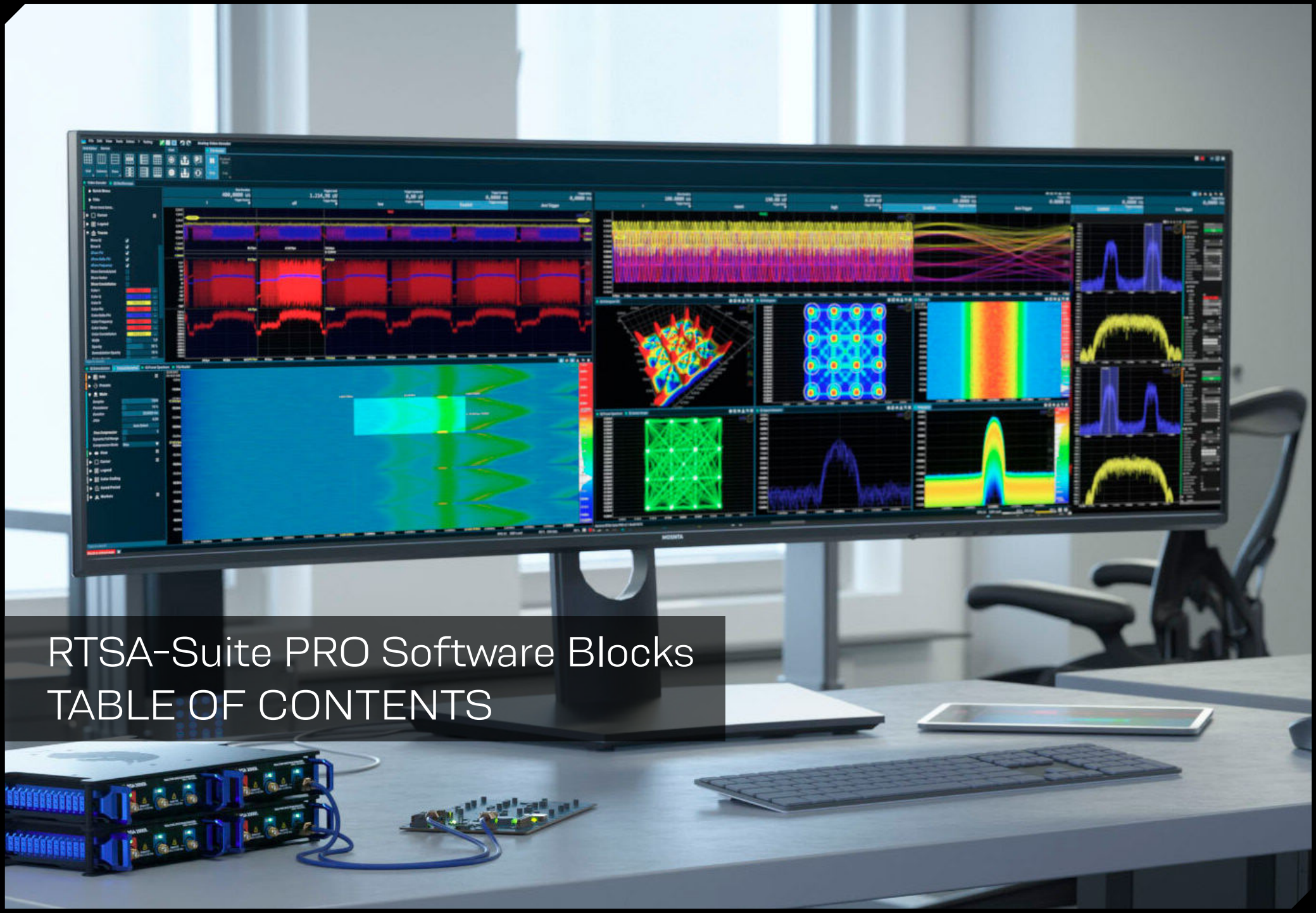
SPECTRAN® V6

BEYOND REALTIME

RTSA-SUITE PRO
Software Blocks Overview

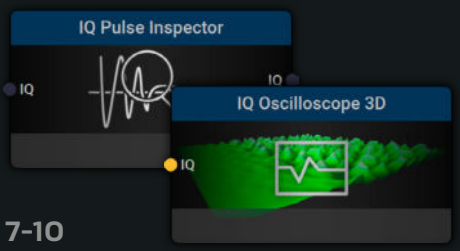


RTSA-Suite PRO Software Blocks
TABLE OF CONTENTS

Devices

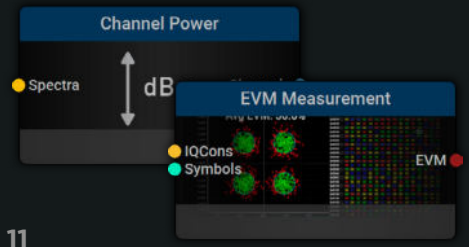
6-7

IQ Processing



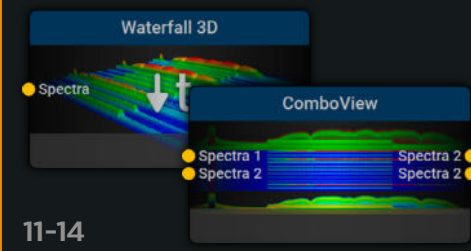
7-10

Measurement



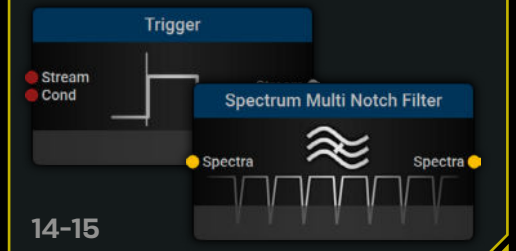
11

Measurement Views



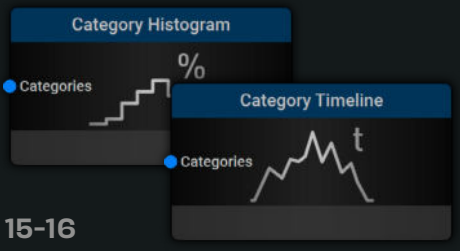
11-14

Trigger | Detector | Filter



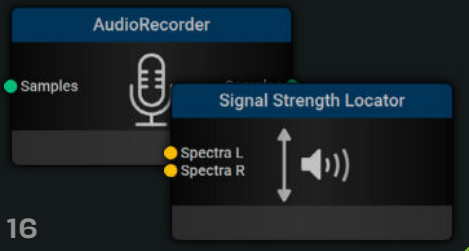
14-15

Channel Analysis



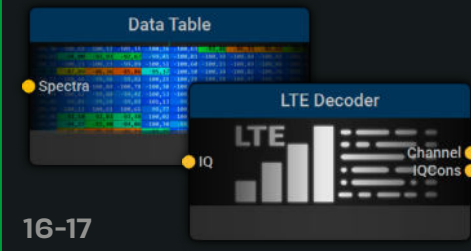
15-16

Audio



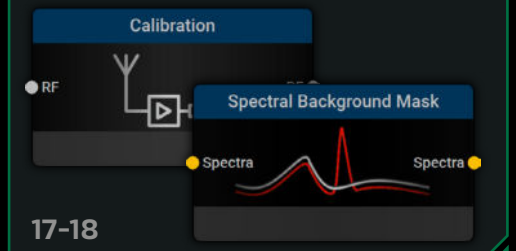
16

Decoder



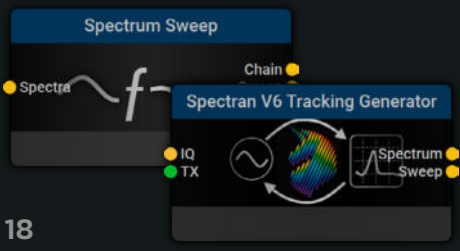
16-17

Calibration



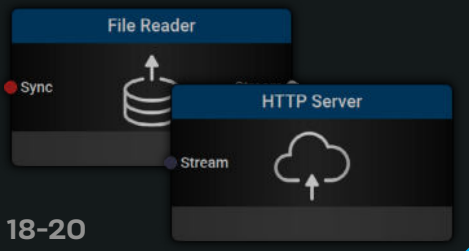
17-18

Sweep



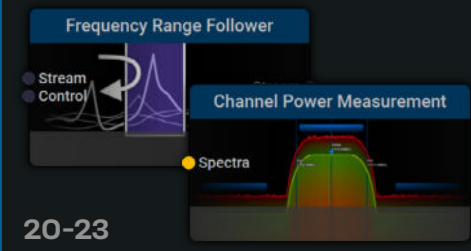
18

In / Out



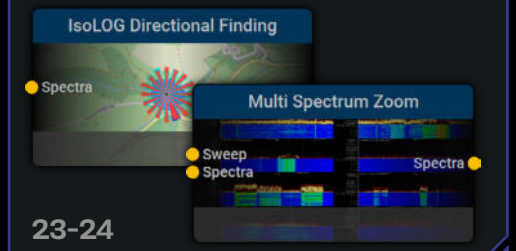
18-20

Control



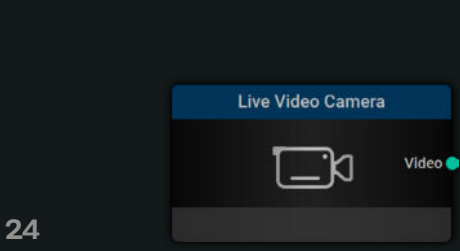
20-23

Master Application



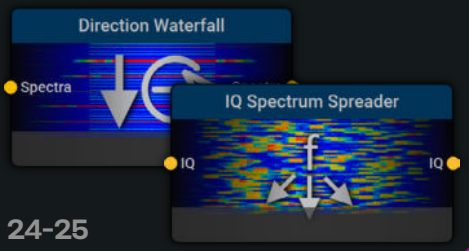
23-24

Camera



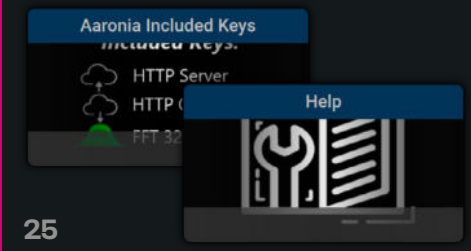
24

Misc



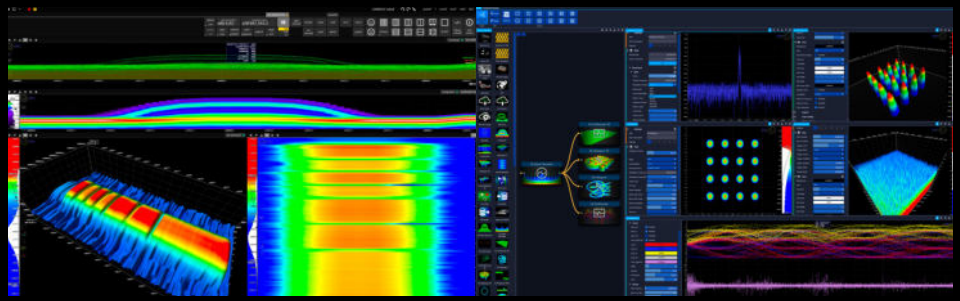
24-25

Packages



25

RTSA-Suite PRO



RTSA Suite PRO is the world's fastest real-time spectrum analysis software on the market and was developed specifically for our latest SPECTRAN® real-time instruments.

It allows various hardware components to be integrated and used for evaluation. A simple configuration via blocks in the software allows optimal settings for almost all measurement scenarios.

