

DX MONITOR

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RADIO CLUB
OF AMERICA

DEVOTED EXCLUSIVELY TO BROADCAST BAND DXING

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Anniversary News

We're looking for people to write articles for the 25th anniversary issue. The exact topics would be at the discretion of the authors, but they should fit the occasion (for example an article on what DX was like 25 years ago). We're also planning to have a photo section featuring past conventions, get-togethers, former members, and current members, so send in your photos (Please enclose an SASE if you want the photos back). We'll also have at least part of the first issue reprinted, plus some other items we'll mention later. Watch for it in late March.

Midwinter Anomaly

Every year, we experience what is known as the midwinter anomaly. The exact nature of the phenomenon hasn't ever been fully explained, but basically the chemistry of the ionosphere changes, resulting in greater absorption of MW signals. The effect on high latitude, long distance signals (i.e. Europeans and Asians) is especially severe. After a few weeks things return to normal. It must be underway now, because DXWWE and DXWWW both received zero tips for two issues in a row! We can't do a lot about the ionosphere except to wait for things to get better, but we can at least support the DX Worldwide columns by reporting what little foreign DX is coming in. Hopefully conditions will get better again soon.

DX Tests, etc

WKAC-1080 Athens, AL will test 0300-0330 EST on January 16 with code IDs. Send reports to Kirk Harvey, PD, PO Box 1083, Athens AL 35611.
WVNA-1590 Tuscumbia, AL will test 0229-0258 EST on January 23 with morse code IDs. Send reception reports to James Alan, Box 477, Tuscumbia, AL 35674 (Wayne Heinen/NRC)

Jim Hilliker says the KWKW/KAZN/KFAC frequency swap will most likely take place Jan 13. Watch for it!

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It looks like everyone was doing some last minute Christmas shopping last week -- the regular columns range from small to non-existent this time! Hopefully things will be back to normal in a week or two.

Election News

This is your last chance to nominate new club officers for the upcoming election for President, Secretary-Treasurer, and Board of Directors of the IRCA. Nominations will be open until January 15. Nominees will then be notified by mail and given instructions on preparing their campaign statements. The election will be held in March. Nominations should be sent to election chairman Rich Segalas, PO Box 26254, San Francisco, CA 94126. Watch these pages for more election news, and information on the TVA Award, which will also be voted on in March.

A Gettogether

The annual IRCA HQ gettogether will be held Saturday February 18, from 1 pm onward at the home of Bruce and Evelyn Portzer, 6546 19th Avenue NE, Seattle. Bring potluck junkfood and items for show and tell. Around dinner time, we'll pass the hat for pizza. For more info call 206-522-2521. See you there!

The Racal RA-17

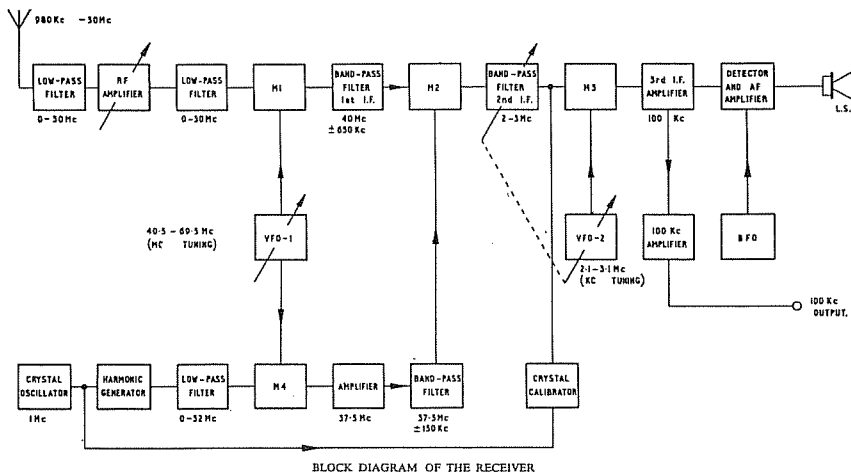
by Bruce Portzer

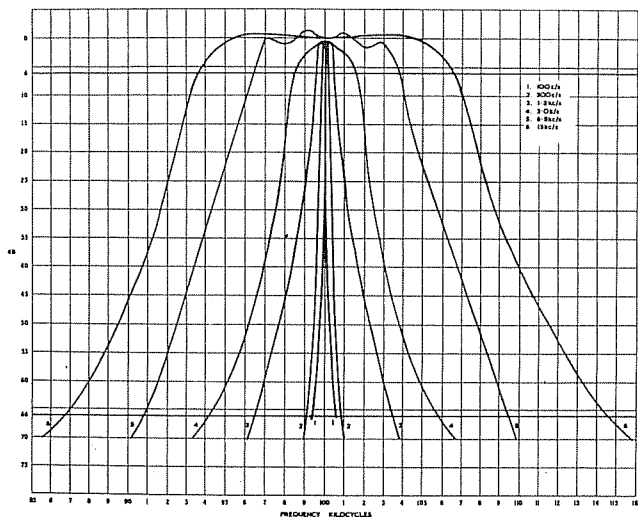
During the past few years a remarkable receiver has appeared on the surplus electronics market. It's called the Racal RA-17. This receiver was originally designed and built in the 1960's when it had a price tag of a couple thousand dollars - a lot of money even by today's standards. The Racal Company itself is a well-respected British electronics conglomerate, and their communications equipment has long ranked near the top in quality and reputation. The high price, of course, placed the receiver out of reach of most hobbyists back then, but government and commercial users found good use for them. Mine, for example, saw 15-20 years service at the FCC monitoring station in Ferndale, WA, before it was surplused a few years ago. Around that time, the Canadian government unloaded several RA-17s, which Don Moman bought and resold to Canadian DXers. I'm not sure how many were made, but the manual for mine says it was received 12-15-67 and has serial number 251.

When it first came out, the RA-17 represented the state of the art in receiver design. It was the first receiver to use the Wadley loop circuit. This enabled the set to provide 1 kHz resolution all the way from 500 kHz to 30 MHz, a monstrous improvement over the "slide rule" accuracy of most sets of that era. The results were, and still are, pretty impressive. It wasn't until the mid 1970's that the Wadley loop circuit showed up in the Barlow-Wadley XCR-30, the Yaesu FRG-7 and other hobbyist type receivers. Nowadays, frequency synthesizers and digital readout have made the Wadley loop nearly obsolete, but in the 1960s it was a godsend for those who could pay the price. The receiver is also very solidly constructed; it is the only receiver I've seen with a cast aluminum chassis. The internal circuitry is very well shielded, components are securely mounted and appear to have been top quality for their time. Best of all, the kilohertz readout is on several feet of 35 mm film, with 0.6 inches for every 10 kHz and markings every kHz.

How It Works

Figure one is a diagram of the receiver. Basically, the front end is tunable with a 7 position bandswitch and a variable capacitor for tuning the r.f. stage. The output from VFO-1 selects the "megahertz" tuning mixes with incoming signals to up-convert to the 40 MHz first i.f., and a second mixer down-converts the signals to the second i.f. which is tunable from 2 to 3 MHz, and gives you the "kilohertz" portion of the tuning. The crystal calibrator and various filters, etc set up the Wadley loop to provide the necessary tuning accuracy. The output from the second i.f. is downconverted to the 100 kHz third i.f., which in turn





TYPICAL SELECTIVITY CURVES

is followed by relatively standard detector, amplifier, etc stages. All this is done with 23 tubes. For those interested, Figure 2 is the selectivity curves from the receiver manual. Table 1 is the published performance specifications for the receiver.

The front panel controls include on/off, r.f. range and r.f. tune (for the front end), attenuator (6 position), megahertz and kilohertz tuning knobs and displays, mode (standby, AGC, MGC, calibrate, BFD), af gain, BFO tune, RF/IF gain, AGC long/short, audio level (for driving external amps, recorders, etc.), limiter, speaker with on/off jack, and headphone jack. There is also a meter to display either r.f. or a.f. levels (switch selectable). The rear of the receiver has various audio outputs, antenna input, and various BNC jacks for using an optional long-wave converter or monitoring various receiver outputs.

The receiver is quite large. It's designed for 19" rack mounting, and is about 10" high and 18" deep. The weight is about 67 lbs.

