Also USB	....
14390.5	RTTY	USA	AFA2X0	Miami, FL	2100	170/75: USAF MARS. MARS-grams to AIR. Also USB	Conway-UK
14394.0	RTTY	Chile	CCM	Magellanes Naval	2145	850/50: Chilean Navy. Clg ZRH	Conway-UK
14406.0	RTTY	Azores	RPTIH	Horta Naval	2126	425/50N: Portugese Navy. Foxes, clg RPFNN	Conway-UK
14411.0	AM	S. Africa	ZUD	Pretoria	....	Telcom	Moon-RSA
14418.0	RTTY	Kuwait	9KT321	Huban	1628	250/50R: KUNA Nx in EE	Blair-CA
14421.0	RTTY	Zaire	....	Lumbumbashi	....	SITOR-A: Commercial t/c	Moon-RSA
14436.0	FAX	England	GFE23	Bracknell	0225	120/576	Yarbrough-NC
14437.0	RTTY	S. Africa	....	Pretoria	....	425/50: Meteo	Moon-RSA
14437.0	USB	Unknown	....	Unknown	1850	Radio Moscow Feeder	Moon-RSA
14441.5	USB	....	....	WORLDWIDE USN MARS FREQ.	....	Fixed and mobile station t/c	....
14463.0	USB	....	....	WORLDWIDE USN MARS FREQ.	....	Fixed and mobile station t/c	....
14464.0	RTTY	Congo	TNL	Brazzaville	....	425/50: AFTN/ASECNA	Moon-RSA
14470.0	USB	USA	NNNOUSN	Unknown	2315	USN MARS. Ashore station wkg NNNOUSN (also ashore?)	Pardue-AL
14477.0	USB	USA	AGA3HQ	Scott AFB, IL	2306	USAF MARS. Transcon Net. Routine t/c	Lindley-AL
14477.0	CW	Unknown	K	Unknown	1400	Beacon	Moon-RSA
14477.0	USB	....	....	WORLDWIDE USN MARS FREQ.	....	Fixed and mobile station t/c	....
14480.0	RTTY	Japan	NNNOMOC	Okinawa	1310	170/50R: USN MARS w/foxes	Kuroda-JP
14483.5	USB	USA	....	several, USA	0145	USN MARS. Many stateside stations w/phone patch t/c	Lannuier-NJ
14495.0	USB	Gough Is.	....	Unknown	....	Telcom	Moon-RSA
14497.0	RTTY	Azores	CSY	Santa Maria	2030	850/50: AFTN 'MCA' circuit. Wkg Cape Verde	Conway-UK
14498.0	RTTY	Cape Verde Is.	D4B	Amilcar Cabral Air, Sal	....	170/50	Moon-RSA
14508.0	RTTY	Cape Verde Is.	D4B	Amilcar Cabral Air, Sal	2040	850/50: AFTN 'CMA' circuit. Wkg Santa Maria	Conway-UK
14511.5	RTTY	Hawaii	ABM6USA	Schofield Barracks	1745	170/75R: US Army MARS	Blair-CA
14529.0	RTTY	USA	AFA21M	Unknown	0111	Packet/300: USAF MARS t/c	Lannuier-NJ
14531.0	RTTY	USA	AGA3HQ	Scott AFB, IL	2125	Packet/300: USAF MARS t/c. Connected w/AFA5ET	Berri-CA
14560.0	RTTY	Vatican	HVN	Unknown	....	SITOR-A	Moon-RSA
14568.0	RTTY	North Korea	HML61	Pyongyang	0500	425/50R: KCNA Nx in EE	Uerlings-OR
14573.0	RTTY	Morocco	CNM59/X9	Rabat	1630	425/50R: MAP Nx in AA	Uerlings-OR
14580.0	USB	USSR?	....	Moscow?	0525	Radio Moscow Feeder in RS	Lannuier-NJ
14589.0	RTTY	Zaire	....	Kinshasa	....	170/50: Commercial t/c	Moon-RSA
14620.5	RTTY	Chile	CAK	Santiago Aeradio	0100	425/50R: RYRURY 'DE CAK'	Hawkins-TX
14625.0	RTTY	Senegal	RFTJ	Dakar	2145	ARQ-M2/96: Control de voie' msg on channel A	Conway-UK
14632.0	RTTY	Yugoslavia	YZC2	Belgrade	1630	425/50N: TANJUG Nx in unid lang	Uerlings-OR
14654.5	CW	Poland	SPW	Warsaw	1708	....	Moon-RSA
14686.0	USB	USA	....	'Atlas', Cedar Rapids, IA	1643	US Customs/DEA. Wkg FLINT 350	Battles-NH
14686.0	USB	USA	....	'Panther', Nassau, Bahamas	1530	US Customs/DEA. Wkg 'Atlas'	Blair-CA
14707.0	RTTY	Japan	JPA35	Tokyo	0130	SITOR-A: INTERPOL	Uerlings-OR
14722.5	RTTY	Congo	TNL77	Brazzaville	1424	425/50R: 'DE TNL...' Testing and RYRURY	Blair-CA