The highlights of the software include the seamless real-time 3D view with up to 25 million samples/sec, unlimited recording time, automatic signal classification and remote controllability.

The comparatively low system requirements also allow working on "normal" PCs.

The RTSA Suite is intuitively configurable via drag&drop to connect different hardware, no matter how complex, and to adjust settings/views according to your wishes. With this system there are no limits, because there is also the possibility to program your own blocks.

Already with the standard free basic blocks (worth more than 7000 Euro) of the RTSA-Suite PRO you are prepared for most tasks.

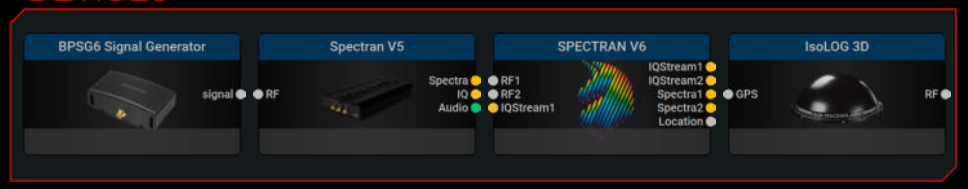
Included are among others: An HTTP Server and Client, the AM/FM Demodulator, Sweep Zoom, Filewriter/reader and the 32k FFT feature.

On the following pages we list all the add-on blocks and features you need for special and more in-depth measurements.

With ever new extensions, an unbeatably powerful software is thus created in the modular system, which makes it possible to master really any measurement situation.

Free included software blocks

DEVICES



IQ PROCESSING

RF MEASUREMENT

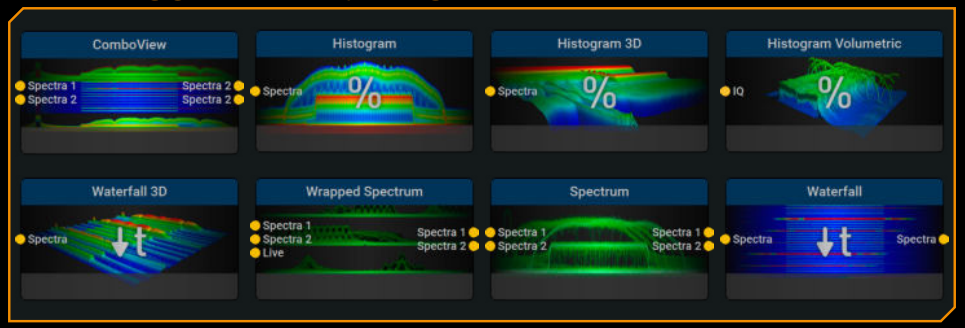
Please click the desired software block for more information.

Free included software blocks

www.hensec.com

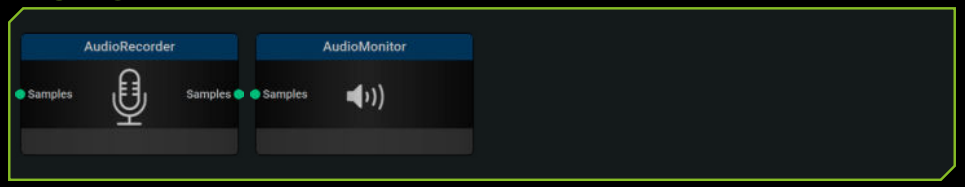
Please click the desired software block for more information.

