

## STATION POWER/ PATTERN CHANGES AT LOCAL SUNRISE

This is a listening trick that I guess many DX'ers are aware of, but I've not seen anything on it since I joined IRCA nearly three years ago. Consequently, I had to work out many of the details for myself.

Many domestic full-time stations use a lower power at night to avoid interfering with other stations on the same channel. Such a station returns to full power at its local sunrise, but for a short while there is a chance to receive that station to the west (where it is still dark) with improved signal strength. That improved strength might push the station over the noise level or co-channel QRM and into your logbook. This situation is enhanced by the fact that stations actually increase power at a standard time throughout a given month---the time of sunrise at the transmitter on the 15th of that month. This, I believe, is to the nearest quarter hour. So the latter parts of July through November actually find the station raising power while it is still dark at the transmitter. The same situation applies before the 15th of January through May. The best example of this technique that I have used is unfortunately no longer possible due to KGO going NSP a while ago. WSJC-810 in Magee, MS uses only 500 watts at night and would be nearly impossible to receive here even with KGO off. But at local sunrise it boosts to 50,000 watts which should be quite audible here. In May 1976, I looked up local sunrise at Magee on the 15th, then listened at that time on May 2nd. Sure enough, suddenly out of the crud came a WSJC ID. It stayed in for about 10 minutes though QRM'd by KCMO which boosted power at the same time.

But how do you find the time of sunrise? Here's the plug: At IRCA Goodie Factory, P.O. Box 17088, Seattle, WA 98107 reside the IRCA Sunrise-Sunset maps, compiled by Father Jack Pejza. For \$1.50 you can find out sunrise and sunset times on the 15th of each month for anywhere in the U.S. and southern Canada. There are also maps for the world included but it's a lot harder to find exact sunrise for Magee, MS on those.

Logging distant daytimers is also possible when you know the sunrise time. Many daytimers can sign on at 6AM using a reduced power until local sunrise (pre-sunrise authority) but there might be a better chance of logging the station on its full power at sunrise than at a psa power of only a few watts. This technique is also useful in logging stations that use a directional pattern at night, but switch to non-directional (or more favourable) pattern during the day. They switch patterns at the same as another station would raise power. The best example for me is WQWO-1190, which on night pattern protects KEX in Portland. In spite of its 50,000 watts it is usually inaudible in the Pacific Northwest even with KEX off. But if you can catch it when it changes to its daytime non-directional pattern it can really boom in depending on conditions.

By planning ahead, you sometimes can get excellent DX, even on regional channels, by using local sunrise times. The method is most applicable by those of us in the western areas of North America, as we can hear potentially a great many stations as they raise power and change pattern at their local sunrise. Provided of course, that conditions are good and that there are still a few channels left without western NSP'ers!

--de Nick Hall-Patch

SUNRISE DX in DEPTH  
Part 1: PSA's

BY  
ROBERT KRAMER

Probably the easiest and fastest way to log new stations is to DX sunrise. At this time of day it is possible to log several new stations in the span of one or two minutes. Sunrise DX also has one other feature that no other form of propagation can claim; it is different almost every morning. There are few stations that can be called pests. This is due to the low power of the psa's and the fact that stations fade out rapidly after local sunrise. This especially makes sunrise interesting, since some of the 50,000 watt clear channel stations are located on the east coast. When their local sunrise time has passed, the signals begin to become weaker, allowing stations with much lower power to come through. The clear channel situation will be dealt with in more detail in the second part of this article.

The first type of sunrise DX that a maturing DX'er is likely to encounter is the PSA. PSA stands for PreSunrise Authority. The PSA is a special authorization from the FCC that gives the station authority to operate before local sunrise. The PSA is used during months that local sunrise comes after 6:00 AM local time. The hours of

PSA use are 6 AM local time, to local sunrise. The PSA is usually much lower than full daytime power (except in the case of the station operating with low power all times), never exceeding 500 watts. Some stations have PSA's as low as one or two watts (this low power is found on clear channels), but they are rarely used because of the rather small area they cover. Most PSA's are close to the 500 watt maximum. PSA's are given to nearly every daytimer operating on a regional channel (and some full-time operations where their daytime facilities, even with the reduced PSA power, would more effectively cover their market), and on some clear channels. On the clear channel, the station normally cannot use the PSA until after the sunrise of the protected station has passed. An example, no station on 1560 may use a PSA until the sun has risen in New York City (thus protect-int WQXR). The clear channels that have PSA's are: 650, 660, 680, 710, 730, 750, 770, 800, 810, 850, 870, 880, 900, 940, 1000, 1040-1110, 1130, 1140, 1170-1190, 1210, 1220, 1500-1530, & 1550-1570. There are no PSA's on local channels.

