

An MT How To: The Beginner's Guide to TV DXing

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All photos courtesy Larry and Gayle Van Horn

Every so often, I tire of watching the *talk-ing heads* bantering back and forth on the satellite dish and switch over to the terrestrial television channels. And depending on the time of the year, I occasionally get an unexpected surprise – distant television (TV-DX) signals from outside my local area.

Yes, you heard right, I said terrestrial television, the medium we grew up watching. Remember those days? We had three channels and were proud to have that! When Public Broadcasting Service (PBS) was added to our channel selection, we thought we had hit the big time! Unless of course, the president was on that night ... simulcasting on all four channels, thus ruining our evening of Andy Griffith! Today, in this fast paced world of instant entertainment at our fingertips, it's easy to forget the four channel TV days.

If you're not familiar with the term "TV-DX," chances are you've seen it and it may not have occurred to you that it is a phenomenon closely followed by a select group of radio hobbyists around the world. In this article we will explore some of the basics of TV-DX, including what it is, how (and why) it suddenly appears on your television screen, and some internet resources.

What is TV DX?

Chances are, you've seen a snowy image fade in and out, or perhaps some wide black horizontal lines suddenly appear on TV channels 2 through 6 – followed by the realization that you have no local TV stations on those channels. If you're lucky, you may see a station identification logo on the screen that has been transmitted from a station hundreds or thousands of miles away! That is what we call TV-DX, and it involves receiving long-distant broadcast stations on terrestrial television.

The concept of receiving long-distance television signals involves an understanding of the different ways broadcast signals can be sent and propagated from a station to your television.

E-Skip Time

Our first and most popular propagation mode involves the phenomena known as Sporadic E propagation, also called E-skip or Es. Sporadic E-skip occurs when a VHF TV signal



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strikes an ionized area of the E layer of the atmosphere (usually 50-75 miles high), causing the signal to be "reflected" back to earth. Es is a highly unstable form of propagation which will first affect the lower VHF channels from 2 through 6, and sometimes channel 7. On very rare occasions, Es has been observed by a few hobbyists as high as channel 13.

E-skip cannot be predicted and can occur any time of the year, with the most active periods occurring during the summer months, from early May to August in the Northern Hemisphere, and early November to February in the Southern Hemisphere. You're likely to also see an abbreviated Es skip season in the northern hemisphere around Christmas and into early January.

Start your search for Es by checking for distant video on the lowest open TV channel, usually channel 2. If you have a scanner capable of TV audio reception, you can also park it on 59.750 MHz (TV channel 2 audio frequency) and use it as an identification aid.

As an E-skip opening becomes more intense, the Es condition will be seen on higher TV channels; the more intense, the higher the TV channels E-skip affects. But as the intensity



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of the opening rises, the skip range on the lower TV channels shortens (i.e. closer-in station become visible again). This is a key to clue the DXer to check higher channels for activity.

Es conditions at a given receiving location change as the ionized clouds move around. A TV station signal coming from Florida might be seen all along the Gulf Coast, past Texas, and well into Arizona and beyond, and is known as a "single hop." My own personal best during E skip conditions was watching Mexican television on a hot June afternoon from here in western North Carolina.

Last summer, DXers in Michigan logged sunset reception from Pensacola, Florida, and Texas stations from Amarillo, Houston, Dallas, San Antonio, and Harlingen via E-skip propagation.

A DXer along the East Coast or West Coast may have a shot at receiving what is known as a "double hop" E-skip opening. This occurs when you have two Es clouds where a signal strikes one cloud, bounces back to earth, bounces up to another cloud and back down again. Double hops are rare, but TV-DXers on both coast dream of receiving signals from 2,000 or more mile away via a double hop Es.

The best way to catch an Es opening is to leave your television set on continually, tuned to the lowest open channel, or check conditions on the hour or half hour when TV stations are supposed to identify their stations.

Gone Tropo?

No, not the *Gone Troppo* song by George Harrison; I mean another propagation mode known as Tropospheric or Tropo DX. This involves the bending and ducting of signals due to a certain type of weather phenomena in the tropospheric regions of the atmosphere, and it is one of the prime modes used by the TV monitor. Unlike Es, Tropo is a more stable form of propagation, and openings can extend from 200 to 1000 miles or more for hours on end.

As mentioned, Tropo conditions are a direct result of the weather. A high pressure system is required for Tropo to occur. When a temperature inversion occurs, with warm air converging with cold air, there is a low level connection formed in the troposphere. This causes the VHF and UHF signals to travel be-



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ing E-skip openings. If you'd like to experiment with TV-DXing prior to investing in antennas, preamps or rotors, a set of rabbit ears and a good E-skip opening will be a good introduction to the world of TV DX.