RF MEASUREMENT VIEWS

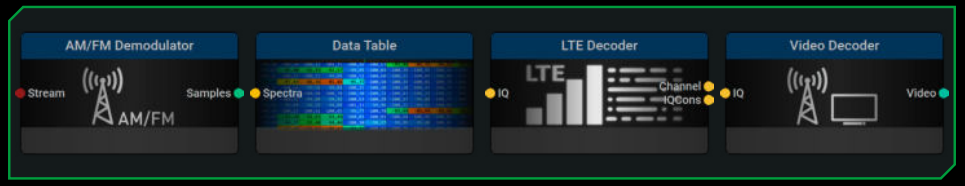


TRIGGER | DETECTOR | FILTER

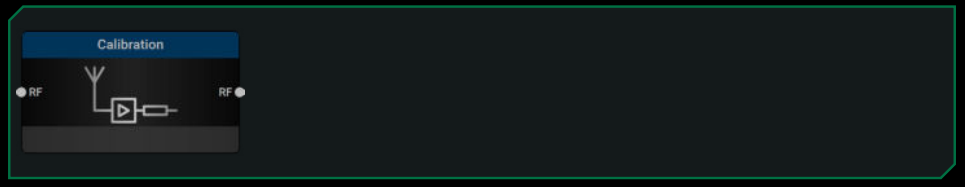
AUDIO



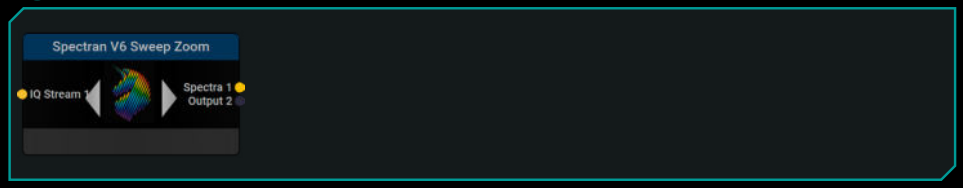
DECODER



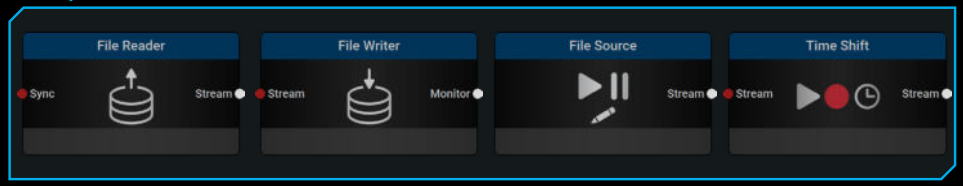
CALIBRATION



SWEEP



IN / OUT



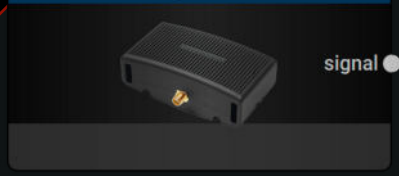
CONTROL

MISCELLANEOUS

PACKAGES

BPSG6 Signal Generator

INCLUDED

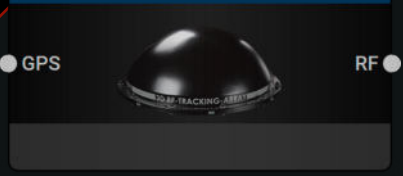


Device control for the BPSG6 USB signal generator. The BPSG6 is a simple signal generator offering AM, FM and PM modulation and a frequency range of 23,5 MHz to 6GHz with a dynamic range of -45dBm to 18dBm (max). The unit offers a standalone (run last configuration at power on) feature or can be controlled over USB.

Online Information

IsoLOG 3D

INCLUDED WITH IsoLOG 3D DF HARDWARE



The IsoLOG 3D DF is an ultra wide band antenna array. It consists of up to 16 sectors with up to 32 antennas and offers a switch/rotation rate down to 12µs. The result is a perfect real-time all frequency 3D RF tracking antenna within a wide frequency range. The IsoLOG 3D DF antenna is a "must have" for directional finding (DF) and for our drone detection (DD) software.

Online Information

GNSS Compass

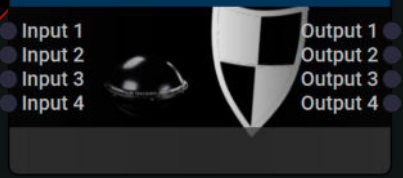
122/039 € 498,00

Allows the usage of an external dual GNSS satellite navigation system for position, direction and tilt information. TCP, UDP and UDP Multicast communication protocols are supported. The block is tested and working with Furuno IEC 61162-1 and NMEA0183 but for sure will also work with other compatible GNSS units. For highest flexibility and precision the block includes a complex Offset and Standard Limit feature.

Online Information

IsoLOG 3D Watchdog

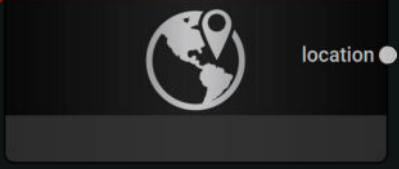
INCLUDED WITH IsoLOG 3D DF HARDWARE



The IsoLOG 3D Watchdog block constantly monitors a connected IsoLOG 3D antenna for possible malfunctions within the current mission.

GPS

122/004 € 498,00



The GPS block offers the possibility to read the GPS data from a GPS device (e.g. NMEA0183 over COM1-COM4 or AARONIA GPS-Logger) or to set the GPS position (incl. azimuth and declination) manually and to feed it into the system. In addition the GPS block offers a functional MAP (2D, 3D, Topo and Topo with buildings) incl. marker support.

Online Information

NRP-Z11 Power Sensor

122/007 € 1.498,00

Device control for the Rohde & Schwarz NRP-Z power sensor family.

The NRP-Z11 Power Sensor block simply reads the power values coming from the device and therefore offers no setups within the block itself. The block supports all other power sensor from the same family e.g. the NRP-Z21, NRP-Z22 etc. The block is mainly used for our internal calibration setups but can also be used within your own script block for custom usage.

Online Information

NRQ6 Power Sensor

122/008 € 1.498,00

Device control for the Rohde & Schwarz NRQ6 frequency selective power sensor.
The NRQ6 Power Sensor block reads the I/Q data coming from the device within the selected band. Center frequency, RBW, attenuator and measurement rate can be set as needed. The block is mainly used for our internal calibration setups but can also be used within your own script block for custom usage.

Online Information

SPECTRAN V6

INCLUDED

This Block controls the SPECTRAN® V6 hardware and allows to configure all relevant settings of the device(s).

Online Information

RF SP4T Switch

122/028 € 498,00

The RF SP4T Switch block can be used as a stand alone or within a mission. The block offers an IO swap option (Device connection mode) transforming the block into a 4 in 1 out or 4 out 1 in version. (No hardware included)

Online Information

Tektronix RSA

122/029 2.498,00

Allows the usage and configuration of a separate Tektronix RSA USB Analyzer. Extends the real-time bandwidth of your Tektronix RSA from 40MHz to 44MHz or even 52MHz. Supports device stitching: Use multiple Tektronix RSA units to expand the real-time bandwidth or to monitor different frequency bands at the same time. Save more than 7.700 € compared to using the Tektronix Software. Works with Tektronix: RSA306B, RSA306B-SMA, RSA503A, RSA507A, RSA513A, RSA518A, RSA603A, RSA607A

Online Information

Spectran V5

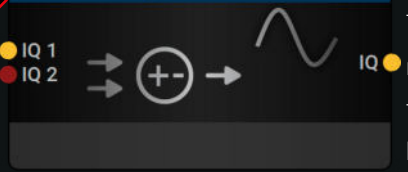
INCLUDED

Spectran V5 block: Main settings for the SPECTRAN V5 device (legacy hardware).

Online Information

Binary IQ Arithmetic

INCLUDED

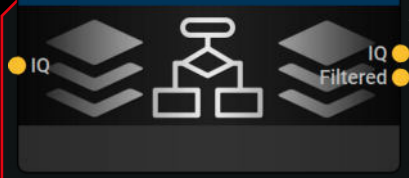


The Binary IQ Arithmetic block can combine two separate IQ input streams into one using one of various configurable combination methods. It also allows to combine/select the condition and antenna segment flags of the output stream from the input streams.

Online Information

IQ Condition

INCLUDED



The IQ Condition block allows to filter samples above a configured value as separate IQ data stream, and/or apply corresponding condition flags on the original IQ data stream for evaluation by subsequent blocks.

Online Information

IQ Frequency Filter

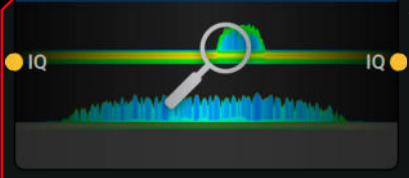
INCLUDED

The IQ Frequency Filter block can apply various frequency based filters on an IQ data stream to mask or enhance selected sections of an IQ data stream.

Online Information

IQ Demodulator

INCLUDED

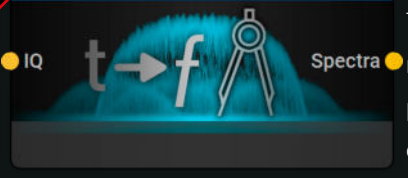


The IQ Demodulator block can extract/demodulate a portion or even multiple portions from an IQ signal. The center frequency and span incl. a new sample rate can be set as needed. As an addition we have added a low pass filter, a bounds check and a processing latency control.

Online Information

IQ High Prec Power Spectrum

122/051 € 9.998,00



The IQ High Prec Power Spectrum converts I/Q data in real-time to SPECTRA using an highly optimized double precision 64Bit FFT algorithm. Using SPECTRA instead of I/Q highly reduces the CPU load needed to later on display and/or process the spectrum data. The FFT Size can be adjusted from 16 to 268 Million.