How Well Does it Work?

The receiver takes a small amount of getting used to, but no more than more contemporary receivers. First you select the megahertz control and rf range switch to the band you want to listen to, then use the kilohertz knob to select the rest of the frequency (i.e. to tune in 1290 kHz, set the MHz control for "1" and the kHz control for "290". Then move the r.f. tune control to peak the signal. It's possible to peak it on the wrong signal if there's a strong station on a nearby frequency, but with some practice and sometimes using the attenuator, you can get the hang of it. The other controls are more or less the same as you'd find on any other receiver.

The following is a series of general impressions and comparisons with my other receivers, a Hammarlund HQ-180A and a Yaesu FRG-7, and my ham transceiver, a Yaesu FT-101E.

Sensitivity: I have no reason to dispute the published sensitivity. It picks up everything my other sets can receive. For some reason, it has a tendency to load down my 4 foot air core loop, making it very difficult (and sometimes impossible) to peak MW signals. The Radio West loop works well with it, however, as does my longwire.

Selectivity: The Racal has all my other receivers beat. I thought the HQ-180A had good selectivity until I used it side-by-side with the Racal. When listening 10 kHz from strong locals, such as KLSY-1540 and KMPS-1300, the Racal typically has listenable signals with occasional audio spikes from the local, while the '180 has signals that are being severely trashed. This is true, even when switching back and forth between the same antenna, and even when the HQ-180A selectivity is set for 2kHz with the Racal set at 3 kHz. Unfortunately, the next narrower selectivity setting for the Racal is 1.2 kHz, which is too narrow for useable listening. However, the 3 kHz setting is sharp enough to be more than acceptable.

Audio Quality: It's great for program listening, especially with selectivity set at 6 or 12 kHz. It improves even more when you switch off the receivers 2" speaker and run one of the external audio outputs into a stereo amplifier.

Overloading, spurious signals, etc: The receiver will overload on strong locals if you don't have the rf stage tuned properly. Sometimes I have

TECHNICAL SPECIFICATIONS

Frequency range:	1 - 30 MHz
Type of reception:	AM, CW, and MCW
Stability:	After warm up, overall drift is less than 50 cps per hour with constant supply voltage and ambient temperature.
Input impedance:	75 ohms unbalanced
Tuning:	Effective scale length of approximately 145 feet, i.e. 6 inches of scale length corresponds to 100 KHz. Frequency increments remain constant over the entire range.
Calibration:	A 100 KHz signal derived from a 1 MHz crystal oscillator having an accuracy of 5 parts in 10 ⁶ provides check points at 100 KHz intervals.
Sensitivity:	A1 reception, bandwidth 3 KHz; 0.5 uV for 18 db signal-to-noise ratio. A2 reception, 30% modulated, bandwidth 3 KHz; 1.5 uV for 18 db signal-to-noise ratio.
Intermodulation:	More than 100 db down for interfering signals at least 10% removed from the wanted signal.
Cross modulation:	For wanted input signal levels between 3 uV and 1 mV, an interfering signal 10 KHz removed and modulated 30% must have a level greater than 50 db above the wanted signal to produce a cross modulation of 3%. The ratio of wanted to unwanted signal is improved up to 10% off tune, at the rate of 2 db for each 1% off tune.
Blocking:	With similar conditions to those for cross modulation, an unwanted signal f2 must be 60 db greater before the audio output of the wanted signal f1 is reduced by 3 db due to blocking.
Selectivity:	Six alternative IF bandwidths are obtained by means of a selector switch. Filter details are:

-6 db	-66db
(1) 13 KHz	35 KHz
(2) 6.5 KHz	22 KHz
(3) 3.0 KHz	15 KHz
(4) 1.2 KHz	8 KHz
(5) 0.3 KHz	Less than 2 KHz
(6) 0.10 KHz	Less than 1.5 KHz

Bandwidths 5 and 6 are obtained with crystal-lattice filters; differences in center frequencies of these bandwidth settings do not exceed 50 cps.

to crank in the attenuator to prevent the loop or the rf tuning control from peaking on the wrong signal. Once the two controls are properly peaked, I don't have a problem. The receiver does not seem to overload significantly on medium wave when I hook up my longwire, and the short-wave bands seem to be clear of spurious signals from local broadcasters. Overall, the Racal is better in this regard than my other receivers.

Readout Accuracy: Wonderful, at least for a receiver of that vintage. You have to adjust the marker on the kHz readout to maintain complete accuracy from one end of the dial to the other. But it's less of a problem than on the FRG-7 or the HQ-180A. It's not as good as a digital readout, but that's the way it goes (maybe I should add an output for a frequency counter!).

Longwave Converter: Mine came with the optional longwave converter, which tunes from 10 to 980 kHz. The converter is designed specifically for use with the RA-17 and one or two other Racal receivers. It requires external DX power and local oscillator from the receiver or another source in order to operate. For reasons I haven't figured out, my LW converter becomes insensitive with a longwire as you tune lower in frequency, unless you use a matching network or a longer longwire. Nick Hall-Patch, however, has the same model converter and hasn't experienced the problem with it. Otherwise, the LW converter works well with little in the way of spurious signals from local AM broadcasters.

I must admit I really enjoy this receiver. It "handles" well, and it's still in good condition after years and years of use by the FCC (on the other hand, the tuning knobs on my FRG-7 and HQ-180A require frequent tightening to keep them from falling off). In some ways, it's not as convenient to operate as a modern synthesized receiver (after all, you have to tweak about four controls). Still it's lots of fun to operate a "classic" receiver....sort of like driving a 1967 Mercedes.

IF output:	100 KHz at 75 ohms impedance. Level 0.2V approximately with AGC in operation. Two outlets in parallel are provided.
Image and spurious responses:	With wideband or tuned input, external image signals are at least 60 db down. Internally generated spurious responses are less than 2 db above noise level in all cases.
Noise figure:	Better than 7 db throughout entire range.
B. F. O. range:	±8 KHz
B. F. O. stability:	With constant ambient temperature and supply voltage, drift after warm up does not exceed 50 cps. For input level variations from 10 uV to 1 mV, B. F. O. drift is negligible.
Automatic gain control:	An increase in signal level of 20 db above .5uV improves the signal-to-noise ratio by 18 db. An increase in signal level of 100 db above .5uV increases the A. F. output by less than 7 db.
AGC time constants:	Short: Charge - 25 milliseconds Discharge - 200 milliseconds Long: Charge - 200 milliseconds Discharge - 1 second
A. F. response:	With 13 KHz bandwidth, response remains within ±4 db from 250 cps to 6000 cps.
Distortion:	Not greater than 5% at 1W output.
Hum level:	With A. F. GAIN control at maximum, the hum level is never worse than 40 db below rated output (1W).
Noise limiter:	A series noise limiter circuit can be switched into operation to provide limiting at modulation levels exceeding 30%.



NANCY HARDY, EDITOR

WESTERN DX ROUNDUP

2301 PACIFIC AVE., ABERDEEN WA 98520

DEADLINES: MONDAYS

REPORTERS FOR THIS ISSUE:

- (SMM) Steve Mittman-2248 West 37th St.-San Pedro, CA 90732
Realistic TRF, 3' wedge; Kenwood KRC-939 AM stereo car receiver
- (MS) Mike Stonebridge-Box 511-Fox Creek, AB TOH 1P0
Drake R-7
- (RW) Robert Wien-1309 Dentwood Dr.-San Jose, CA 95118
GE Superadio, GE long-range portable, SM-2

OF SPECIAL INTEREST:

- 1200 CKMG **AB**, St. Albert 12/22 1700 tuned to CKST-1070, found them gone, tuned to 1200 & found oldies music, "MG 12-hundred." (MS-AB)
- 1340 KKAM **CA**, Fresno ex-KMAK Su 12/18 2203 briefly over mess on car rx near Corona, CA with oldies music and "The new KKAM, 1340, Fresno." Call change a surprise for me at the time. 10/22/88 Broadcasting Info column says new format is actually SMN black oldies. (SMM-CA)
- *****
- 580 (KMJ) **CA**, Fresno 12/15 1501 totally off air probably due to wind-storm. (RW-CA)
- 590 KRSO **CA**, San Bernadino 12/19 0925 very good in KTHO null over KUGN-KAQQ with ID "590, KRSO," big band music, several spots at 0930. Call change, ex-KFXM. (RW-CA)
- 710 KMPC **CA**, Los Angeles is new (primary) Los Angeles NBC Radio Network affiliate. Heard Su 12/18 0400 carrying top-of-the-hour 5 min. NBC newscast. This is the first time in over 10 years, perhaps 15, that L.A. has had an affiliate carry NBC's top-of-the-hour newscast!!! (SMM-CA)
- 740 KMEO **AZ**, Phoenix 12/19 0429 faded up good over KTRH with EZL, "Cameo" ID. (RW-CA)
- (KCBS) **CA**, San Francisco 12/19 0411 totally off on a MM for first time I can remember. Off till 0700. Has been off various times for last few days at night, including 12/19 Mon. evening when they were supposed to carry Monday Night Football. Their xmtr was damaged by winds last week, so they've been off to fix damage. Have also been apparently running low power at night, as easily nullable here at night now, difficult before. (RW-CA)
- 990 (KKIS) **CA**, Pittsburg 12/15 1455 totally off, probably due to windstorm. (RW-CA)
- XECL **BCN**, Mexicali Th 12/15 2215 noted while driving through Corona, CA with stereo signal! Note this somewhat "historic" occasion; Other than English-language XETRA-690, this is the first known Mexican AM station to broadcast in stereo!! Does anyone know which system(s) Mexico has approved? Heard with good signal and numerous "Mexicali" ments. ID 2222 "X-E-C-L, Radio Mexicali." UnID Spanish under. (SMM-CA)
- 1070 (KNX) **CA**, Los Angeles 12/19 0417 totally off, CFAX/CKST alone. (RW)
- 1090 (XEPRS) **BCN**, Rosarita Beach 12/19 0420 totally off. (RW-CA)
- 1260 (KOIT) **CA**, San Francisco 12/15 1458 totally off due to windstorm. (RW)
- 1350 KRYT **CO**, Pueblo 12/19 0700 faded up under KSRO over KRLC with blip ID. Call change, ex-KIDN. Thanks to JCU-MT for this tip. (RW)
- 1460 KDON **CA**, Salinas MM 12/19 0305, 0330 good in Corona, CA mixing with KENO. IDs as "102 and a half, K-Don," with CHR music. Jim Hilliker had reported to me that he believed KDON-AM was off nightly 0300-0900; but note on the air, and on a MM at that!(SMM)

1460 KENO NV, Las Vegas on car receiver near Corona, CA Th 12/15 2245 with "AM stereo 1460 Keno" IDs and rock music. Mixing fair-good with KDON, but only up very briefly with stereo reception. No sign at all of KTYM-Inglewood. (SMM-CA)

1590 (KLIV) CA, San Jose 12/15 0600 apparently off due to windstorm. KOGO alone, looked for KQUL call change, heard weak jazz-style music way under KOGO looping north. Does KQUL now play jazz-style music? (RW-CA) (Last we heard they were playing 50's & 60's rock oldies.--NH)

UNID:

1070 MM 12/19 0430-0505 fair with "Radio Sensacion" & "Radio Mexicana" IDs (maybe actually two stations?). Call given quickly 0500 as "XEOBS" or "YEOX," or similar. Ment. of "Mil watts de potencia..." (1000 watts of power) "...en Sonora." Local KNX off, of course. Help anyone?! (SMM-CA)

A short column this week. In a way that was helpful, as my dad passed away a few days ago and his funeral is tomorrow.

Violent Storms on the Sun Expected to Peak in 1989

By LEE DYE, *Times Science Writer*

Los Angeles Times
via Steve Mittman

SAN FRANCISCO—A period of violent storms on the surface of the sun is expected to build into one of the most active periods of solar activity in hundreds of years and now may peak earlier than had been expected, possibly by the end of next year.

Scientists attending the fall meeting of the American Geophysical Union here this week said that solar cycles, which peak every 11 years, can disrupt communications and even cause satellites to tend to fall out of the sky during the period of maximum solar activity.

Even though this should be one of the most active periods ever recorded, the phenomenon will most likely manifest itself chiefly in static on radios and dramatic presentations of the Northern and Southern Lights.

Intense Activity

Kenneth H. Schatten of NASA's Goddard Space Flight Center in Greenbelt, Md., said he had initially expected the current cycle to peak sometime in 1990, and possibly as late as 1991, but he has revised that because the current level of solar activity is so intense that the cycle appears to be building toward an earlier climax, probably in late 1989.

While some scientists have predicted that this will be the most intense cycle ever recorded, Schatten said he thinks it will fall a little short of the record holder—1959.

The period is characterized by violent storms on the surface of the sun as large concentrations of "sun spots" migrate across its surface.

The storms release intense bursts of energy that bombard the Earth in various ways. One result is that ultraviolet radiation heats the earth's upper atmosphere, which causes air to expand and rise to higher altitudes. That creates an atmospheric drag on satellites that reduces their life span.

Some forms of radiation can be so intense that it would be deadly to

an astronaut on the surface of the moon, which does not have Earth's protective atmosphere, said Ron Zwickl, a space physicist with the National Oceanic and Atmospheric Administration. And it does not even have to be during a period of maximum activity.

A solar storm in August of 1972 released a burst of radiation "that would have been a lethal dose" to anyone on the moon, Zwickl said.

Sometimes, the solar activity can be considerably less lethal, but intensely annoying, he added.

Solar storms can wreak havoc on telecommunications signals, and a few years ago a command to a satellite was scrambled. The distorted message told the satellite to fold its solar panels from which it got the electricity needed to charge its batteries, Zwickl said. The satellite did what the scrambled message told it to do, and its batteries died.

"The result was we lost the satellite," he added.

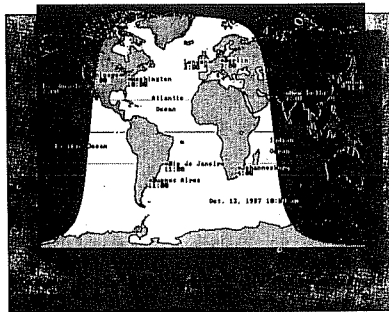
To Study Closely

Scientists around the world will be studying the sun closely during this period, hoping to learn much about dynamics that cause such things as variations in solar activity.

Meteorologists will be paying particularly close attention. Many assume that storms on the sun have some direct effect on weather on the Earth. But no one, so far, has been able to prove that.

The current 11-year cycle reached its lowest point—when the sun was in its least-active phase—in 1986. Earlier this year the activity began increasing rapidly, outstripping all earlier cycles during the first few months. After it peaks around the end of next year, activity will drop off quickly and continue to decline for the rest of the 11-year period. Then the entire process will repeat itself.

But next time, it may not be quite as dramatic.



Terminator: A Global Perspective for \$39.95

BY GUS VENDITTO

If you like to get the big picture, you'll love *Terminator*, a gem of a program that projects the slow march of day and night across the planet. Named for the planet-wide line that separates day from night, *Terminator* was inspired by the GeoChron, a \$1,700 wall-sized mechanical gizmo that's used by many airlines to help in flight planning. The GeoChron is also a toy for the likes of Malcolm Forbes and other well-heeled continent-hoppers.

For \$39.95, *Terminator* gives you the same view you get from the GeoChron but puts more godlike powers at your disposal.

Turn on the speed mode, and a year elapses before your eyes in a matter of minutes. Want to see when dusk will cross the Rockies on October 29, 1988? Push the terminator forward with the Plus key.

Easily changed configuration files let you display cities of your choosing.

This may not be the most

useful program you'll ever own, but it'll give you one of the most breathtaking views you'll ever have on your screen.

List Price: *Terminator*, \$39.95.