Now that you are aware of what a PSA is, and where to find one, it is time to put that knowledge to use. All you need is a good case of insomnia or a lot of will power, as depending on where you live, you may have to get up as early as 3 AM to look for them. Though you may drag yourself out of bed half asleep, within the next few minutes you will completely wake up. This is due to the results. It will amaze you how well 500 watts can get out, even with a 5000 watt pest on the same frequency. The technique I suggest, which should give you immediate results, is to determine your clearest regional channel frequency (if you live in the eastern time zone you will need to pick a frequency that doesn't contain a daytime local). After doing this, go to that frequency and stay there from 0557-0602 ELT. On a good clear frequency it will be possible to hear as many as 5 sign-ons, some with SSB, others just suddenly come on with-out any notice. To effectively DX sunrise, a tape-recorder is almost essential. This is especially true when you have several stations signing on at the same time. By using the tape-recorder, most times all sign-ons can be IDed. What I usually do is run the tape-recorder from 0558-0601 ELT. If a station begins to sign-on before I get the recorder on, then I turn it on as fast as I can at the first sign of station's sign-on. I also leave the recorder on past 0601 if a station is still signing on, or if there is a sign that there will soon be a sign-on (such as open carrier).

DX'ers living in the central, mountain, or pacific time zones don't have to give up on PSA's after the eastern sign-ons. Every hour, until 6:00 AM Pacific Time, stations using PSA's will sign-on. DX'ers living on the west coast may choose to wait until the central or mountain time zone stations come on, due to the distance involved, the low power of the PSA's, and the interference on the channels (although a Monday morning may be a good time for West Coast DX'ers to bag an Eastern PSA). After a few days of DX'ing sunrise you will probably become hooked, and want to do it every morning. After a few days, I wouldn't suggest that you continue to pick out an individual frequency (a different frequency each morning), but instead begin to look around for signs that something is about to sign-on, even on the channel with the 5000 watt pest that you never thought you'd hear another station on. Things to look for besides the SSB are rooster crows, Dixie (many of the stations that you will hear are in the deep south), America the Beautiful, or extremely lively music that seems out of place on the frequency. If you are using a tape-recorder, don't bother playing back the tape until you don't notice any more sign-ons. Just keep tuning around looking for more stations signing-on. You can always play the tape back later. Reception reports are easy to get from a tape, since in a good number of the cases you will be able to get the entire sign-on announcement word for word.

After the PSA's have signed-on, don't give up. There is still much to hear, this through what I call the scan. The scan is simply tuning to every available regional channel frequency that is available in your area. If there is a strong signal on one of the channels, stay there until it IDs or fades out. Just keep tuning from frequency to frequency for the entire

hour until the next PSA sign-on period. During this period it should be possible to tune across the entire BCB band 3 or 4 times. This is important, because stations using PSA's have a tendency of fading quite a bit, so that a signal this is blasting in now will be totally gone within the next minute. The number of stations on each frequency and the rapid fading of them make many regional channels sound like grave-yard channels. But don't let that discourage you, because I know from experience that stations do fade in, and with very strong signals. All it takes is patience. That does it for sunrise DX using PSA's. If you have any questions regarding sunrise DX address them to: Robert Kramer, 3406 W. Pierce, Chicago, IL 60651.

SUNRISE DX in DEPTH BY  
Part 2: CLEAR CHANNELS at SUNRISE ROBERT KRAMER

The first part of this article dealt with PSA's and was intended primarily for the beginning DXers. This part is aimed at the "pro", because most beginners lack the necessary equipment, namely a communications receiver and a loop of some sort. The TRF of similar radio can pull in one or two stations, under the right conditions, but are inadequate for most of the weak sunrise signals. The communications receiver with a loop has the power and the nulling ability to ID stations on a frequency with a 50,000 watt aiming their power right at you. This would be tough on a TRF. Besides a good receiver, two other items are necessary, a copy of the sunrise/sunset maps (available from IRCA Reprints) and a good U.S. road Atlas (such as Rand McNally).

There are two basic types of sunrise DX on clear channels, PSA's and full power sign-ons. On some frequencies the stations are authorized to sign-on with a PSA at 6:00 AM local time. These frequencies that this is allowed are: 650, 680, 730, 750, 800, 900, 1050, 1070, 1090, 1130, 1140, 1190, 1220, 1500, 1510, 1530, 1550 and 1570. Several other clear channels have PSA's, but they can't be used until after the sunrise of the protected station (it must also be after 6 AM local time). Those frequencies and the protected stations are: 660 (WNBC), 770 (WABC), 810 (WGY), 880 (WCBS), 940 (CBM), 1060 (KYW), 1080 (WTIC), 1100 (WWWE), 1180 (WHAM), 1210 (WCAU), and 1560 (WQXR). The rest of the clear channels that aren't listed either don't have PSA's, or I don't know when they are used (such as 780 which has PSA's, but I have never heard one because of WBBM).

