

The background is a solid red color. It features several white geometric shapes: a large circle on the left containing the text 'go2signals', a thick white arc above it, a medium-sized circle below the large one, and a smaller circle at the bottom right.

**go2**signals

**RELEASE NEWS  
VERSION 22.1**

**PROCITEC<sup>®</sup>**  
HOUSE OF SIGNALS

# What does the new version mean for you?

## You have ...

### ... a valid update service contract?

Then you get the new update delivered automatically.

### ... another previous version of the software?

Now is the right time to get back into it. We will be happy to help you: [sales@procitec.de](mailto:sales@procitec.de)

### ... interest, but are not yet a customer

Let's start with go2signals, ask for your trial version: [sales@procitec.de](mailto:sales@procitec.de)

## FAQ about the update

### Can I update?

Customers using go2signals 21.2 (go2MONITOR 21.2 / go2DECODE 21.2 / go2ANALYSE 21.2) are able to update their instance directly to version 22.1. Also, older versions can be updated; in this case please contact us to discuss your individual solution: [sales@procitec.de](mailto:sales@procitec.de)

### Will my data and customizations be preserved?

On a standard update your data will be preserved. If you have made customizations in function and design, we recommend that you check them in advance. If you need consulting or support we are happy to prepare a suitable offer for you: [sales@procitec.de](mailto:sales@procitec.de)

### What are the benefits of an update?

There are many benefits. You can find out which ones are specifically important for you while reading the following pages and discuss with us afterwards.

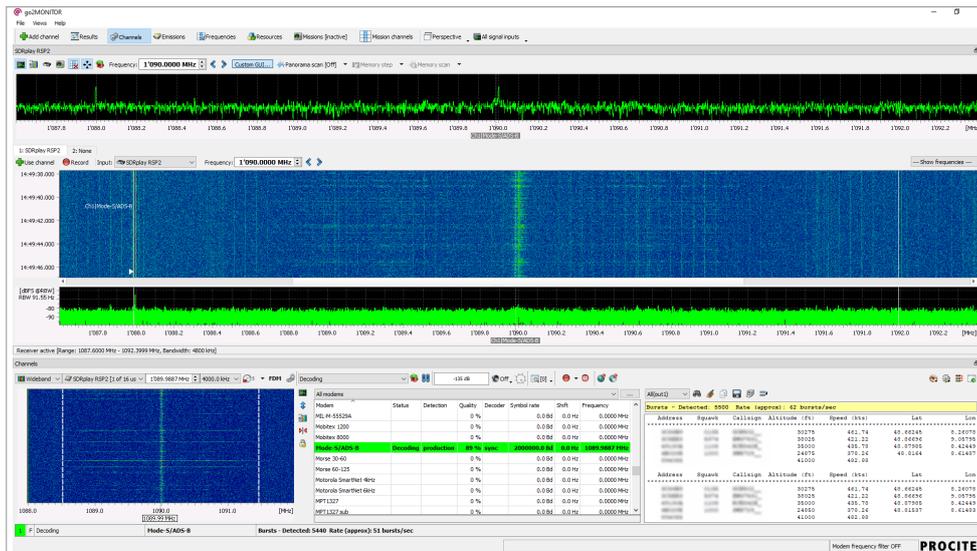
### Why are updates generally useful?

The signal world is constantly changing. Updates guarantee that you keep up with the times. In addition to new features, our updates also bring optimization. The optimizations positively effect the speed, the security and the stability of the software. Additionally, updates maintain compatibility with host Operating-Systems' patches and updates, assuring stability of the latest versions of components such as Python etc.

# Increase Input Bandwidth from 1 to 5 MHz as Standard

With this new release, go2MONITOR offers now a wider input bandwidth of 5 MHz (VUHF, 1 MHz HF) for wideband detection, classification and recording as standard configuration. Decoding channels band-

width has also been increased from 1.5 to 4 MHz, which e.g. enables decoding of the new ADS-B decoder even in the basic version without additional costs.

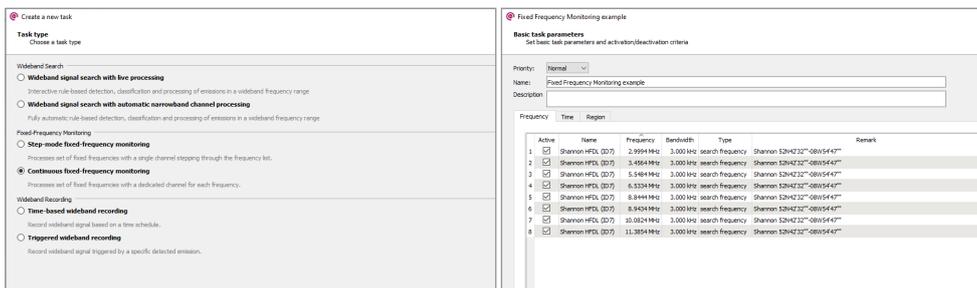


Decoding ADS-B with 5 MHz wideband input and 4 MHz decoding channel

# New AMT task type: Continuous Fixed-Frequency Monitoring

Automatic monitoring and tasking (option AMT) is one of the performance features of go2MONITOR. The main use case is to filter with wideband classifier parameters for SOIs and decode them fully automatically. If the

frequencies of SOIs are known, this new task type can set up a fixed decoding channel to permanently monitor this frequency for signal activity.