Online Information

IQ Direction Power Spectrum

122/043 € 9.998,00

If you are using the IsoLOG 3D DF antenna in chopper mode it is impossible to know which antenna is switched since the data link to and from the IsoLOG 3D DF antenna is within the ms range while the IsoLOG 3D DF antenna could switch in the low µs range which is 1k - 10k faster.
To solve this problem we invented the IQ Direction Power Spectrum block which will analyze the IQ spectrum and will add an antenna sync information to it based on some advanced algorithm.

Online Information

IQ Histogram

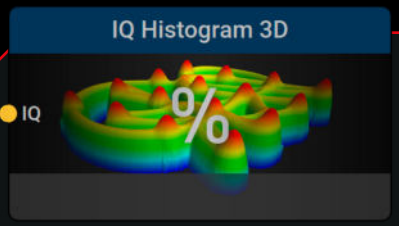
INCLUDED

The IQ Histogram block shows the digital modulation as a vectorscope displaying I and Q as X-Y plot incl. a signal/sample over time statistic.
This is another unique I/Q view only available for the RTSA-Suite PRO software. The IQ Histogram block offers the basic Sample Delta modes, Demodulation, Phase Recovery, X and Y Source trimming and adjustable resolution via Value Bins.

Online Information

IQ Histogram 3D

INCLUDED

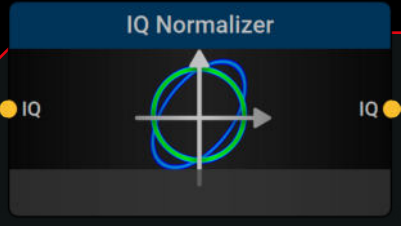


The IQ Histogram block shows the digital modulation as a vectorscope displaying I and Q as X-Y plot incl. a signal/sample over time statistic.
This is another unique I/Q view only available for the RTSA-Suite PRO software. The IQ Histogram block offers the basic Sample Delta modes, Demodulation, Phase Recovery, X and Y Source trimming and adjustable resolution via Value Bins.

Online Information

IQ Normalizer

INCLUDED

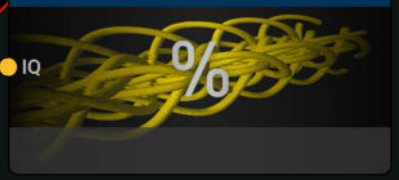


The IQ Normalizer block allows a fully automatic and/or manual adjustment of IQ samples.

Online Information

IQ Histogram Volumetric

INCLUDED

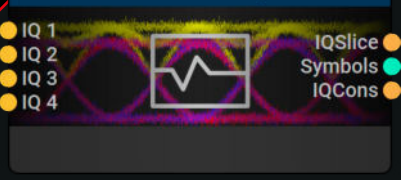


The IQ Histogram Volumetric block shows the digital modulation as a 3D vectorscope displaying I and Q as X-Y plot including the time as Z axis plus the sample statistic as a color grade. This gives you a unique 3D view of your digital modulation which only the RTSA-Suite PRO can offer.
The IQ Histogram Volumetric offers a Demodulation, Phase Recovery, X and Y Source trimming and adjustable resolution via Value Bins.

Online Information

IQ Oscilloscope

INCLUDED

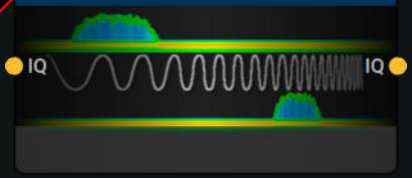


The IQ Oscilloscope block offers a potent multi input oscilloscope for IQ data streams including various graphs, decoders and trigger features. The complete IQ data stream can be visualized and decoded with up to 5 graphs at the same time. In addition every IQ stream (up to 4 are possible) gets it own color control for IQ, R, Phi etc. for an optimized mixed data display. A powerful timing and trigger control should be able to solve any capture or trigger setup needed.

Online Information

IQ Modulator

INCLUDED



The IQ Modulator block can readjust the center frequency, sample rate and/or span frequency of an IQ data stream. For example this can be used to “transplant” an incoming signal to a different frequency range.

Online Information

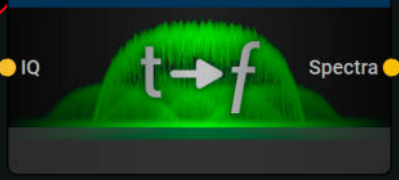
IQ Oscilloscope 3D

INCLUDED

No information available at present.
Please contact our sales department.

IQ Power Spectrum

INCLUDED

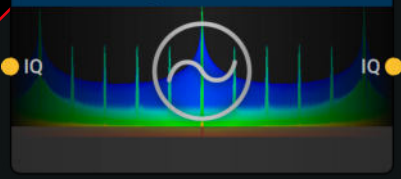


The IQ Power Spectrum block should be one of the most used ones. It converts I/Q data in real-time to SPECTRA using an highly optimized FFT algorithm. Using SPECTRA instead of I/Q highly reduces the CPU load of subsequent processing and visualization steps. The FFT Size can be adjusted from 16 to 1 Million (depending on license). Optionally the FFT size is also adjustable via the number of bins. Further on you can switch the IQ Power Spectrum block to a more flexible multi adjustment mode (e.g. for control with further docked blocks).

Online Information

IQ Signal Generator

INCLUDED

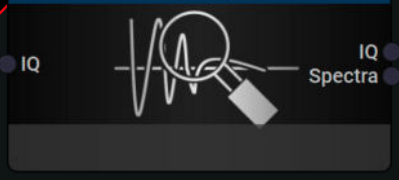


The IQ Signal Generator block generates an I/Q stream, the Sample Rate (up to 20GHz) and Center Frequency is adjustable.

Online Information

IQ Pulse Inspector

122/017 € 24.998,00



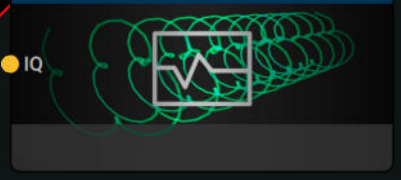
The IQ Pulse Inspector block offers a fully automatic digital signal burst/pulse classification and demodulation/decoder. You can record IQ data and get it displayed within a waterfall view.

Within this view you can mark and select any signal of interest and get an automatic real-time classification and decoding. You can also run an automatic classification over the full recording which will give you a table of all found signals (which can go into the thousands). You can then select any signal within the table for an automatic decoding.

Online Information

IQ Spindle Trace 3D

INCLUDED

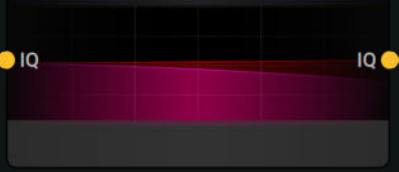


The IQ Spindle Trace 3D block shows the digital modulation as a 3D vectorscope displaying I and Q as X-Y plot including the time as Z axis. This gives you a unique 3D view of your digital modulation which only the RTSA-Suite PRO can offer. The IQ Spindle Trace 3D block offers a slice and powerful trigger setup to capture the wanted data. In addition the well known 3D controls offer full control for a live pan, roll and zoom of the 3D view.

Online Information

IQ RTBW Correction

INCLUDED



The IQ RTBW Correction block corrects the IQ data for third party usage.

If you use the RTSA Suite PRO software you don't need to worry about this issue, all I/Q data will be corrected fully automatic e.g. via the IQ Power Spectrum block but if you want to use a third party software e.g. Matlab or GNU Radio you might need to slightly correct the I/Q data coming from the SPECTRAN V6. In this case you can use our IQ RTBW Correction block.

Online Information

IQ Vector Scope

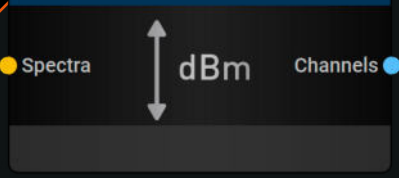
INCLUDED

The IQ Vector Scope block shows the digital modulation as a vectorscope displaying I and Q as X-Y plot.

The IQ Vector Scope block offers the basic Sample Delta modes (bypass, sub, add, mul, rotate and adjustable emphasize), different drawing modes (Sample/Hold, Average, Maximum Hold and Minimum Hold). In addition you can add a fully scalable Modulation Grid Overlay for QAM (BPSK, qpsk, 16qam, 64qam, 256qam, 1024qam, 4096qam) and Radial.

