

iXCOM-CMD

Application Software / GUI

for all iNAT / iSULONA / iPRENA / iCOMBANA / iATTHEMO / iTraceRT-MVT Systems

iXCOM-CMD is a command, visualization, data storage and system configuration software, which is provided for operation of all systems of iMAR's iNAT

systems can be initially configured (INS setup as well as GUI layout) to adapt them to the desired application and to allow the user a most simple operation. Several



family. It is available for MS WINDOWS™ as well as for LINUX and MacOS.

- iXCOM-CMD GUI features for system **configuration**:
 - screen layout selection / adaptation
 - log data selection
 - data interface configuration (data rate, I/F selection)
 - aiding sensor configuration (GNSS, odometer, magnetometer, barometer / air data sensor)
 - alignment mode selection
 - ZUPT and motion detector parameterization
- iXCOM-CMD GUI features for **visualization**:
 - log data selection
 - real-time signal charts & numerical values of measurement results
 - integrated online map visualization of trajectory
 - integrated data file converter for output in binary iXCOM format (for optional iIP+ post-proc software, csv format and WayPoint's Inertial Explorer™ format)
- iXCOM-CMD GUI features for system **operation**:
 - data transmission & storage activation
 - commanding alignment (if no auto mode is active)
 - magnetometer calibration (if any)
 - ZUPT activation (if manually desired)
 - data storage in INS and local computer, integrated FTP based file download.
- iXCOM-CMD GUI available for **MS Windows, LINUX, MacOS**

The iXCOM-CMD software supports all functionalities to operate any navigation system of classes iNAT, iSULONA, iCOMBANA, iPRENA, iTraceRT-MVT. The

setups for land, sea, air applications are available for selection (incl. subsets e.g. for automotive, railway, cruise ship, speed boat, helicopter, business jet or fighter) and can be adapted by the user on demand. The user can also define which data shall be sent via which interface on the iNAT hardware (Ethernet, UART RS422/RS232, ARINC429, CAN, HDLC, USB, Dig-I/Os) and which protocol (iXCOM, NMEA183, ARINC429, ARINC825, CANaero, customized) shall be used at which data rate.

The iXCOM-CMD GUI also supports the saving of established configurations on the INS hardware and to download configurations from the INS as backup.

The iXCOM-CMD supports the real-time visualization of the acquired measurement data and data fusion results via time charts, X/Y plots on a moving map, which can be loaded / updated via Internet in real-time or which can be stored on the local computer up front of the mission if no Internet is available during the mission.

Waypoints can be defined to support specific guidance applications.

An integrated Binary File Converter allows the generation of output files in several data formats (binary and text).

iNAT systems can be directly commanded and supervised by the user's application via the



iXCOM protocol. To implement the interface by the user, iMAR provides a software development Kit (SDK) as an example implementation, e.g. to command the alignment, magnetometer calibration, ZUPTs or data storage. More than that the iXCOM-CMD GUI can be used to command and/or to configure the iNAT systems as well.

As the iNAT systems can be additionally used as an autonomous data recorder (they contain typically up to 32 GByte memory for data storage), the iXCOM-CMD

All data incl. all status indicators are available also in this mode and this allows a very user-friendly quick-view into collected data also without the need of additional signal visualization tools. For detailed data

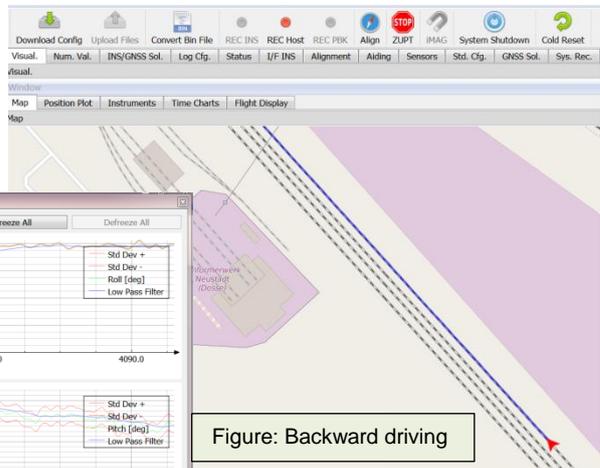


Figure: Backward driving

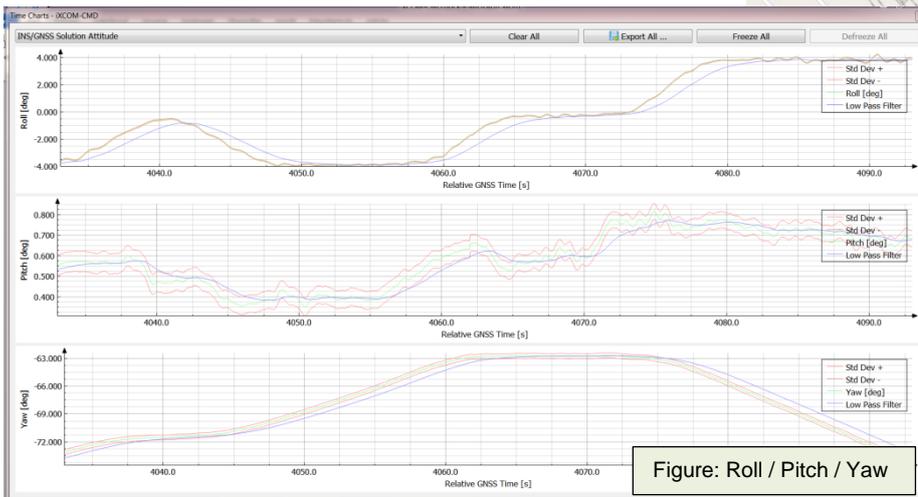


Figure: Roll / Pitch / Yaw

analysis iMAR can provide a MatLab™ import data script on demand.

iXCOM-CMD provides the feature to operate several vehicles from the same control station and to display several vehicles within the same

map. also contains an FTP based client to download those stored data from the INS during or after the mission.

The iXCOM-CMD also supports a “Playback” mode – this means that the data being acquired in real-time can be displayed later again inside the same iXCOM-CMD software, where the speed of the playback as well as graphical output options can be altered during the playback on demand, e.g. to zoom into special interesting details.

map.

iXCOM-CMD supports **barrier-free operation**, e.g. by the capability to magnify tool-tip visualization user-dependent.

The Part Number of the iXCOM-CMD software is as follows: P/N 00028-00016-0000



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