Setup up new task type to a list of known frequencies for monitoring

# New Signal Activity Triggered Recording

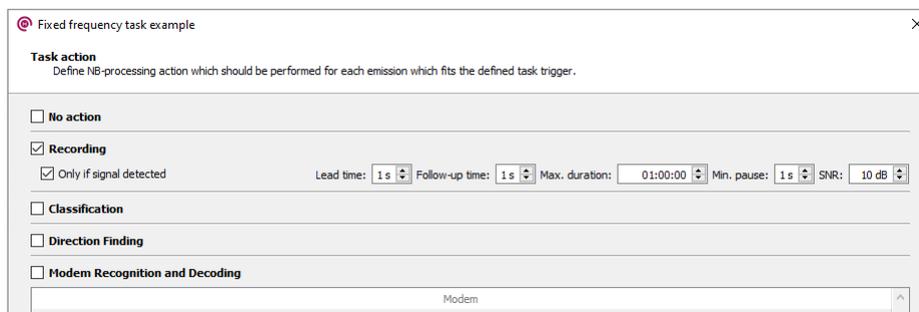
Each decoder channel in go2MONITOR has its own IF recording function. New in 22.1 is the possibility to set a SNR threshold to record only active signal parts and remove

the pauses automatically. Additional parameters like leadtime, duration, etc. complete the new feature.



## Configuration of signal Activity Triggered Recording in manual decoding mode

This feature is also part of the configuration of "Continuous Fixed-Frequency Monitoring" tasks (with option AMT).



## Recording settings for "Continuous Fixed-Frequency Monitoring" tasks

# Decoder and Demodulator Enhancements

As with every release, we updated our demodulators and decoders to stay current with the changing signal world and provide a better experience.

This time we particularly highlight new decoders for ADS-B or HF fax modes and new decryption features like implemented in TETRA or DMR.

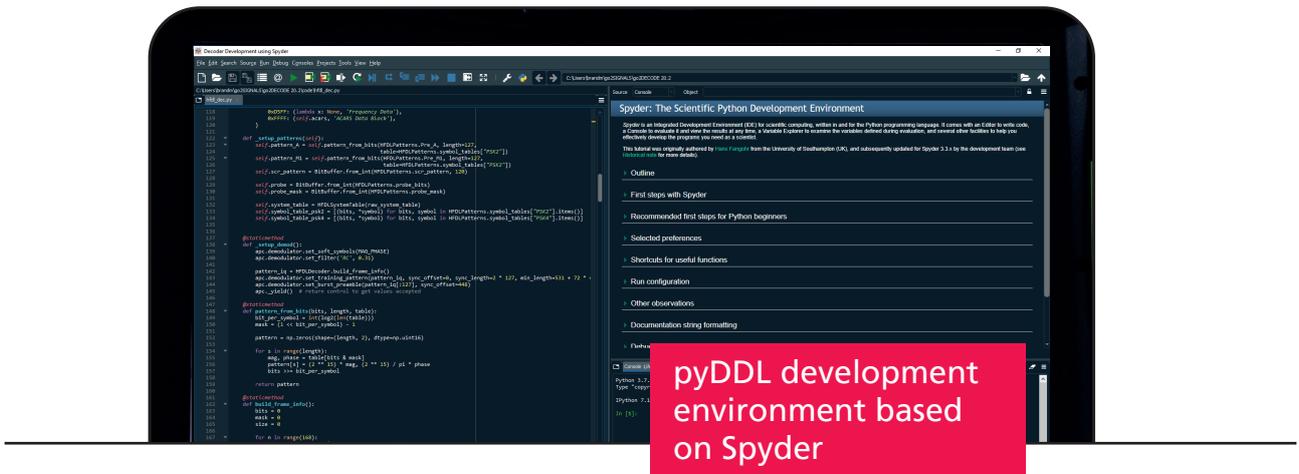
## Demodulator News

- + ASK unipolar: add modulation order 4 and 8
- + FSK discr.: add modulation order 8
- + New TFM5 demodulator