Online Information

Channel Power



122/019 Category & Channel Bundle € 4.998,00

The Channel Power block generates the channel stream for the Category Timeline, Category Bars and Category Histogram blocks.

You can either select a factory frequency profile or set up a custom channel configuration. Every channel can be modified with name, center frequency, width (span), distance (spacing) and color. Even a factory frequency profile can be modified. The channels will be displayed within the graph for a better management.

Online Information

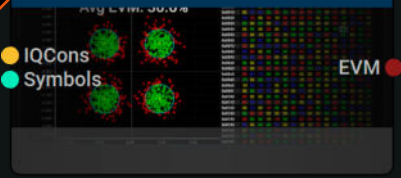
Grid Waterfall

122/020 Direction Finder Bundle € 19.980,00

The Grid Waterfall block (Grid Spectrogram) shows up to 16 waterfall displays within a single view. The Grid Waterfall block is the perfect choice to monitor multiple Spectra data streams within a single compact view. Up to 16 Spectra streams can be combined within a single window while each maintaining an independent time axis. Many powerful adjustments can optimize the view for your needs e.g. an adjustable Time Compression, full Color Coding, a Frequency Profile display for every view, a Columns adjustment to sort and wrap the waterfall views and a lot more.

Online Information

EVM Measurement

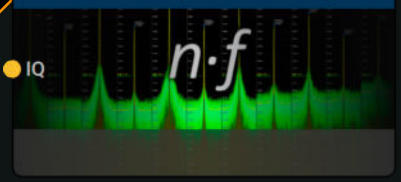


INCLUDED

No information available at present.

Please contact our sales department.

Harmonics Spectrum Analyzer

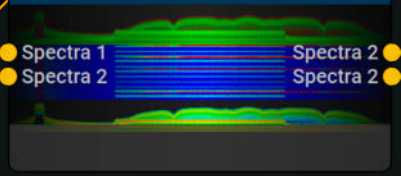


122/005 € 498,00

The block offers a real-time harmonics and THD (in dBc and percentage) measurement based on IQ data. Simply select the number of Harmonics (up to 11) you want to measure, the Base Frequency, the Span Frequency and the RBW and the measurement can start. In addition you can modify the Dwell Time and the Power Range.

Online Information

ComboView

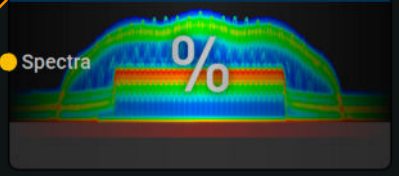


INCLUDED

The ComboView block is one of the most complex blocks and includes an almost endless setup and measurement configuration menu to setup a perfect measurement. Since all three views (Spectrum, Waterfall and Histogram) are locked together the marker and cursor features are mirrored, which allows a much easier measurement with combined views since the marker and cursor will show up at the exact same position within all views at the same time.

Online Information

Histogram



INCLUDED

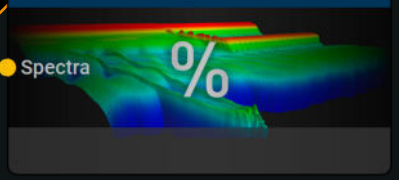
The Histogram (Persistance) block shows frequency domain, power domain and time domain in one single 2D view.

The Histogram block is very helpful in finding hidden or very short signals within a signal/spectrum. It shows the percentage of the time that a given frequency is present in a signal. Since the color adjustment is crucial for such a measurement we have added powerful adjustments (some are even unique) to optimize the measurement.

Online Information

Histogram 3D

INCLUDED



Our Histogram 3D (3D Persistance) block shows frequency domain, power domain and time domain in a unique 3D view.
The Histogram 3D block offers the same features as the 2D Histogram block but adds a third dimension to it and offers a complete new, unique histogram measurement.

Online Information

IQ Power Statistics

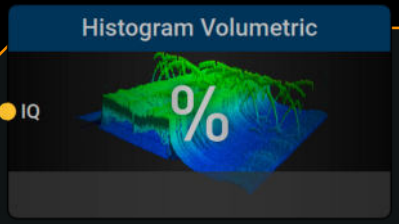
122/049 € 498,00

The IQ Power Statistics block offers a real-time PDF, CDF, CCDF & Relative CCDF statistical RF power measurement.
The block is a very important measurement tool for designing and testing of modern radio frequency applications since it offers complex RF power measurements e.g. to see how the power is distributed or to measure its probability.

Online Information

Histogram Volumetric

INCLUDED

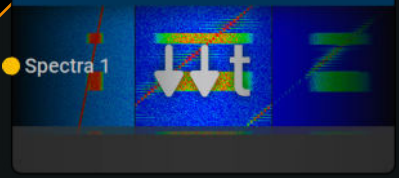


The Histogram Volumetric block provides a 3D time-domain view of incoming spectra data similar to the 3D Waterfall, but allows to specify a spectral density threshold to exclude transient data or short spikes.

Online Information

Multi Waterfall

122/020 Direction Finder Bundle € 19.980,00

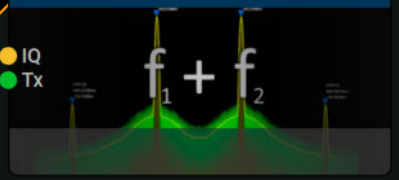


The Multi Waterfall block (Grid Spectrogram) shows up to 8 waterfalls within a single view.
The Multi Waterfall block can monitor multiple Spectra data streams within a single compact view. Up to 8 Spectra streams can be combined within a single view, matched to a single time-axis. Many powerful adjustments can optimize the view for your needs e.g. an adjustable Time Compression (1 to 100k with different compression methods), full Color Coding, a Frequency Profile display for every view and a lot more.

Online Information

Intermodulation Analyzer

122/006 € 498,00

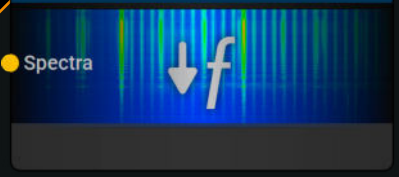


The Intermodulation Analyzer block offers a real-time IP3 (TOI) measurement.
Simply select the Base Frequency (center), dual tune spacing (Offset Frequency) and RBW and the measurement can start. The frequency, RBW, span, power and reference level are fully adjustable offering the perfect settings for any setup you might need, to get the highest possible dynamic range and sensitivity for the measurement.

Online Information

MultiSpectral

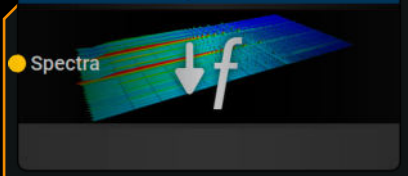
122/022 Waterfall & Pulse Bundle € 4.998,00



The MultiSpectral block shows all fundamentals and harmonics within the frequency spectrum e.g. from pulsed or frequency modulated signals.
The more stable the repetition within the frequency domain the higher the color value. With the MultiSpectral block you can see the fundamentals and harmonics from all pulsed or frequency modulated signals within the frequency spectrum at a glance.

Online Information

MultiSpectral 3D

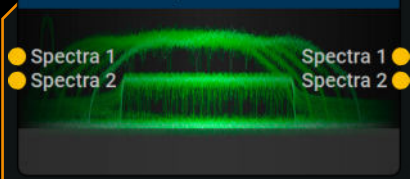


122/022 Waterfall & Pulse Bundle € 4.998,00

With the MultiSpectral 3D block you can see the fundamentals and harmonics from all pulsed or frequency modulated signals within the frequency spectrum at a glance in 3D.

Online Information

Spectrum



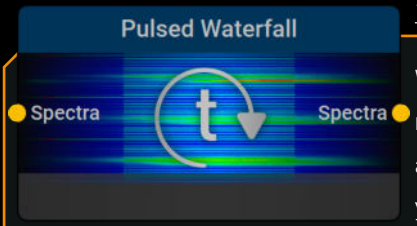
INCLUDED

The Spectrum block shows the power over frequency spectrum with different trace types and can handle up to two independent input streams (e.g. Rx1 & Rx2).