DXing PSA's on clear channels, in most instances, is different from regional channels. The reason is that the clear channel dominants are much stronger than most 5000 watt regional dominants. Many of the 50,000 watt stations may even throw their power right at you. Even if they do, sunrise DX is still possible. Except for 730 and 1570, most clear channel frequencies are impossible to hear PSA sign-ons on. Instead, begin to look for the PSA's as sunrise approaches at the location of the dominant station on the particular frequency. An example in Chicago is 1140. Many stations sign-on at 5:00 AM Chicago time (during months when PSA's are used), but because of WRVA, they are not audible for maybe an hour (and longer in some months). But as WRVA's sunrise approaches, weak signals begin to make an appearance, and before long WRVA is fighting to stay even with Fayetteville, TN (83.5 watts) and Kendallville, IN (250 watts). Another time to look for the PSA's is during an aurora, when the dominant stations may be totally wiped out. This leaves the band open for the low powered PSA's to the south (usually the Deep South, especially Florida). During aurora, PSA sign-ons are possible on clear channels.

DXing full-power sign-ons can be fun and extremely challenging. You will first need to know the approximate location of all of the stations on the frequency you intend to DX. To find these locations, use the road atlas. Next check the sunrise/sunset map to see what time these stations sign-on. Remember, each month the times change. Generally speaking the clear channel stations usually give no clue (such as SSB) that they are about to sign-on. Because of this it is best to stay on the frequency from about 2 minutes before sign-on period until 2-3 minutes after the period. You don't have to stay there the entire time if you hear all the stations scheduled to sign-on at that time. There usually is time to

try another frequency. You may also choose to move to a different frequency if interference is particularly strong that morning. When sitting on a frequency it is advisable to have your tape-recorder running. This will aid you in getting details for reception reports and will also give you more than 1 shot at IDing a very weak sign-on (sometimes you won't even notice a sign-on until you play back the tape). Contrary to regional channel PSA DXing, you will find many sunrise pests. This is due to the fact that the stations sign-on with full power, not low power as the regionals do. I am going to list the Chicago regulars in hope that they may help you log you first clear channel sunrise DX.\* means that it is heard nearly every morning, P means that it is heard with a PSA. Frequencies that there is nothing listed for indicates that most mornings there is no sunrise DX on that frequency.

690 WAPE & WVOK\*  
740 WBAM  
860 WOAY\* & WUCR\*  
940 WCIT (P)  
1010 WGUN, WEGW & WCSI\*  
1080 WEWO  
1090 WFWR\*  
1100 WLBB\*  
1110 WUNN, WJML, WKRA\*, WKDZ\*, & WSLV\*  
1120 WWOL  
1190 KWMB\*P  
1210 WAVI\*P  
1520 WHIC\*, WRSL\*, WKNT, & WTGR  
1560 WPHY (P), WTOD (P), & WAGL (P)  
1580 WGTW\*, WPGC\*, WSKT\* & WPUV

I included a few frequencies that have PSA's due to the fact that they aren't very hard to hear in Chicago. Stations sign-on every 15 minutes, moving from east to west. This gives you plenty of shots at sign-ons (unless you live on the East Coast). You will find that as the sign-ons get closer to your location you will hear more of them in each sign-on period. Except on unusual mornings, it is futile to try for DX more than 1 sign-on period past your location. This is due to there being a daylight path between you and the signing-on station. You may attempt some post-sunrise DX. Look for nearby needed stations (within 150 miles usually) on any open frequency. Post-sunrise is usually good for about 1 hour after your local sunrise. Sometimes this is the only way to hear a particular station because of interference problems at other times.

Sunday mornings offer the sunrise DXer a real opportunity to log new stations. This is true because many stations sign-on later on Sundays. Sundays are particularly good on 1560 and the Candian 1-A clear channels. 1560 is good on Sundays during the months that New York City sunrise is before 0700 ELT. WQXR, Sundays only, does not sign-on until 0700 (the same time as WPAD), so this leaves a wide open channel (except for slight KKA & KCJJ QRM). It is not unusual to hear 4-5 stations signing-on one right after the other at New York City sunrise (use the sunrise map to determine the time). The Canadian clears are good because the CBC 50,000 watters come on later on Sundays. This leaves the channel open for sunrise sign-ons.

Most people consider the summer to be off season. But for the sunrise DXer this is prime season. As sunrise gets earlier, the daytime only stations sign-on earlier. Eventually this results in sign-ons on wide open channels (such as 540, 860, & 940) before the usual dominants sign-on. This also gives the DXer the chance to log the regional channel stations at full power. You may find that stations that just can't get in on their PSA, because of the cluttered frequencies, have no problem being heard with their full power. Well good luck with sunrise DX. I hope that you will find this article helpful. If you have any questions concerning sunrise, address them to: Robert Kramer, 3406 W. Pierce, Chicago, IL 60651. Sunrise is a great DX mode. It has netted over 400 new stations. Try it.

WDGY  
1130 RADIO

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