14737.0	FAX	USSR	RX072	Khabarovsk	1826	90/... Map	Delanoy-FR
14760.0	RTTY	Puerto Rico	NAU	San Juan	2355	.../75N: USN. Foxes	Gerstner-NY
14764.0	RTTY	Bahrain	A9M170	Manama	1605	325/75R: GNA Nx in EE. Fair copy	Lackmann-VA
14786.0	RTTY	Zaire	9PL	Kinshasa	2220	425/50R: AFTN. Line test	Kuroda-JP
14809.0	RTTY	Scotland	6X4	Thurso Naval	0145	425/50R: RN. Foxes	Coleman-MA
14810.0	RTTY	Taiwan	3MA	Taipei	....	425/50: KCNA Nx	Moon-RSA
14817.0	RTTY	Zaire	....	Kinshasa	....	425/50: AZAP Nx in FF	Moon-RSA
14817.5	RTTY	Japan	JPA24	Tokyo	0200	SITOR-A: INTERPOL	Uerlings-OR
14845.0	RTTY	Zaire	....	Kinshasa	....	425/50: Commercial t/c	Moon-RSA
14880.0	RTTY	Japan	JM64	Tokyo	....	850/50N: Meteo	Moon-RSA
14901.0	RTTY	Cuba	CLN451	Havana	1630	425/50N: TASS Nx in EE	Uerlings-OR
14905.0	RTTY	Zambia	....	Lusaka (?)	....	425/50: Cuban Embassy	Moon-RSA
14923.0	RTTY	China	BAP44	Beijing	0200	965/75R: XNA Nx in EE	Uerlings-OR

14967.0	CW	Unknown	U	Unknown	1358	Beacon	Moon-RSA
14973.0	RTTY	Chad	TTL	NDjamena	....	425/50	Moon-RSA
14989.0	RTTY	Congo	TNL77	Brazzaville	1717	425/50R: AFTN. RYRYRY	Blair-CA
14995.3	RTTY	USA	AAA6GUSA	Ft. Sam Houston, TX	1426	SITOR-A: US Army MARS. tfc	Blair-CA
15000.0	CW	China	BPM1	Xian	0429	Time signals. CW & voice ID	Hardester-JP
15000.0	AM	Hawaii	WVWVH	Kekaha	0157	Time signals. Announcemmnts by YL	O'Connor-NH
15000.0	CW	Taiwan	BSF	Chung-Li	0429	Time Signals. CW & voice ID	Hardester-JP
15035.0	USB	Canada	VXA	Edmonton, Alta	1620	RCAF. Aero Wx	Karcheski-MA
15035.0	USB	Canada	CHR	Trenton, Ontario	1633	RCAF. Aero Wx	Karcheski-MA
15050.0	RTTY	USSR	RCV26	Moscow Naval	1908	850/75: Soviet Navy. RYRYRY	Moon-RSA
15555.0	RTTY	Bulgaria	LZP2	Sofia	1330	425/50N: BTA Nx in EE. Poor copy	Lackmann-VA
15615.0	FAX	Australia	AXI35	Darwin, NT	0641	120/.... Map	Delaunoy-FR
15633.0	RTTY	North Korea	HMH21	Pyongyang	0400	280/50R: KCNA Nx in EE	Uerlings-OR
15655.0	CW	Unknown	U	Unknown	0136	Channel Marker	Morby-NY
15684.0	RTTY	France	FSB	Paris	1857	INTERPOL. Tfc & morse ID	Conway-UK
15731.2	RTTY	Sudan	....	Khartoum	1709	200/50: SUNA Nx in AA	Delaunoy-FR
15780.0	USB	Argentina	....	Com. Rivadavia	....	Feeder	Moon-RSA
15792.0	CW	Zambia	....	Lusaka (?)	....	Zambian News Agency nx	Moon-RSA
15813.0	RTTY	Unknown	....	Unknown	....	425/50, SITOR-A: BOPA/PANA Nx in FF	Moon-RSA
15830.0	FAX	Antarctica	RUZU	Molodezhnaya	1349	120/.... Map	Delaunoy-FR
15911.0	RTTY	E. Germany	Y7A61	Berlin	1230	425/50N: ADN Nx in GG	Kuroda-JP
15934.0	RTTY	Egypt	....	Cairo	1430	425/50N: MENA Nx in EE. New frequency	Kuroda-JP
15947.0	FAX	USSR	RB177	Moscow	0240	120/576 [Usually 15950.0]	Yarbrough-NC
15950.0	RTTY	Uruguay	CXR	Montevideo Naval	2018	850/75: Clg 5KM1 w/RYRYRY	Conway-UK
15963.0	RTTY	E. Germany	Y7A62	Berlin	1019	425/50: QRA Marker	Conway-UK
15976.9	RTTY	France	FFP97/G	Paris	1600	425/50N: AFP Nx in EE	Uerlings-OR
15980.0	RTTY	Uganda	Kampala	0715	425/50: Cuban Embassy	Moon-RSA
15999.8	RTTY	Morocco	CNM69/1X	Rabat.	1600	425/50N: MAP Nx in FF	Uerlings-OR

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