Preserving your DX

A VCR is a terrific aid for the TV DXer. You can replay questionable station logos or identifications. This is a valuable record of your DXing activities, especially should you view intense E-skip conditions. However, many modern VCRs will go to a "blue screen" in the absence of a strong signal. Look for a menu option on the VCR to turn that function off. Some hobbyists use a CamCorder focused on the television screen to record their DX session.

A digital camera can be used to preserve TV-DX. Don't forget to turn off the flash to avoid a washed-out image. Setting the camera atop a tripod will eliminate a blurred image from a shaky camera operator. If you are using a 35mm film camera, use 400 ASA film, either for print or slides. (The latter will produce a sharper image.) For most conventional TVs, whether black and white or color, set your camera speed at 1/60 of a second to synch with the television video. This will keep from introducing unwanted video artifacts into your pictures.

Keeping it all together

AM, FM and shortwave enthusiasts keep a log of their DX sessions and TV DXers also keep detailed logs. By doing so, you can follow propagation trends observed during your viewing sessions. Record the station call, location, and date, including the day of the week, propagation mode, and distance. Most experienced TV DXers keep a running minute-by-minute log during evenings. Each time a distant TV station is received, consider it an important propagational event, and a record should be kept of it, even if you have seen the station before.



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Can I QSL a TV station?

Yes!

Collecting television verifications is an important part of the TV hobby. Verifications have been received from Central and South America, Canada, and throughout the United States. Stations will verify a report, but you might consider explaining the TV DXing hobby to the Engineer to advance your cause. Enclosing a photo or slide will likely support your request.

A few stations have QSL cards; however, it is a good idea to enclose a prepared QSL card they can sign and return to you. Return mint postage is always appreciated, as well as an addressed return envelope to yourself. In case you log a foreign station, return postage for most countries is available from Bill Plum's DX Service, 12 Glenn Road, Flemington, NJ 08822-3322. For a current price list, send Bill a self-addressed envelope.

On-line language translators will assist you in constructing non-English letters to foreign stations. Services like Babel Fish Translation <http://babelfish.altavista.com/> (or) Free Translation-Free Text Translation www.free-translation.com/free/ will help you write that foreign language letter. Be sure to convert UTC times to local times for any foreign station you write, and an aid to do this online is to use the World Time Server at www.worldtimeserver.com/current_time_IN.aspx

TV Reference Aids

Staying current on station information and propagation will help increase your station totals and country count on the TV bands. There are several good online references to aid you in this regard.

Propagation is your number one priority to follow and two sites represent the best on the net - William Hepburn's VHF/UHF Tropospheric Ducting Forecast <http://home.cogeco.ca/~dxinfo/tropo.html> and Tomas Hood's Propagation Resource Center <http://prop.hfradio.org/>

If you observe an unfamiliar logo via E-skip, you may be able to identify it on one of the TV VHF channel maps at www.egrabov.com/gallery. You can also brush up on Latin American logos at the TV DX Exposition <http://nldxer.tripod.com/TMTVDXPindex.html>, maintained by Danny Oglethorpe. His site is loaded with photos, TV DX from Mexico and links on tropo and DX records. Fred Cantu also covers the Mexican TV scene at www.mexicoradiotv.com/.

MT's American Bandscan columnist Doug Smith has an excellent website covering TV technical information for DXers with links to his TV Database Online, European Band I TV, US stations, frequencies and more at www.w9wi.com/

With spring tropo season upon us, don't forget to visit the Worldwide TV-FM DX Association at www.anarc.org/wtfda/. The WTFDA is the leading source of information dedicated to the observation, study, and enjoyment of long distance propagation of television and FM broadcast signals. Their monthly bulletin, the



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VHF-UHF Digest, contains loggings, TV and FM news and general items of interest to DXers. The WTFDA also hosts an annual convention where enthusiasts gather to exchange tips and information on the hobby of FM/TV DXing. For more information on membership visit their website or write to: Worldwide TV-FM Association, P.O. Box 501, Somersville, CT 06072 USA.

Get Ready, Get Set...

Now that it is April, it is time for the spring tropo season and time to begin following propagation religiously (if you aren't already). Dust off that old black and white television and start channel checking.

If you don't have one, start prowling garage sales, thrift stores, or drop in at one of your local discount chain stores and you may find a new one for an affordable price. TV DXing does not require much of a budget, and if you've stretched a dollar till it squeaks, remember rabbit ears or a whip antenna are an option for E-skip reception!

And, be sure to drop us a note and let us know your results. Send your logs to Doug Smith and his *American Bandscan* column. If you get a QSL, share your results with me for my *QSL Report* column.

I could go on and on about TV-DX ... but I see the talking heads are at it again on the satellite dish, and so it's time to see if tropo is here! Mount those cameras on the tripod, warm up the VCR, and here's hoping this and future DX seasons will bring lots of clear, stable, distant video signals to your television set.



WMC Memphis TN