Requires: 38K RAM; one disk drive; Hercules, CGA, or EGA; DOS 2.0 or later. Not copy protected. Spite Software, 4004 SW Barbur Blvd., Portland, OR 97201; (800) 423-3500.

via Glen Kippel

EASTERN DX FORUM

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Holiday greetings. Hope everyone's Christmas was nice and gift wrapped with some fine DX. I hope 1989 will be a fine year for all. 'Tis a privilege to be a part of IRCA's 25th anniversary year, many more to the most democratic DX club there is. A note about that I hope a large portion of the membership will vote in the upcoming election. Believe me it's great to have a voice in how the club operates, even if by chance you don't agree with all that goes on. For those of you who haven't been to a convention in years, try to make this one. Looks like it'll be in Sacramento which should mean a fine turn out what with our large West Coast membership. I'm thinking of going but obviously it's too early to solidify those plans, hi. I could use a fine excuse to see my many WC friends and relatives, I hope to do just that. As you'll recall at last writing I was on a mission to determine what the new WLLJ-910/Cassopolis, MI was up to when I was stopped cold by keys locked in the car routine on my trip to Chicago-Wisc. recently. Well there was a measure of success on the way back. They are on fulltime and I was able to tape some 20 minutes or so of them from an Indiana turnpike service plaza in Mishawaka (metro South Bend-Elkhart) where part of their main nighttime pattern apparently falls. They appear to beam N-S (originally this was to be a Mishawaka station you might recall), and Cassopolis is due north of Mishawaka so they tend to be another South Bend metro station. Their format is the satellite "Heart and Soul" black oldies thing with a mix of some modern black music. They do have some local drop-ins and use slogans of "Jam 91" with frequent IDs that mention both surrounding communities plus their own. They claim to be the "Heart and Soul" of SW Michigan, being there's not too much competition in their immediate part of SW Michigan that could be true, hi! At least this will give me another DX target, gosh only knows I need one, maybe it's just me but so far CX in December have been a bust. As of 12/17 I'm still looking for my 1st catch in Dec., maybe the DX-hot Frank Merrill can spare some of those multitude number of stations he's heard. He's likely up to 1000 by now, barf! At least he knows how tough it gets as one approaches 3000. hi! Take it from one who knows. 73s & for one last time for the ladies 88s in 88.

Rick Evans, Apt. 19, 5104 North Lovers Lane, Milwaukee, Wisconsin 53225

I didn't realize the new Cassopolis, Mich. station was originally planned to be for Mishawaka, but it makes sense. Mishawaka is a suburb of South Bend, on the northeast edge of South Bend. A Black oldies format actually makes sense for that part of Michigan, strange as it seems. If you remember your history of pre-Civil War America, you might recall hearing about the underground railroad, which moved runaway slaves from the south to the north where they could settle in some peace or move on into Canada. One of the ends of the "railroad" was in southwest Michigan. As a result, one can find a lot of Black farmers there yet today in and around the small towns and orchards that cover the area. Also, Cassopolis is only about 30 miles from Benton Harbour, Mich., which has a large Black population. Only about 20 years ago, racial tensions were probably just as bad if not worse than they were in Detroit and Chicago. With this, I assume the Cassopolis station was designed to serve both South Bend and Benton Harbor (plus Berrien County, Mich.). When I was in Kalamazoo, Mich., about 40 miles from Cassopolis) over Thanksgiving weekend, I didn't find WLLJ-910 very strong on the Superadio up there, but assumed that station was having to protect WBCK-930 in Battle Creek. I assume Kalamazoo is served by WKWM-1140 in Wyoming, Mich. (a Grand Rapids suburb). I'm typing this column on Thursday night, early as I'm leaving in about 7 hours for Alabama so my wife can spend Christmas with her family. I'm taking along the Superadio but whether or not I'll listen down there is another story. Hope you had happy holidays and that the new year 1989 will be good for you. 73.



Western DX Forum

★ ★ ★ ★

IRCA — The #1 Choice of the Broadcast Band DX'er

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DEADLINES — WEEKLY ON TUESDAY 11 DAYS PRIOR TO PUBLICATION DATE

□ □ □ □ □ □ □ □ □

RIC HEALD, 8539 BELLAMY WAY, SACRAMENTO, CA 95828-3821 (916) 386-8677
1000-1300 PLT & ppp

Hello out there. Do I detect an echo? Something I said? Bad breath?—hi. Seems to happen every year during the Holidays.

I was going to drive to my dad's in WA along the coast route, with at least phone calls to Tomer, Martin, the Hardys, etc along the way, that is until yesterday, 27 December. For the first time in six years Sacramento was dusted with snow, and when chains are required in the northern half of the Valley, hello AMTRAK, hi. Later in the evening at work the snow returned and staff put patients on hold to go outside and look, hi. To snow country folks I know that sounds dumb, but it's a treat to us. And with the shelters full (we're not one), that brought out the "three hots-and-a-cot crowd," hi.

Curtis McMenamin, that was Sacramento Airport you heard on 530, not Air Force. That's a pretty good catch for their low power over about 60 miles. Air Force, on the other hand, comes in the form of Mather and McClellan in town and Beale and Travis 45 miles away in opposite directions and they have their own communications.

Speaking of military communications, the Army Depot, about a mile from me, is a major communications center and I'm beginning to think something has gone haywire and I'm getting a harmonic on KGO. It actually sounds like side-band, on the upper side of 810. Have tried all possible combinations with local radio and nothing computes. Only noted daytime.

Have done some dial-spinning every night after work with nothing out of the ordinary. I always seem to land on 810 with Ray after 0100, hi. Have heard some hets in the usual places, no audio, also as usual! Have been monitoring 890 for any signs of testing - nothing (thank goodness) yet. Sure is nice to have 1030 silent.

Convention plans on hold 'til after vacation. I know Floyd has been lining up several things - so we're marching along. Keep California in your vacation plans for this summer - would be great to see y'all. Sacramento in '89, home of the founder of Tower Records (and you thought it was San Francisco based), original store at Tower Theatre, 15th & Broadway. Best of DX and 73 de Rth. .

A DXer's TECHNICAL GUIDE

Second Edition

Would you like to know how a receiver works? Would you like to improve yours to make it better? Do you like experimenting with antennas? Do you like to tinker with radios? Would you like to see a review of a particular receiver?

If you answered yes to any of these questions, then you should get a copy of *A DXer's Technical Guide*. The book is 120 pages long and filled with valuable information on receivers, antennas, and accessories, including the following:

- ★ Receiver performance;
- ★ Receiver reviews (more than 30 of them);
- ★ Audio filters;
- ★ Tape recording;
- ★ Loop antennas (ferrite and air core);
- ★ Beverage and longwire antennas;
- ★ Tuners and phasing units;
- ★ Receiver construction and modification.

Although intended for the medium wave DXer, the book is also useful to the longwave DXer, shortwave listener, and ham.

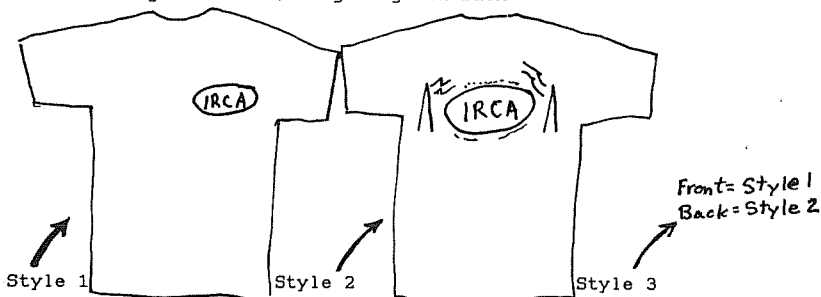
A DXer's Technical Guide can be purchased for \$5.50 (members); or \$6.50 (nonmembers) from IRCA, P.O. Box 21074, Seattle, WA 98111. U.S. funds, please. Add \$2.00 for overseas airmail.

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IRCA T-Shirts!

You can now be the proud owner of an IRCA T-shirt with the club name and logo emblazened on the front. The shirts are 50/50% cotton/polyester in your choice of white or light blue, and your choice of size (S-M-L-XL). The price is \$8.50 for S-M-L and \$9.00 for XL. You can have your choice of three styles:

1. Small IRCA logo on front (i.e. the globe and "IRCA" like at the center of the DX Monitor masthead).
2. Large logo and towers (like on DXM Masthead) on front
3. Small logo on front, large logo on back



Doug Pifer will handle the orders, so make your checks payable to him. He'll forward the profits to the club after recovering his expenses. The T-Shirts will be available for only three or four months, so get your order in soon. Allow several weeks for delivery, since the orders will be processed in batches. When ordering, be sure to include:

- Your name and mailing address
- Size (S-M-L-XL)
- Color (White or light blue)
- Style (1,2 or 3, see above)
- Your check or money order

Send your order to Doug Pifer, 25530 Buckley Drive, Murrieta, CA 92362.