The Spectrum block offers a nearly endless setup and measurement configuration menu for a perfect measurement and a fantastic spectrum view.

Online Information

Pulsed Waterfall



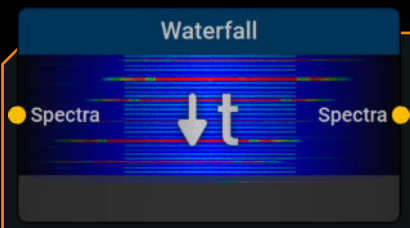
122/022 Waterfall & Pulse Bundle € 4.998,00

With the Pulsed Waterfall block you can identify the duration of any signal within the frequency spectrum live at a glance. It somehow works like an analog tv where you need to tune the sync till you get a stable picture otherwise the picture will scroll up or down the screen. The number of Samples, Persistence, Pulse Duration, Jitter and Time Compression are adjustable.

In addition you can use the "Auto Detect" feature which will try to find the dominant signal duration within the spectrum with a single mouse click.

Online Information

Waterfall



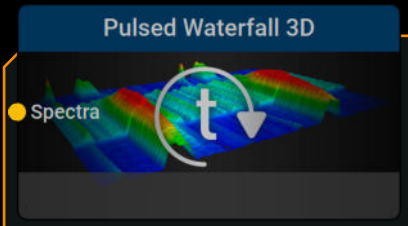
INCLUDED

The Waterfall block (Spectrogram) shows the frequency spectrum over time.

The Waterfall block offers a lot of helpful adjustments to optimize the view for your needs e.g. an adjustable time compression (1 to 100k with different compression methods), full color control, a powerful multi marker/area measurement tool, zoom and pan, condition, power and/or frequency spectrum view (based on selected marker), frequency or provider display and a lot more.

Online Information

Pulsed Waterfall 3D



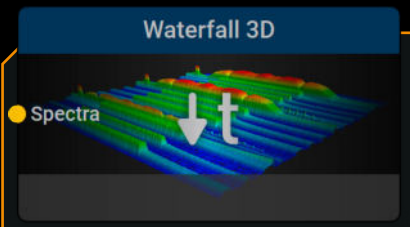
122/022 Waterfall & Pulse Bundle € 4.998,00

With the Pulsed Waterfall 3D block you can identify the duration of any signal within the frequency spectrum live at a glance. It somehow works like an analog TV where you need to tune the sync till you get a stable picture otherwise the picture will scroll up or down the screen. The number of Samples, Persistence, Pulse Duration, Jitter and Time Compression are adjustable.

In addition you can use the "Auto Detect" feature which will try to find the dominant signal duration within the spectrum with a single mouse click.

Online Information

Waterfall 3D



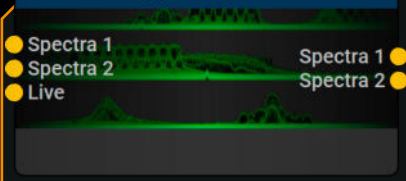
INCLUDED

The Waterfall block (Spectrogram) shows the frequency spectrum over time and power in 3D. The Waterfall 3D block offers a lot of potent adjustments to optimize the view for your needs e.g. an adjustable time compression (1 to 100k with different compression methods), adjustable Gauss-Filter, full color control, a powerful 3D multi marker/area measurement tool, helpful 3D adjustments, zoom and pan, power and/or frequency spectrum view (based on selected 3D marker), 3D peaks and a lot more.

Online Information

INCLUDED

Wrapped Spectrum

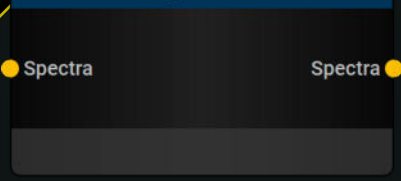


The Wrapped Spectrum block is another unique spectrum monitoring feature only available for the RT-SA-Suite PRO and offers a super high spectrum resolution by "wrapping" the spectrum into multiple rows. The Wrapped Spectrum block is the perfect choice to monitor a wide frequency range with super high resolution. A 4K screen will offer you a stunning 8x4k = 32k pixel resolution for the spectrum and a 8k monitor would even boost it to 64k!

Online Information

INCLUDED

Multi Spectral Filter



The Multi Spectral Filter block can apply a low pass/reject, high pass/reject or pand pass/reject filter on a spectra stream. This can reduce noise and make the actual signal clearer to see.

Online Information

Antenna Segment Detector

122/020 Direction Finder Bundle € 19.980,00

No information available at present.
Please contact our sales department.

INCLUDED

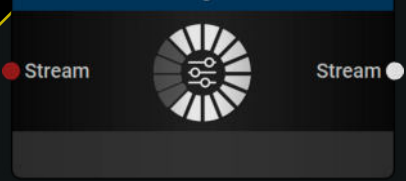
Trigger

The Trigger block conditionally forwards an input stream based on condition flags. The basic functionality is identical to the Simple Trigger block, but the regular Trigger block provides additional settings to optimize the condition handling.

Trigger Information | Simple Trigger Information

Antenna Segment Filter

122/020 Direction Finder Bundle € 19.980,00

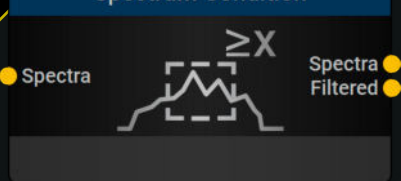


The Antenna Segment Filter block allows you to filter the stream depending on the selected IsoLOG 3D DF antenna segments. This block allows you to get streaming data from the selected IsoLOG 3D DF antenna segments(s) of interest only. Remove "bad" segments or separate different oriented antenna segments from each other: E.g. this allows you to separate the stream coming from the sky looking segments from the front looking segments to compare the stream from both to show if RF emissions are "flying" or coming from the ground.

Online Information

INCLUDED

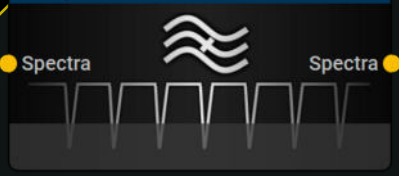
Spectrum Condition



The Spectrum Condition block allows you to trigger on masks and/or spectral density and also includes logical data processing.
With the Spectrum Condition block you have endless possibilities to trigger on any event within a spectra stream. With the help of the time compression you can generate a max hold from the spectra stream. This can be used to generate a trigger mask over a long time period.

Online Information

Spectrum Multi Notch Filter



122/040 € 4.998,00

The Spectrum Multi Notch Filter block allows you to remove or to reduce single or multiple signals from the spectrum: Remove a Single signal / Remove Multiple signals / Remove Harmonics / Remove Intermodulations.

Online Information

Category Bars

122/019 Category & Channel Bundle € 4.998,00

The Category Bars block offers a multi channel bargraph incl min, max and average graph. This is another great tool to monitor channels e.g. Bluetooth LE.

Online Information

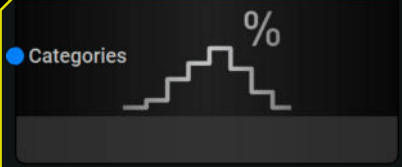
Spectrum Reference

122/030 € 498,00

The Spectrum Reference block allows you to compare two spectra streams and to get the offset as a new spectra stream. Since you can compare two signals with the Spectrum Reference block it is the perfect tool for Interference Hunting and a lot of other interesting possibilities. Some examples:
RF Signal Tracking / Real-Time Bug Detection / Conference Room Monitoring

Online Information

Category Histogram

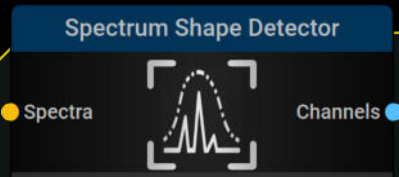


122/019 Category & Channel Bundle € 4.998,00

The Category Histogram block offers a multi channel power vs time histogram graph. This is another great tool to monitor channels e.g. Bluetooth LE.

Online Information

Spectrum Shape Detector



INCLUDED

No information available at present.
Please contact our sales department.

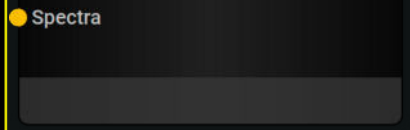
Category Timeline

122/019 Category & Channel Bundle € 4.998,00

The Category Timeline block offers a functional multi channel timeline graph. This is a "must have" to monitor channels e.g. Bluetooth LE.
The channel utilization can be monitored over a long time periode since you have full control over the time compression (Up to 100k).

