

# ATSC 3.0 Signal Generator

## Installation



### 1. Introduction

The *Atsc3Xpress*<sup>™</sup> is DekTec's ATSC 3.0 Signal Generator application.

The DTC-386 *Atsc3Xpress* software package is designed to create ATSC 3.0 test signals in the form of I/Q sample files and ATSC 3.0 RF output. *Atsc3Xpress* allows you to set the ATSC 3.0 parameters, preamble parameters, subframe parameters, parameters per PLP, select the PLP sources, add noise, add multiple channel simulation paths and to generate the ATSC 3.0 test signals.

The I/Q samples file can be processed by your application or it can be played out through the *StreamXpress*.

A setup program is available for easy installation or upgrading of the *Atsc3Xpress* software.

The *Atsc3Xpress* application requires a valid **license code** that is stored in non-volatile memory on one of the DekTec devices or on a dongle. Optionally the *Atsc3Xpress* license will be delivered within a separate license file, which has to be installed through *DtInfo*.

### 2. System Requirements

Platform	Windows 2k12/2k16/2k19, 7,8,10,11
Processor*	Core i5 minimum Core i7 recommended
RAM	8 GB

\* Or equivalent AMD processor

### 3. Files

The [Atsc3Xpress.zip](#) archive contains the following files:

<a href="#">DTC-386 Atsc3Xpress Installation.pdf</a>	This document
<a href="#">DTC-386 Atsc3Xpress Manual.pdf</a>	The user manual
<a href="#">Atsc3Xpress Configs.zip</a>	Archive containing <i>Atsc3Xpress</i> configuration files
<a href="#">Atsc3Xpress Setup.exe</a>	Setup program for <i>Atsc3Xpress</i>

### 4. Installing the Software

The following install steps should be executed:

1. Extract [Atsc3Xpress.zip](#) into a temporary folder.
2. Run [Atsc3Xpress Setup.exe](#) to install *Atsc3Xpress*.
3. Optionally install appropriate license(s) through *DtInfo*. The *DtInfo* utility can be downloaded [here](#).

*Atsc3Xpress* can now be started using the desktop shortcut.

## 5. Limitations and Known Issues

## 6. Revision History

Revision	Date	Change Description
v1.21.1.53	2025.10.15	<ul style="list-style-type: none"> <li>• Allow MP3_2 for GI9_3072/GI10_3648 in MIMO Mode with Walsh-Hadamard Encoding, 32K FFT.</li> <li>• Removed MP4_2 for GI6_1536 according to A/322 Errata.</li> <li>• Fixed Layered MIMO Type B warning.</li> <li>• Fixed LDM in the no-TI and CTI cases.</li> <li>• Changed Cross-Polarization Distortion gain. The gain setting now controls the power ratio.</li> <li>• Fixed incorrect IQ-file output in case of large number of frames.</li> <li>• The modulator no longer restarts when the PLP source dialog is closed.</li> </ul>
v1.21.0.52	2025.06.19	<ul style="list-style-type: none"> <li>• Fixed DTA-2115B outputs not in sync</li> <li>• Changed MIMO Cross-Polarization Distortion simulation</li> <li>• Fixed AWGN for MIMO</li> <li>• Added warnings for MIMO specification violations</li> <li>• Fixed L1 detail size computation for L1 detail version 2</li> <li>• Fixed bootstrap and preamble power on polarization #2 when the first subframe is SISO</li> <li>• Fixed MIMO edge pilots in SBS symbols</li> <li>• Fixed MIMO stream combining for QPSK 13/15</li> <li>• Adjusted MIMO preamble and bootstrap power for polarization #2 according to latest specification (29 April 2025)</li> </ul>
v1.20.1.46	2025.05.12	<ul style="list-style-type: none"> <li>• Fixed MIMO channel simulation</li> <li>• Fixed possible indeterministic MIMO channel start</li> </ul>
v1.20.0.44	2025.04.10	<ul style="list-style-type: none"> <li>• Added MIMO Cross-Polarization Interference simulation</li> <li>• Added option to output SISO subframes to first output channel or to both</li> <li>• Increased maximum PRBS bitrate to 160Mbps</li> <li>• Show warning during playout if PCAP bitrate is higher than PLP capacity</li> <li>• Fixed number of TI cells shown in Frame Info for HTI configurations</li> <li>• Fixed MIMO stream combining for theta=0</li> <li>• Fixed MIMO null pilot pattern (MP32_4) encoding</li> </ul>
v1.19.1.43	2025.02.20	<ul style="list-style-type: none"> <li>• Fixed MIMO Pilot parameter setting</li> <li>• MIMO configurations output bootstrap and SISO PLPs on both channels</li> </ul>
v1.19.0.42	2025.01.27	<ul style="list-style-type: none"> <li>• Added MIMO support</li> </ul>
v1.18.0.40	2024.11.21	<ul style="list-style-type: none"> <li>• Enhanced frame information in GUI</li> <li>• Improved tooltips in GUI</li> <li>• Added no-GUI command line option</li> </ul>
v1.17.1.39	2024.03.04	<ul style="list-style-type: none"> <li>• Increased DTA-2116 power level range to -3dBm .. -135dBm</li> <li>• Improved Source Selection dialog for small screens</li> </ul>
v1.17.0.38	2023.07.06	<ul style="list-style-type: none"> <li>• Added DTA-2116 support</li> <li>• Added support for Big-Endian PCAP files</li> <li>• Added Source-specific multicast source address selection</li> </ul>
v1.16.1.37	2022.02.24	<ul style="list-style-type: none"> <li>• Fixed out of band spurs of the DTU-315 modulator</li> <li>• Fixed TxID selection</li> </ul>