Ballast Tubes for the R-390A

Several receivers, including the R-390A, have ballast tubes in their power supplies. Like many tubes these days, replacements or substitutes for the ballast tubes can be hard to find. This information may be helpful for those needing one.

First of all, in several publications, including IRCA Reprint M32, it is stated that the Amperite ballast tube 3HTF4 is a direct replacement for the Amperite 3TF7. According to Mr. Frank M. Kretkowski, chief engineer and principal ballast tube designer for the Amperite Co., there is no direct replacement for the 3TF7 in the R-390A, except the 3TF7A and the 3TF11. Various publications have made reference to interchanging the 3TF4, 3HTF4, 3TFV4 and 3TF4A, all of which are incorrect.

Ballast tube voltage and current ratings received from Mr. Kretkowski are as follows:

3TF7	8.6-16.6 volts	.290-.330 amps
3TF7A	7.0-14.0	.280-.310
3TF11	8.0-17.0	.280-.320
3TF4	4.3-8.3	.280-.320
3TF4A	5.6-8.4	.270-.300
3HTF4	4.3-8.3	.340-.370
3TFV4	4.0-8.5	.280-.320

The voltage drop across the 3TF7 in the R-390A is approximately 12.3 volts AC. This is considerably outside the operating range of all except the first three tubes. There would be no regulating capability and a resulting shortened ballast tube life if one of the others were used. (Information via Joe Bunyard)

HEARD SOMETHING UNUSUAL ON 810 LATELY???? Shawn Axelrod

Winnipeg has a 24 hour ethnic station that speaks your language no matter what it may be. There is some English especially at night when light rock and CHR music is on the ALL NIGHT SHOW. Most of the programs are of a local nature and are put together by the members of the various ethnic groups that are targeted by each program. The variety of music available surpasses any other station in the city and although you may not understand the words it can still be an interesting experience.

As you see below the broadcasts are on a regularly scheduled basis in blocks of one-half of an hour to four hours depending on the program. The Christian programming varies and is often pre-recorded programs from various ministries such as back to the Bible or prayer programs. Hope this help out with some UNID's that you may have had.

CKJS WEEKLY PROGRAMMING

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
6 am	"INTERNATIONAL MORNING RADIO" <i>The very best in musical entertainment News - Weather - Sports - Information - from Canada and around the world.</i>				
10 am	"CHRISTIAN PROGRAMMING"				
1 pm	"AFTER LUNCH" <i>Music and Information, Public affairs and community events.</i>				
2 pm	"MUSIC FROM ACROSS THE SEA" and "MUSIK MIT SCHWUNG FUER ALT UND JUNG" <i>A bilingual voyage to Germany ... bringing you the latest in music and information.</i>				
6 pm	"RADIO ITALIA" <i>The old and the new from the Italian Musical Scene. News and information from Italy and around the world.</i>				
7 pm	"RADYO PILIPINO" <i>Music, news and information from the Philippines.</i>				
8 pm	"UKRAINIAN" <i>News and information ... community and special events, traditional and contemporary music.</i>				
9 pm		CHRISTIAN PROGRAMMING	ZABAVA		
9:30 pm	PORTUGUESE				
10 pm		HINDUSTANI	VIETNAMESE	PUNJABI	PORTUGUESE
10:30 pm	DUTCH				
ALL NIGHT SHOW UNTIL 6 AM					

TIME	SATURDAY	SUNDAY
6 am	ENGLISH	
7 am	IRISH	
8 am	PORTUGUESE <i>News, Soccer Results from Portugal, community events, and the latest in musical releases from Portugal and Brazil.</i>	ENGLISH
10:30 am		
11:30 am	NATIVE MEDIA NETWORK	
12 Noon		
1 pm	URDU	JEWISH
1:30 pm		
2 pm		
2:30 pm	POLISH <i>News ... Information Traditional and contemporary music.</i>	POLISH
3 pm		
4 pm	UKRAINIAN	ENGLISH
5 pm		
6 pm	CHINESE	GERMAN
6:15 pm		
7 pm		RADIO ITALIA
8:30 pm	CZECHOSLOVAKIAN <i>News, Soccer Results from Portugal, community events, and the latest in musical releases from Portugal and Brazil.</i>	PORTUGUESE
9 pm	HUNGARIAN	
9:30 pm		
10:00 pm	GREEK	
10:30 pm		
11 pm	SPANISH	POLISH
11:30 pm		CARIBBEAN



MANITOBA POPULATION BY ETHNIC ORIGIN
1986 Statistics Canada Figures

GROUPS SERVED BY CKJS RADIO

RETAIL RATE CARD

No. 14
Effective Date: October 12, 1988

Announcements

CLASS "AAA"

ENGLISH 6:00-10:00 a.m.

(Mon-Fri)

GERMAN - UKRAINIAN 60 sec. \$26.00

ITALIAN - FILIPINO 30 sec. \$23.00

POLISH - PORTUGUESE

CLASS "AA"

ENGLISH 10:00-2:00 p.m.

(Mon-Fri)

CHINESE - GREEK - HINDUSTANI 60 sec. \$24.00

JEWISH - PUNJABI - URDU 30 sec. \$22.00

CLASS "A"

CROATIAN - CZECHOSLOVAKIAN

- DUTCH - CARIBBEAN 60 sec. \$32.00

HUNGARIAN - IRISH - SPANISH 30 sec. \$20.00

VIETNAMESE

GERMAN	96,145
UKRAINIAN	79,945
FILIPINO	32,000*
POLISH	31,000*
DUTCH	27,875
PORTUGUESE	20,000*
ITALIAN	19,000*
INDO-PUNJABI	16,500*
JEWISH	14,950
CHINESE	13,500*
AFRO-CARIBBEAN	11,000*
LATIN-AMERICAN	8,500*
GREEK	8,000*
VIETNAMESE	7,000*
HUNGARIAN	3,600
CZECHOSLOVAKIAN	3,500*

*FIGURES ESTIMATED



**Meeting
the Challenge
of the
Ethnic Market**



The Station that brings the World
to Winnipeg

Remotes, News and Sports Features upon request

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DXING IN CHINA

by Masaru Suga

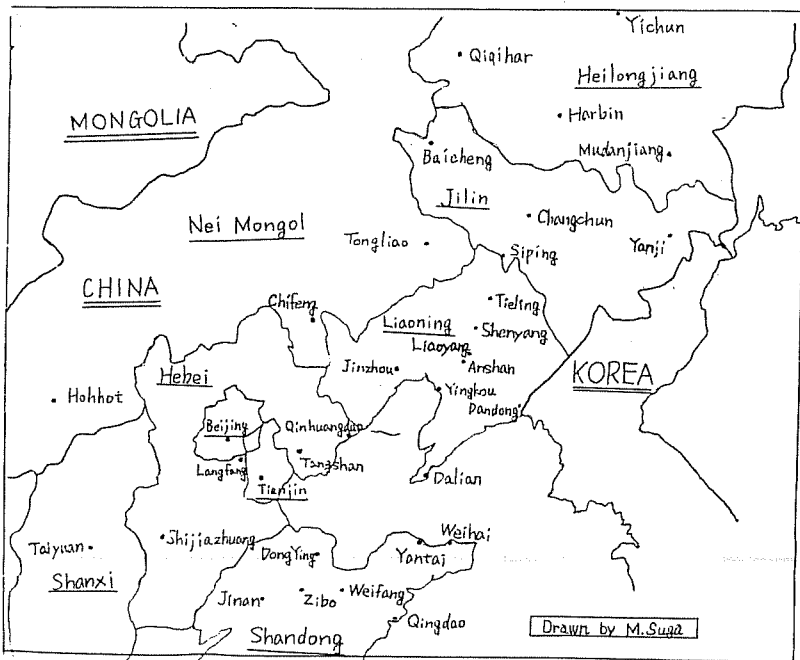
[Notes] reprinted from Far East Radio Club bulletin
 Stations; only in CHINA (our apologies for some handwritten times, the original was extremely light)
 (FJ) = Fujian Prov. (HB) = Hebei Prov. (HL) = Heilongjiang Prov.
 (JL) = Jilin Prov. (LN) = Liaoning Prov. (NM) = Nei Mongol Autonomous
 (SD) = Shandong Prov. (SX) = Shanxi Prov.
 CC = Chinese JJ = Japanese KK = Korean MM = Mongolian RR = Russian

Location; the seat of the station
 Time; *1958 = 1958 sign on, 1410* = 1410 sign off
 Remarks; d = reception in Dalian (Liaoning prov.) from 8/21 to 8/23.
 s = reception in Shenyang (Liaoning prov.) from 8/23 to 8/25.
 b = reception in Beijing (Beijing Municipality) from 8/25 to 8/28.