Online Information

Channel Utilization



122/019 Category & Channel Bundle € 4.998,00

No information available at present.
Please contact our sales department.

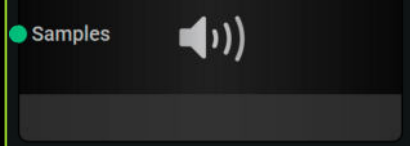
Signal Strength Locator

122/036 € 4.998,00

The Signal Strength Locator offers an audio signal (frequency and/or pulse rate) proportional to the signal strength. This block is a very nice tool to locate a RF signal by creating an audio tune proportional to the signal strength, which will rise with signal strength at the cursor location (incl. span). Either use a rising frequency or a rising pulse rate to locate the RF signal e.g. a hidden bug. In addition, a map can be displayed to plot the direction of the signal source. If one does this twice from different locations, the point of origin is determined by the intersection of the two vectors.

Online Information

AudioMonitor

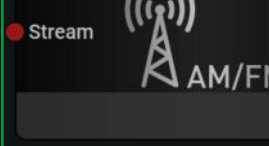


INCLUDED

The Audio Monitor block shows the audio spectrum as a waterfall and spectrum graph and offers some additional audio controls.
The Audio Monitor offers a great signal view of any audio stream since you get a real-time spectrum and waterfall view of the signal. In addition you can adjust/modify the audio signal itself: You can adjust the Volume, Filter, Noise Reduction and Mask the stereo Pilot signal.

Online Information

AM/FM Demodulator



INCLUDED

The AM/FM Demodulator block demodulates the audio from a single or multiple broadcast channels e.g. from FM radio stations or AM aeronautical communication.

Online Information

AudioRecorder

INCLUDED

The Audio Recorder block can record multiple audio streams e.g. from the AM/FM Demodulator block.
The Audio Recorder block is great tool to record multiple AM/FM audio streams/channels. Each channel will be displayed with center frequency and recording length as a bar. You can click on any of those channels at any time position to start the playback of the recoded signal.
In addition you can adjust/modify the audio signal itself: You can adjust the Volume, Filter, Noise Reduction and Mask the stereo Pilot signal.

Online Information

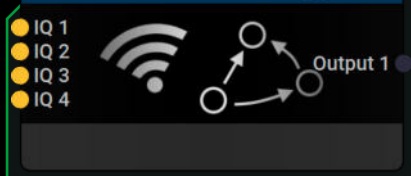
Data Table

INCLUDED

The Data Table block shows the data coming from a Spectra stream in table format.
Spectra data will be shown in real-time as table view incl. color coding (adjustable color profiles) incl. time stamp data. A lot of pages are held in memory. You can scroll and pan within the memory. All in all this is of great help for debugging e.g. to check scripts, to find data glitches etc. In addition a time compression up to 100.000 is possible.

Online Information

IQ WiFi Interaction Mapper



122/034 € 2.498,00

The IQ WiFi Interaction Mapper block shows the MAC, vendor, SSID and protocol used by all WiFi routers, nodes, phones etc. within detection range and the interaction between those as a MAC table and an interactive graph. Up to 4 IQ streams can be handled e.g. for using different bands. The block is very helpful to see unwanted phishing or connections from devices nearby or by simply controlling the nets around you.

Online Information

Pulse Detector

122/022 Waterfall & Pulse Bundle € 4.998,00

The Pulse Detector block can identify pulsed signals matching specified power, duration and width conditions and forward them as JSON data.
It is also possible to apply a training and scoring algorithm to group the identified pulses into classes and remove them from the spectra data stream, so the remaining unclassified signals become more visible.

Online Information

LTE Decoder

122/052 LTE Analyzer Bundle € 14.980,00

The LTE Decoder block synchronizes to your LTE cell, decodes and displays the most relevant data. Results can be saved as CSV/XML/JSON and as a screenshot. The equalized signal from the physical channels is sent to the output and can be inspected with other blocks.

Online Information

Video Decoder

INCLUDED

The Video Decoder block is a easy to use drag and drop block to decode any analog video from an IQ stream in real-time. The block setup is quite simple. You can adjust the frequency shift, vsync and hsync levels, add a low pass filter and adjust the luma gain.

Online Information

LTE Scanner

122/052 LTE Analyzer Bundle € 14.980,00

The LTE Scanner block automatically tunes your V6, scans for available cells and shows them in a table. For strong cells, additional details are automatically decoded and added to the list. A cell can be selected for further analysis with the LTE Decoder block. Results can be saved as CSV/XML/JSON and as a screenshot.

Online Information

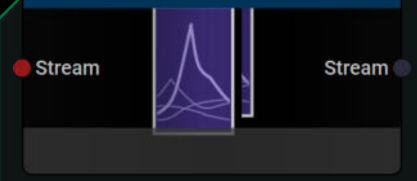
Calibration

INCLUDED

The Calibration block offers full control over the loss and gain from all connected loads to Rx1 and Rx2.

Online Information

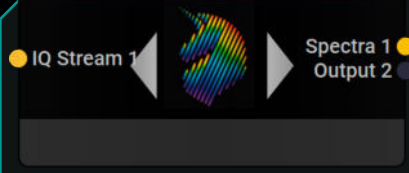
Frequency Offset



122/050 € 298,00

This block allows the input of a frequency range offset, which is independent of the tuning of the V6.
An indispensable tool for example when using external down- or upconverters.

Spectran V6 Sweep Zoom



INCLUDED

The Spectran V6 Sweep Zoom block offers full control over the SPECTRAN V6 receiver and even includes the I/Q to Spectra FFT switch between Sweep and Real-Time mode with a single mouse click.
This block does it all: You don't need to create different missions any more to switch between RTBW (real-time) and sweep mode since this is now selectable with a mouse click within the Spectran V6 Sweep Zoom block control bar.

Online Information

Spectral Background Mask

122/041 € 9.998,00

The Spectral Background Mask block removes all spurious or any other signal from the spectrum to offer a perfect clean spectrum to measure your DUT within a noisy RF environment. This block is the perfect tool for an EMI or EMC test without the need of an EMC chamber: Simply let the Spectral Background Mask block remove all noise, spurious RF emissions etc. around you by recording those and setting up an intelligent filter mask against them. After the recording switch to the mask max mode and you will get a clean spectrum without any disturbing noise.

Online Information

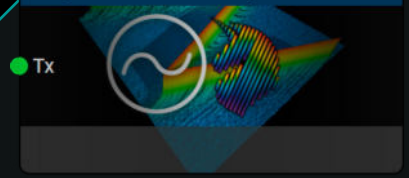
Spectran V6 Tracking Generator

122/038 € .2498,00

This block offers an impressive tracking generator, e.g. for rejection measurement of a DUT.
Tip: With our S-Parameter Kit (503/033) the SPECTRAN V6 can be used as a 2-port vector network analyzer.

Online Information

Spectran V6 Sweep Generator

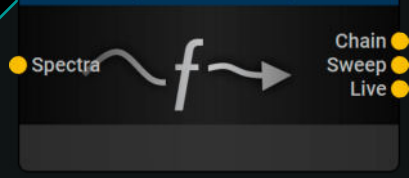


122/032 € 498,00

The optional Spectran V6 Sweep Generator block can sweep over the full frequency range starting at 75MHz up to 6GHz and is not limited to the RTBW.

Online Information

Spectrum Sweep



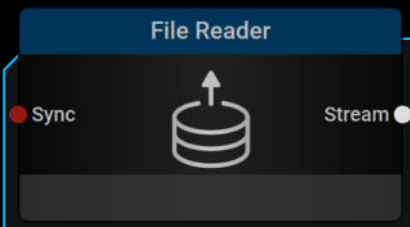
INCLUDED

The Spectrum Sweep block offers a very fast and capable sweep over the full frequency range of the connected SPECTRAN V5 device (legacy).
Adding the live output to a graph (e.g. Spectrum or Wrapped Spectrum block) offers a cursor display which is useful for slow sweeps (e.g. very low RBWs). Note: When using a Spectran V6 the Spectran V6 Zoom block is usually the better alternative.

