

# SPECIAL EFFECTS

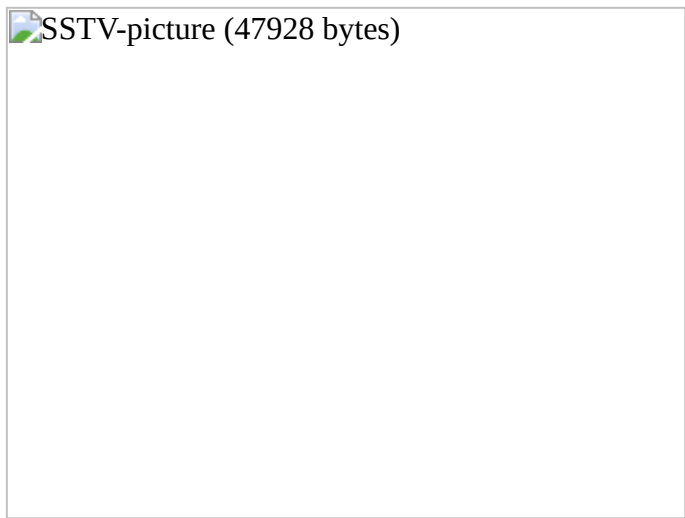
This page has been create as a sort of reaction to questions about special kinds of transmissions. There was a particular question in one Newsgroup about what e.g. RTTY- and Amateur TV-transmissions sound like. Even though I cannot tell the difference between a TOR- and a RTTY-transmission (I don't even know if they are not really names for little variations within one same system), there are various other things I do recognize.

At the outset this may be just a limited page, but given time (and inspiration and good reception conditions) it is also bound to grow. Any questions and remarks are of course welcome at [my\\_email\\_address](#).

## [Amateur-TV](#)

This is a type of TV-transmissions, specially designed for radio-amateurs (Hams). There are just a few frequencies reserved for this. The official name gives a clue to the procedure: SSTV (Slow Scan Television) and if you listen you will recognize the separate lines of the image being transmitted. I am not too much into Ham-radio, so I only used a demo to grab a picture. Even this demo also has an option to straighten out an image, as they tend to arrive slanted. Anyway, if you want, just [give a listen](#) as well...

My [links-page](#) will offer you a link to a place were various ham-programs (both shareware and freeware) can be found.



## [Decca](#)

This system for navigation is specially designed for the navigation in coastal regions, since it has a very high degree of accuracy. Due to the rapidly increasing use of GPS (Global Positioning System) it is being dismantled and I have been informed that by the end of 1999 there will be no more Decca services.

## [Echoes](#)

Sometimes (depending on the time of day, the frequency and some other factors) a signal arrives at the receiver through various paths. The BBC World Service on their past frequency of 15,070 kHz produced this effect in the Netherlands. The ground wave travelled more or less straight to my aerial, whereas the skywave went up and bounced back on the atmosphere. Since this means a considerable extra distance, it arrived a bit later and thus caused a reverberating effect, with the peculiar detail that at some moments the ground wave was stronger, whereas at other moments the sky wave dominated, meaning a strong reverberation seemingly caused by a hardly audible signal...

The signal included here (Hrvatski Radio, i.e. Croatian Radio) was recorded on January 6 around 08:00 UTC. Probably the direct signal (according to the schedule for North America) passed directly overhead. The backside of the aerial may have sent the same signal towards the South Pacific, where it is summer now. With the increasing Sunspots Number the frequency in question (13,820 kHz) may have sort of crossed the Americas somewhere in the Caribbean to find its way back to Europe across the Atlantic.

## Echoes/2

In this case the echo is being caused by a different phenomenon. The recording was made on January 13, 1999 at 03:00 UTC on a frequency of 5,290 kHz. On this frequency two transmitters (one in Perm/European Russia and one in Krasnoyarsk/Siberia) transmit the same program: Radio Rossii. Due to the fact that the signals can come all this way in darkness they can reach so far as Western Europe (and further). The distance between the receiver and the two respective transmitters is however not the same, and moreover these distances vary, since the signals bounce up and down between the stratosphere and the earth. As moreover both signals suffer a variable amount of loss, it can happen that at one moment the first signal is stronger, whereas at the next the farther signal arrives with more strength.

## Hyper-Fix

This is yet another transmission system for navigational purposes. This recording (recorded May 30, 1999 at 21:25 UTC on 2163 kHz) another transmitter of this same system can be distinguished clearly in the background.

## Loran-C

The name of this sort of transmission (L**O**ng R**A**nge Navigation system) in fact describes the system. The Loran-C version is transmitted on 100 kHz. Older versions (Loran-A is still in use in China and Japan) used higher frequencies. I remember having heard these transmissions a little below 2 MHz in the 1960's.

## Luxembourg-Effect

The name of this phenomenon brings to mind the first time it was recognized. The very strong long wave transmitter of Radio Luxembourg modulated medium (or long) wave signals that more or less passed overhead. The recording included here was made in mid-October 1982 on a frequency of 585 kHz (or was it still 584 in those days?). The station that I recorded was Radio Nacional de Madrid. In the background (and sometimes even in the foreground) however France Inter can be heard (from 162 kHz -or still 164? kHz).

Two very strange details of this phenomenon are that only the lower signal frequencies travel with the "transporting" signal, which is why sometimes it is hard to understand the actual transmission, and that sometimes the "foreign" signal can be just as strong or even stronger (!) than the station officially scheduled on the frequency in question.

This second characteristic makes it possible to distinguish between co-channel interference, which is when two stations share the same frequency and when both can be heard with their full audio-spectrum, and cross-modulation (the Luxembourg Effect), in which the "Luxembourg" station is only heard with the lower part of the audio-spectrum (perhaps just up to a frequency of 1,000 Hertz).

Apart from Radio Luxembourg (still present, on 234 kHz) and France Inter, an other wellknown cross modulator was the Munich long wave transmitter of the Voice of America on 173 kHz (which ceased its operations somewhere around 1970). Many transmitters from Eastern Europe carried the Voice of America on their backs, and I have long thought that this was the American way of jamming transmissions from Eastern Europe...