KHz	Stations	Location	Time	Remarks
540	CPBS 1st	Shenyang	2200	dsb //94.8MHz
549	Chifeng PBS CC (NM)		1230	b
587	CPBS 1st		1330	d
585	CPBS 1st	Beijing	2010	sb
594	Shandong PBS 1st		2110	ds //1548kHz
600	CPBS 1st	Beijing	1230	db
	Liaoning PBS		0910	s //612kHz
	Shandong PBS 1st		1330	d //594kHz
612	Liaoning PBS		0900	dsb //1089kHz
621	Heilongjiang PBS 1st		1300	d //1341kHz
630	CPBS 2nd		1330	dsb
639	CPBS 1st	Beijing	*1858	dsb //95.6MHz
648	CPBS 1st	Beijing	2100	sb
657	Henan PBS 1st		*2005	dsb 2005-2310,0240-1410
666	Jinzhou PBS (LN)		*2030	ds 2030-2330,0215-0440,0815-1300
	Siping PBS (JL)		*2025	s 2025-2330,0755-1300
675	Nei Mongol PBS CC		1340	sb //11705kHz
684	CPBS TW-2nd		*2053	b
	Gansu PBS 1st		*2050	b
	Tangshan PBS (HB)		*2055	b
	Fushun PBS (LN)		*0820	s 2000-0100,0250-0515,0820-1305
	Mudanjiang PBS (HL)		*1955	dsb
693	Shaanxi PBS 1st		*2035	b 2035-0535,0835-1420
702	Jiangsu PBS 1st		*1945	dsb
720	CPBS 2nd	Dalian,Beijing	*1958	dsb
729	Jiangxi PBS 1st		*2000	dsb
738	Jilin PBS		*0720	dsb
750	CPBS 2nd	Beijing	*1958	b
	Liaoning PBS		0845	s //96.8MHz
756	CPBS 1st		1410*	dsb
765	CPBS 1st		2200*	s
	Nei Mongol PBS CC		1400	dsb //675kHz
774	Hubei PBS 1st		*2020	db
783	Hebei PBS 1st		*2020	dsb //1278kHz
792	Shenyang PBS 1st (LN)		*2000	ds 2000-0400,0725-1330
801	CPBS 1st	Beijing	2100	b
810	Zhejiang PBS 1st		1200	db //2475kHz
819	Shanxi PBS 1st		*2000	b 2000-2350,0155-0550,0805-0435
828	Beijing PBS 1st		*2025	db
850	CPBS 1st	Beijing	2100	b
855	CPBS 2nd		1400	d
873	Heilongjiang PBS 2nd		*1955	sb
	Gansu PBS 1st		2100	b //4865kHz
882	Hohhot PBS (NM)		*2100	b
	Shenyang PBS 2nd (LN)		*0845	s 2020-2315,0215-0720,0845-1200
	Dalian PBS 1st (LN)		*2010	d 2010-0035,0215-0630,0800-1315
891	CPBS 1st		2030	d
	Ningxia PBS		2130	b
900	CPBS 2nd	Beijing	2100	b
	Heilongjiang PBS 1st		1300	s
	unknown		0729*	s non-stop mx.
909	Tianjin PBS		*2030	dsb 2030-0440,0625-1430
	Yichun PBS (HL)		*1950	s
918	Shandong PBS 1st		*1950	dsb //1548kHz
927	Beijing PBS 2nd		*2145	b
	Jilinshi PBS 1st (JL)		*2010	s 2010-2315,0240-0515,0735-1330
936	Anhui PBS 1st		*2020	dsb
954	CPBS 2nd		*1958	b //720kHz
	Tianjin PBS		2330	b
	Anshan PBS 1st		*1900	ds 2000-2330,0155-0425,0800-1330

963	Radio Beijing RR Liaoning PBS		1356#	ds	
972	Henan PBS 2nd	Dalian	#1950	dsb	
981	CPBS 1st		#2040	b	2040-0430,0755-1345
990	Shanghai PBS 1st		1300	dsb	
1000	Qinhuangdao PBS (HB)		2020	db	
1017	CPBS 2nd	Beijing	#2055	d	
1026	Radio Beijing KK CPBS 1st		2100	b	
1035	CPBS 1st		1330	ds	
1044	CPBS 1st		0850	sb	
1050	CPBS 1st		2030	d	
1053	Beijing PBS 3rd		#2220	b	
1071	Yingkou PBS (LN)		#2020	s	2020-0020,0225-0420,0710-1305
1077	CPBS 1st	Dalian	#1956	dsb	
1089	Radio Beijing JJ		1330	ds	
1098	CPBS 1st	Beijing	2100	b	
1107	CPBS 1st		2120	d	
1125	Tianjing PBS		#2050	dsb	2050-2330,0035-0730,0830-1400
1143	Liaoning PBS	Shenyang	#1950	dsb	1950-0510,0725-1400
1152	CPBS 1st		2030	d	
1170	Jilin PBS		1330	d	//3310kHz
1179	Hebei PBS 1st		#2020	dsb	//1278kHz
1188	CPBS 1st		2220	d	
1193v	Zibo PBS (SD)		1300#	dsb	2050-0025,0220-0535,0835-1300
1206	CPBS 1st		2220	d	
1215	Hunan PBS 1st		1230	ds	
1224	Jirem PBS CC (NM)		#2040	ds	2040-2305,0855-1230
1233	Dalian PBS 1st (LN)		0950	d	//882kHz
1242	Shanghai PBS 2nd		#2033	d	
1251	Hubei PBS 1st		2118	b	//3940kHz
1251	Ulanqab PBS MM (NM)		1302	ds	
1278	CPBS 1st		2110	b	
1287	Ih Ju PBS (NM)		#2115	b	2115-2320
1296	unknown		#2115	b	2115-2300,-0435,0900
1305	unknown		#2125	b	
1314	Weihai PBS (SD)		#2025	d	2025-2320,0155-0455,0755-1220
1323	Shanghai PBS 2nd		#2033	d	//1170kHz
1332	Qiqihar PBS (HL)		#2000	ds	2000-2315,0225-0515,0730-1230
1341	Yanbian PBS KK (JL)		2030	dsb	
1350	CPBS 2nd	Shenyang	1330#	dsb	
1359	Langfang PBS (HB)		1130#	b	2110-2325,0240-0350,0855-1130
1368	Hunan PBS 1st		2030	db	//4990kHz
1377	Liaoning PBS		2100	d	//963kHz
1385	Radio Beijing capital sev.	Beijing	#2200	b	2200-2300,0300-0500,1200-1400
1395	CPBS 1st		1300	s	
1404	Liaoning PBS		#1950	dsb	//1089kHz
1413	Hebei PBS 1st		#2020	dsb	2020-2350,0050-0530,0730-1305
1422	Fuxin PBS (LN)		#2020	ds	2020-,0225-,0815-1315
1431	Shanghai PBS 3rd		#2028	s	
1440	Benxi PBS (LN)		#2030	ds	2030-2400,0225-0435,0710-1300
1449	CPBS 2nd		1300	b	
1458	Jiangsu PBS 1st		#1945	dsb	//702kHz
1467	Yantai PBS (SD)		#1950	d	1950-0035,0155-0500,0755-1330
1476	Baicheng PBS (JL)		#2015	dsb	2015-2400
1485	Henan PBS 1st		#2005	dsb	//657kHz
1494	Changchun PBS 2nd		#2055	s	2055-0100,0255-1000
1503	Heilongjiang PBS 1st		1300	ds	//900kHz
1512	Jirem PBS MM (NM)		#2020	dsb	
1521	CPBS 1st		1400	dsb	
1530	Chifeng PBS MM (NM)		#2020	s	
1539	Xilin Gol PBS MM (NM)		2137	s	
1548	Voice of Strait BS 1st (FJ)		1400	d	//5240kHz
1557	Qingdao PBS (SD)		#2010	d	
1566	Nei Mongol PBS MM		1300	sb	//1458kHz
1575	Hubei PBS 1st		1400	db	//3940kHz
1584	Dandong PBS 1st (LN)		#2000	d	2000-2310,0100-0500,0800-1300
1593	Jiangsu PBS 1st		#1945	ds	//702kHz
1602	Tieling PBS (LN)		#0805	s	2045-,0200-0500,0805-1145
1611	Taiyuan PBS (SX)		#2050	db	
1620	Hulun Buir PBS MM (NM)		#2050	sb	
1629	Chifeng PBS MM (NM)		#2020	dsb	//1368kHz
1638	Nei Mongol PBS MM (NM)		2045	dsb	//1395kHz
1647	CPBS 2nd		#1958	d	
1656	Beijing PBS 4th		#2028	b	
1665	Shandong PBS 1st		2130	ds	//1548kHz
1674	unknown		#2025	s	
1683	unknown		#2045	s	
1692	unknown		#2125	s	
1701	Tongliao PBS (NM)		#2045	s	2045-2255
1710	Liaoyang PBS (LN)		#0745	ds	2030-,0415,0745