## Decoder News

- + New decoders:
  - ADS-B/Mode-S
  - Siemens CHP-200
  - DUP-FEC-2
  - DUP-ARQ 2
  - HF-FAX/Weather-Fax
  - KG-STV
  - SSTV
- + Improve voice quality with AMBE codec when decoding weak signals for:
  - NXDN
  - APCO25
  - DMR
  - DPMR
- + CODAN Chirp: added burstinfo output
- + DMR
  - Implemented automatic decryption of Hytera Basic
  - Save IP data as pcap file
  - Improved decoding and output of IP data
- + DMR continuous
  - Implemented automatic decryption of Motorola Basic
  - Decryption of ARC4/DES/AES with provided key
  - Save IP data as pcap file
  - Improved decoding and output of IP data
- + TETRA
  - Decryption of TEA 1/3/4 with given key (DMO, Downlink)
- + NXDN
  - Full decoding of trunking repeater frames
- + New detector for CIS-3000
- + Improved decoding of acars messages
  - Decoding of Media Advisory Messages
  - Decoding of Media Independent Aircraft Messaging including reassembly
  - Reassembly of fragmented acars messages
  - XML output for post-processing
- Affected decoders:
  - HFDL
  - VDL2
  - ACARS
  - Inmarsat AERO P/R/T

# pyDDL News



A special feature of go2MONITOR enables the customer to develop their own decoders and integrate them into their systems. This release is the next step in expanding the decoder development language from DDL to pyDDL. The long list of new features and converted decoders underlines this progress.

## Additional pyDDL features

- New helper functions for splitting a BitBuffer into smaller chunks
- Added a predefined hamming code generator matrix for BlockDecoder
- search\_pattern: defining a pattern mask is no longer always necessary
- generate\_lfsr\_sequence: allow up to 64 bit (was 63 bit)
- Faster hamming weight calculation (pop count) of long bitbuffers
- Added alphabet CCIR 476 (SITOR)
- Added alphabet ITA3

## Updated decoders to pyDDL

- ALCATEL 801H 8 Tone
- ALIS2
- APCO25
- APCO25 Phase 2 Downlink
- ARQ-M2-242/342
- ARQ-M4-242/342

- CIS11
- CIS112 burst/stream
- CIS128
- CIS81
- CIS36
- CIS36-50
- CIS14
- CIS45
- CHN MIL 4FSK
- CHU FSK
- CIS FSK 200 1000
- CODAN Chirp
- DGPS
- DUP-ARQ
- FLEX
- FMS-BOS
- Inmarsat AERO R/C/T/P
- JSM
- MFSK8/16
- Olivia
- POL-ARQ
- QPSK31
- RUM-FEC
- SI-ARQ
- SI-FEC
- SP14
- SELCALs: EURO, EIA, EEA, MODAT, NATEL, VDEW, CCIR-1, CCIR-2, CCIT
- Tetrapol
- THROB/X
- XPA
- XPA2
- Yaesu Fusion

# Classifier Enhancements

Modulation and modem classifiers process the entire wideband input band to obtain detailed information about all signals received and filter for Signals of Interest (SOI). The entire input band is split into individual signals, classified, and signal changes are tracked. The most important new functions are listed here:

- + New modulation classifier for **OQPSK**
- + New modem classifier **ALE-4G**
- + New modem classifier **DAB**
- + New modem classifier **DVB-T**
- + Added new **DMR-Cont. variant**

# Noteworthy Changes

- + Updated frequency range for SAT-X to 7.2-10.7 GHz
- + New corporate design for icons, splash screen etc.
- + Decoders with additional files (for example alphabets) can now be used with go2MONITOR
- + Improved system shutdown process to allow all result files to be closed and all actions to be finished properly
- + The length of NB-recording files stored by AMT tasks changed from 30 s to 5 minutes to match the length of produced audio files.
- + Changed triggering strategy in AMT: If begin of triggering emission cannot be reached by using delay buffer, the action will start with the current time and not with the maximal de-lay time
- + Improved detection if frequency is already processed for AMT Live Processing task, to prevent duplicate processing of the same emission
- + Parts of AMT Task Wizard redesigned
- + Changing time from-to in ResultViewer for recording results is not possible anymore, to make sure that metadata in the database fits underlying recording files and their meta-information
- + Configuration with longer maximal delay time (license option) in a channel allow entering delay value manually instead of only choosing from a drop-down
- + If trigger based on detection in overview spectrum is used in an AMT-Live task, the option "Use modem list from trigger emission" will be turned off and disabled
- + In Viewer GUI configuration, File or Stream Playback address for narrowband channels will be determined automatically, without need to set "FilePlaybackIPAddress" value in the configuration
- + Various improvements in frequency management: Column group will be automatically enlarged during editing, new frequencies will remain visible after adding, speed up frequencies import with duplicated entries

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