v1.16.0.36	2022.01.10	<ul style="list-style-type: none"> <li>• Increased the number of ROUTE/MMT IP-Addresses in PLP Source Selection</li> <li>• Added check on the number of data cells per subframe</li> </ul>
v1.15.0.34	2020.06.30	<ul style="list-style-type: none"> <li>• Added IP-filtering option for ROUTE/MMT file input</li> </ul>
v1.14.0.33	2019.11.14	<ul style="list-style-type: none"> <li>• Added support for large ALP-packets</li> <li>• Removed LLS reference (224.0.23.60:4937) from LMT-table generation</li> </ul>
v1.13.0.31	2019.05.22	<ul style="list-style-type: none"> <li>• Added support for PCAP-files with fragmented IP packets</li> </ul>
v1.12.1.30	2019.02.22	<ul style="list-style-type: none"> <li>• Improved indication of parameter errors</li> </ul>
v1.12.0.29	2019.02.04	<ul style="list-style-type: none"> <li>• Added option to reset time-info generation on input-file wrap.</li> <li>• Improved PLP parameter error checking</li> <li>• Increased AWGN SNR range to +30dB .. -60dB</li> <li>• Fixed MISO signal generation</li> <li>• Fixed display of milliseconds component of PTP-time in GUI</li> </ul>
v1.11.0.26	2018.07.23	<ul style="list-style-type: none"> <li>• Added support for the "Korean Mode" option, which will generate a LMT (if enabled) according the 2016 specification</li> </ul>
v1.10.0.25	2018.05.30	<ul style="list-style-type: none"> <li>• Added support for L1-Detail version 1</li> <li>• Fixed random cell generation with LDM PLPs</li> <li>• Fixed LMT-table generation</li> <li>• Added new V&amp;V configurations</li> </ul>
v1.9.0.23	2018.01.16	<ul style="list-style-type: none"> <li>• Added generation of LMT-table</li> <li>• Added support for different types of ALP-packets</li> <li>• Extended parameter error checking</li> </ul>
v1.7.0.16	2017.09.01	<ul style="list-style-type: none"> <li>• Added support for PCAP-files containing ALP-packets</li> <li>• Added MISO support</li> <li>• Added display of PCAP-file's first timestamp in PTP time</li> <li>• Fixed UTC to PTP time conversion, which caused 10 seconds L1Detail-timestamp difference</li> <li>• Fixed PRBS packet length that was not saved</li> </ul>
v1.6.0.14	2017.05.22	<ul style="list-style-type: none"> <li>• Added TxID support</li> <li>• Added PCAP bitrate estimation</li> <li>• Added IP-input adapter selection</li> <li>• Reversed AES wakeup bits</li> <li>• Improved tolerance against PCAP timestamp jitter</li> <li>• Fixed crash with L1 detail mode 1 repetition</li> <li>• Fixed buffer overflow in LDPC encoder</li> </ul>
v1.5.1.11	2017.03.22	<ul style="list-style-type: none"> <li>• Fixed ROUTE/MMT IP input</li> </ul>
v1.5.0.10	2017.03.02	<ul style="list-style-type: none"> <li>• Added ALP-over-IP input</li> <li>• Support for PCAP with nanosecond timestamp format</li> <li>• Fixed I/Q Float32 output format</li> <li>• Fixed Doppler simulation</li> </ul>
v1.4.0.9	2016.12.22	<ul style="list-style-type: none"> <li>• Incorporated latest specification updates</li> <li>• Added bitrate information</li> <li>• Increased the number of IP-inputs per PLP</li> <li>• Added IQ over ASI option</li> </ul>
v1.3.0.8	2016.10.06	<ul style="list-style-type: none"> <li>• Fixed generation of CTI with LDM</li> <li>• Enabled changing parameters without restart</li> </ul>

v1.0.0.3	2016.08.22	• Initial version
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## 7. Contact Information

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