kHz	Stations	Location	Time	Remarks
1521	unknown		2200	b 2200:Local News
1530	Jilin PBS		1300	s //738kHz
1539	Dongying PBS (SD)		#2055	d
1548	Shandong PBS 1st		#1950	dsb //918kHz
1578	unknown		2130	b //CPBS 1st
1584	Heilongjiang PBS 2nd		2040	s //873kHz
	Changzhi PBS (SX)		#2055	b
	unknown		#2030	b
	unknown		#2035	s 2035-2235
	unknown		#2040	s
1593	unknown		2157	s 2157:Local News



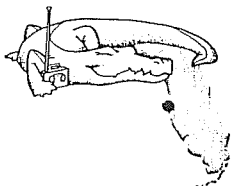
IRCA Foreign DX Reference, Volumes 23-25

You're tuning around and hear a carrier from foreign origin on a frequency (say TA on 891). You want to quickly know which countries have been heard on the frequency and what type of programming was heard. Or, you're DXing and have heard several stations from one foreign area (say Japan) and want to quickly know what other stations have been heard from that area. These are the situations the **IRCA Foreign DX Reference** was created for. No longer will you need to thumb through tens of back issues of "DX Monitor" to find the information you need. With the **IRCA Foreign DX Reference** you can quickly determine which foreign stations might on a particular frequency or where to look for more stations from a particular area.

In honor of IRCA's 25th anniversary (and because it sounded like a good idea), this year's **Reference** was compiled from the last *three* years of "DX Monitor"!

The **IRCA Foreign DX Reference** is a cross reference listing of all the stations reported to DXWW-W and DXWW-E during volumes 23-25 of "DX Monitor" (9/85-8/88). Three sections are available: Trans-Atlantic, Pan American, and Trans-Pacific. Each section contains a frequency listing (countries reported for each frequency) and a country listing (frequencies reported for each country) including the "DX Monitor" issue in which they were reported (volume and number). The **Reference** is an indispensable guide to what was reported the last three years, and where to find specific information about the receptions.

Each listing is 6 or 7 pages long. You can order any one of the three (TA, PA or TP) for \$2.00 each, or all three for \$5.00. Order your copy now before the 1988-89 season gets underway. Make checks out to IRCA and send them to: 9705 Mary N.W., Seattle, WA 98117. (phil bytheway)



ANARC 1989

P.O. Box 272301
Tampa, Florida 33688 U.S.A.
Telephone (813) 384-2354

NEWS RELEASE
October 24, 1988
For Immediate Release

ANARC 1989 TO FEATURE CARIBBEAN THEME

The 1989 Convention of ANARC (the Association of North American Radio Clubs) will be held in the southeastern United States for the first time in ANARC's history.

The venue for ANARC 1989 will be the Dolphin Beach Resort in the city of St. Petersburg Beach, on the west coast of the U.S. state of Florida. Appropriately, ANARC 89 will have a very definite Florida/Caribbean/Latin American flavor.

The convention will officially begin on Friday, July 14th, with an outdoor poolside reception sponsored by the World Radio TV Handbook, featuring traditional Caribbean island drinks and a steel band.

On the agenda for Saturday, July 15th, are sessions dealing with Latin American DXing and QSLing techniques, clandestine broadcasting in Latin America, and international radio news reporting in the Caribbean.

On Sunday, July 16th, Andy Sennitt will moderate the World Radio TV Handbook Quiz, which will have a Caribbean and Latin American emphasis. There will also be time for convention participants to enjoy the seven-mile-long (that's 11 kilometers) white sand beach on which the convention hotel is located.

Those who can stay around on Monday, July 17th, may take part in an optional tour to Disney World and the EPCOT Center in Orlando, Florida — the world's most popular tourist attraction.

For complete information sheets and registration forms, please write to:

ANARC 1989
P.O. Box 272301
Tampa, Florida 33688 USA.

All DXers and shortwave listeners are welcome to attend, regardless of whether they are members of ANARC clubs.

* * *



THE TRAVELERS HIGHWAY INFORMATION ADVISORY STATION RADIO GUIDE

We still have several copies of the Traveller's Information Station and Highway Advisory Radio Guide. This handy guide lists all sorts of info on TIS/HAR stations, including their locations, prerecorded announcements and other material. It's a must for those of you who DX on 530 and 1600 kHz, or if you're going to do a lot of travelling this summer. To obtain your copy, send a check or MO for \$10 to IRCA, P.O. Box 21074, Seattle, WA 98111.

Seeking New Messages for an Old Medium

AM radio first took to the airwaves on Nov. 2, 1920, when the nation's first AM station, Pittsburgh's KDKA, began reporting on the Harding-Cox Presidential race. Other technologies of that era, the Victrola, for example, have fallen by the wayside, and the AM radio industry is fighting hard not to become a historical artifact too.

The number of AM stations in the United States continues to grow slowly. It has inched up from 4,200 in 1968 to 4,900 today. But while the number of stations has increased, AM market share has fallen. Only 10 years ago, AM and FM stations had an equal share of the audience. But today, AM's share is down to 25 percent.

The number of FM stations has grown — to some 4,100 today — along with FM market share. In fact, it is the rare AM station, mostly the grandfathers of the industry like WCCO in Minneapolis, KMOX in St. Louis and KABC in Los Angeles, that dominates its market.

"There isn't enough available audience to satisfy all the AM's — to give them a decent market share," said Robert K. Moore, general manager of two Los Angeles radio stations.

AM radio is a victim of obsolete technology. Today's adults and teen-agers rarely tune in AM radio, which has ceded the mass music audience to crisper, higher fidelity FM stations.

"That's a very big disadvantage, AM can never overcome that, even with AM stereo," said Gary G. Stevens, a New York radio broker, referring to a long-awaited technology that has not yet caught on.

With market share slipping, AM radio is also confronting a weakening financing picture, which is forcing executives to adopt more cost-conscious business plans. Generally, these involve staff cutting measures through more automated programming or by combining with a sister FM station.

Ever optimistic, radio executives throughout the industry are searching for a new means to use an old medium. Some have founded a study group called the Heritage Group, partly to find "the magic bullet" that will return AM to prominence.

"It's not unlike running a shoe store in an old downtown area," said Rick Starr, KDKA's vice president and general manager, and one of the group's 10 members. "The big department store can still survive, but the little guy can't."

AM radio, like other industries, is marketing to specific niches in order to break radio listeners of a 20-year habit of avoiding the AM dial. In most markets, AM stations generally have an all-talk, news or a "golden oldies" format.

All-business radio, pioneered in Los Angeles last year by station KMNY-AM, is an example of the trend. All-sports station WFAN-AM in New York is another. One of the more promising new specialty formats is an all-Asian station scheduled to air in February, also in Los Angeles. WVON-AM in Chicago is an all-black talk station that has been on the air two years.

"AM is in limbo," said William Sanders of Drake-Chenault Radio Consultants in Albuquerque, N.M. "It has a basic appeal to an older generation, but programmers are paying attention to FM because that's where the money is."

Music That Falls From Satellites in the Sky

TODAY'S new-fangled technology is providing a much-needed survival strategy for some AM radio stations.

Instead of relying on in-house programmers or consultants to fine-tune a format, more station managers are opting to tune in to satellite relays that beam pre-programmed packaged music back to earth.

Two rival companies that deliver programming beamed off a satellite 22,000 miles above the equator are now providing music to some 22 percent of the nation's 9,000 commercial radio stations.

The two are Dallas-based Satellite Music Network Inc. and Stargroup Communications' Transtar Radio Network of Colorado Springs, which were both started in 1981. Since then, four other full-service satellite-programming ventures tried to get started but failed.

Radio programmers and consultants expect the two concerns to keep gaining ground, especially among weaker AM operators in small and mid-sized markets. "We are considering turn-around specialists," said Marianne Bellinger, a Satellite Music spokeswoman.

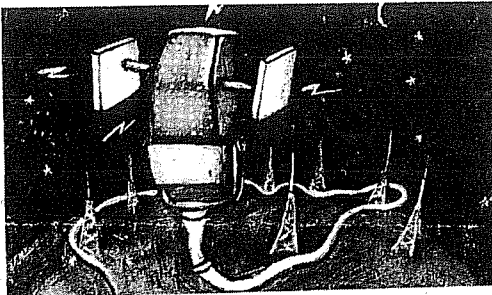
Station owners who turn to satellite networks can trim operating costs by up to 30 percent and receive sophisticated-sounding big-city talent to help improve ratings. The networks provide a range of music formats, from Big Band to New Age, and range in cost from \$400 to \$15,000 a month, depending on market size.

The drawback, say some executives, is that a station loses its local identity, becomes inflexible in responding to advertisers' demands and offers a standard product.

"They do it at the risk of losing localization; it's quality programming, there's no doubt," said William Sanders, owner of Drake-Chenault Radio Consultants of Albuquerque, a tape-programming syndicator.

"If you turn on the satellite and walk away, the station won't be successful," admitted Gary L. Taylor, a Transtar vice president in Los Angeles. "We want the station to be as local as possible, because that's the key to success," he said.

Yet, even satellite-delivery has not significantly bolstered AM radio's audience, which is now mostly older listeners. "Everybody in radio today would like to find a solution," said C. Terry Robinson, Stargroup's chairman and chief executive. ■



Elvis Every Morning, Evening and Nighttime, Too

TO combat a 20-year decline in listeners, AM radio today is cracking with innovative — some would say gimmicky — programming generally aimed at niches that have gone unrecognized.

Since August, radio listeners in Cincinnati have been tuning in to all Elvis Presley music on what had been a financially troubled country-music station, WCVG-AM. The station was featured on British television, drew a letter from an Elvis fan in Poland, and receives cross-country calls from Elvis diehards who want to listen.

The station's advertising inventory is now booked so tightly that program director Steve W. Parton has trouble finding air time for his own promotional spots. "It's worked out unbelievably well," he said.

In Pompano Beach, Fla., for the last year fans of such motivational speakers as Zig Ziglar and Norman Vincent Peale have been tuning in for an upbeat message on all-self-help station, WNN-AM. The station turned a profit in its first 90 days.

One station that is highly acclaimed but less commercially successful is the all-children's radio station KPAL-AM in Little Rock, Ark., underwritten by Arkansas industrialist Melvin Bell.

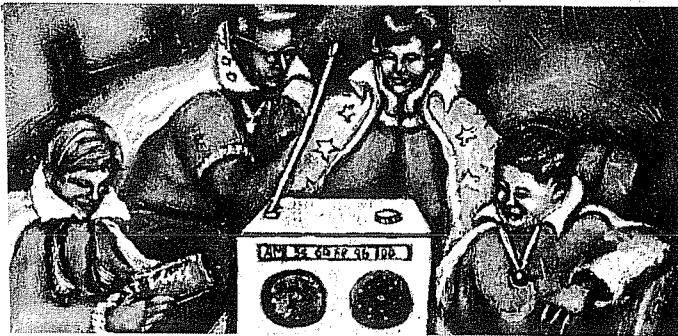
The three-year-old station, which received radio's George Foster Peabody Award in 1987, is a blend of children's music, storytelling, call-in shows and guest interviews ranging from the fire chief to the governor. It goes off the air at 9 P.M., bedtime for its audience, aged 13 and under.

In another effort to tap an underserved market, two experienced Los Angeles broadcasters are scheduled to start the first all-Asian music station, called KAZN-AM, in February. Even though Los Angeles has 1.2 million Japanese, Chinese, Filipinos, Koreans and Vietnamese — equal to a city the size of Sacramento or Indianapolis — its only ethnic stations are Hispanic. Shorter-lived format experiments this year have included an ill-medical news station in Denver and an all-horse news station in Virginia.

"Some are desperation moves," said Kenneth J. Barnes, editor of *Radio & Records*, an industry magazine in Los Angeles. "Some attempt to find something out of the ordinary to attract new listeners," he said.

There has been a proliferation of unusual programming concepts over the last 10 years, even though the failure rate of specialized radio formats is generally high outside major markets, Mr. Barnes said. "Remember, all-news was a freakish experiment in its day," he added.

Struggling AM operators with off-beat formats are at the front of a trend to focus on a specific audience with well-researched programming. Even so, the creators of the all-Elvis and all-motivational formats say the new concepts sprang from their own interests rather than scientific demographic studies. ■



Marrying for Money - and to Make Music Together

WHEN it comes to programming, AM and FM stations generally go their separate ways. But when it comes to finance, they do not. Broadcast lenders are now refusing to bankroll what they consider the dead-end of the industry: solo AM stations. As a result, AM stations are finding that capital is available, but only if they link up with an FM partner.

"We don't finance any AM on its own," said Daniel P. Williams of the Fleet National Bank in Providence, R.I., which specializes in communications lending. "It's a policy."

Lenders, however, are willing to finance arrangements in which weak AM stations are combined with stronger FM stations to reduce risk. This has resulted in a greater concentration of ownership as the number of AM-FM combinations has increased by at least 50 percent since 1980, industry executives estimate.

This financing trend is one reason why AM signals are not fading off the air altogether. Sales of AM stations have been directed primarily to owners of FM stations.

"AM's are superfluous outside niches in major markets," said Gary G. Stevens of New York, a leading radio broker. "There is no use for them except in combos."

Owners of combinations have found that by managing AM and FM stations in tandem, they can reap more profits than by operating either

station alone. The two stations have different programming and appeal to different audiences.

Often the AM station is not profitable, but by offering two stations with two distinct audiences to advertisers, the gain in revenues from the combination is large enough to more than offset the cost of the AM station, said George Nadel-Riven, a partner with the radio accounting firm of Miller, Kaplan, Arase & Company of North Hollywood, Calif.

A sales staff that works for both stations can insist that advertisers buy AM spots, although typically at cut rates, to obtain spots on the FM station, he explained. Another consequence is a 20 percent cut in overhead, eliminating duplicate administration and sales staffs, he said.

"Anyone who doesn't do this in today's competitive market is suicidal," said Robert K. Moore, general manager of KLSX-FM, a soft rock station in Los Angeles with a youthful audience. In 1985, KLSX's owner, Greater Media Inc. of East Brunswick, N.J., acquired the Los Angeles oldies station KRLA-AM, which has an adult audience.

"When you combine those you can go to an advertiser with a very strong product," Mr. Moore said. While neither KLSX or KRLA were particularly weak, the combined group usually draws an audience share that is the equivalent of the No. 5 ranked station in the market, he said. ■

THE INTERNATIONAL RADIO CLUB OF AMERICA (IRCA)

International Radio Club of America
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Seattle WA 98111

The IRCA is a non-profit organization devoted to the hobby of hearing distant stations on the AM Broadcast Band (510 - 1630 KHz). "DX Monitor", the official publication of the IRCA, is published 34 times a year, weekly from October to March, twice in September and April, and monthly from May to August. "DX Monitor" contains members' loggings, articles on radio stations, receiver reviews, technical articles, DX tips, and other material of interest to Broadcast Band DX hobbyists. IRCA is a member of ANARC, the Association of North American Radio Clubs.

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