Online Information

File Reader

INCLUDED

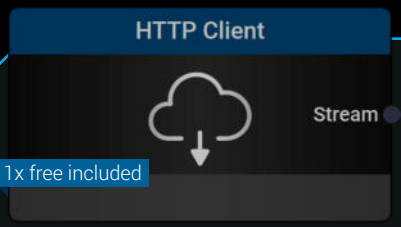


Import and playback any RTSA-Suite PRO ".rtsa", ".tag" and ".dat" (I/Q, Spectra, Video, Tracking etc.) file from disk. This block also includes a powerful export feature.

Online Information

HTTP Client

122/013 € 498,00

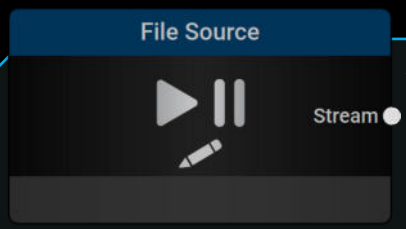


Allows the http access to a remote RTSA-Suite PRO system (corresponding http Server Block needed!).
The helpful HTTP Client block in combination with the HTTP Server block can handle any data format (I/Q, SPECTRA, Video etc.) within the RTSA-Suite PRO.
It offers a remote connection of a data stream within the RTSA-Suite PRO and/or the SPECTRAN V6 from anywhere around the world using a local intranet or the WWW, 3G/4G/5G or even a satellite link.

Online Information

File Source

INCLUDED

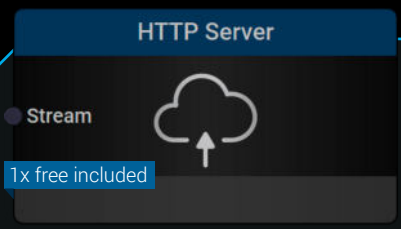


This block is quite similar to the File Reader block but reads the complete file to the system memory. This makes it interesting for fast playbacks or whenever high data transfers are needed. It can also read the following third party I/Q files: Waveform (.wv), R&S IQ.TAR (.iq.tar) and Tektronix Text (.txt).
The powerful export feature supports CSV, XML, JSON, RTSA, TAG, DAT, ASC and MAT (Matlab) formats.

Online Information

HTTP Server

122/012 € 498,00

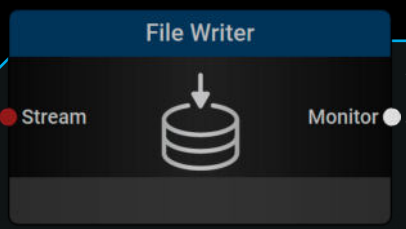


The powerful HTTP Server block in combination with the HTTP Client block can handle any data format (I/Q, SPECTRA, Video etc.) within the RTSA-Suite PRO.
It offers a remote connection of a data stream within the RTSA-Suite PRO and/or the SPECTRAN V6 from anywhere around the world using a local intranet or the WWW, 3G/4G/5G or even a satellite link. It can also be used as interface between the RTSA Suite PRO and external software.

Online Information

File Writer

INCLUDED



The File Writer block records any incoming data stream to disk. It offers a Monitor output to check the data in real-time, which can also be used to connect additional control blocks like the Control Sequencer.
When writing raw IQ data make sure you have a well performing SSD as the data rate can exceed several hundred megabytes per second (depending on settings)! You might consider to use the IQ Demodulator to reduce the data size.

Online Information

Multi Stream Logger

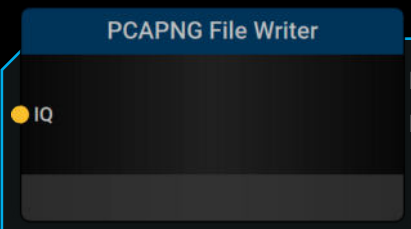
122/015 € 9.998,00

Multi Stream Logger Block allows to merge and store up to 16 streams (IQ and/or Spectra).
The Multi Stream Logger block is optimized for permanent recording of multiple parallel streams and allows extracting specific portions later on.

Online Information

PCAPNG File Writer

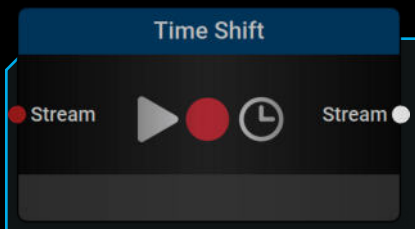
INCLUDED



No information available at present.
Please contact our sales department.

Time Shift

INCLUDED



Our latest Time Shift block can handle I/Q or SPECTRA data and works as a FIFO buffer.

Online Information

Raw IQ File Writer

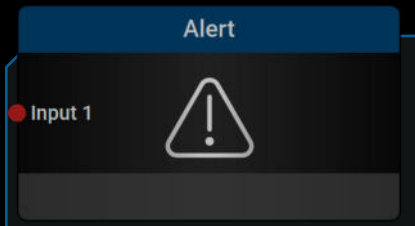
INCLUDED

The Raw IQ File Writer records IQ streams to the selected file in common “raw” IQ format of interleaved complex 32-bit floating point values.

Online Information

Alert

INCLUDED



The Alert block can notify the user or external applications when specified conditions are triggered.
The Alert block can monitor up to eight input streams, and generate notifications as display messages, HTTP requests, audio alerts or process calls. It can also log any generated alert and optionally record data when an alert is triggered.

Online Information

Stream Portal

122/042

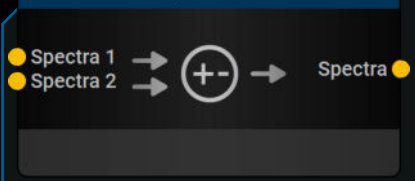
€ 998,00

The Stream Portal block offers a local machine stream IO (similar to the HTTP block) but is much more efficient and includes an adjustable buffer for time critical missions. In some cases the HTTP blocks offer not enough speed and high time delay e.g. if you want to stream the Rx IQ data directly to the Tx to build a signal loop. In this case you can use the Stream Portal blocks instead which is much more efficient since it does not struggle with the HTTP socket.

Online Information

Binary Arithmetic

INCLUDED



No information available at present.
Please contact our sales department.

Block Graph Explorer

INCLUDED

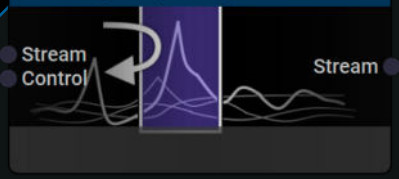
The Block Graph Explorer block displays the values and properties of all configuration settings in the current mission.

The Block Graph Explorer block allows you to inspect the name, value and properties of any configuration setting in the current mission. This is a useful tool when working with the Script or HTTP Server blocks for controlling other blocks in the mission where the internal variable names, data types and value options are relevant.

Online Information

Frequency Range Follower

122/003 € 24.980,00



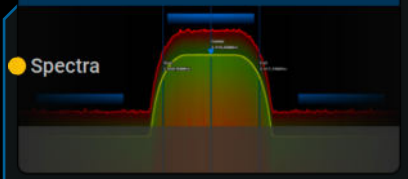
The new Frequency Range Follower block changes the center frequency and span of an additional (follower) SPECTRAN V6 RSA according to the cursor of the first SPECTRAN V6 RSA.

This block allows the user to setup a full frequency sweep of the entire frequency band e.g. the full 6GHz and at the same time control the center frequency and span of an additional SPECTRAN V6 RSA (follower) with the cursor.

Online Information

Channel Power Measurement

122/002 € 498,00



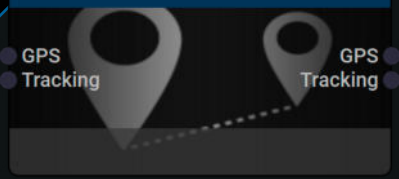
The Channel Power Measurement block measures the ratio of power between the main channel and those channels around the main channel.

The Channel Power Measurement block offers all you need to setup a perfect ACPR (Adjacent Channel Power Ratio) and ACLR (Adjacent Channel Leakage Ratio) measurement. Simply set the channel frequency, main channel bandwidth, adjacent channel bandwidth and channel spacing and you are ready to go.

Online Information

GPS Offset

INCLUDED



The GPS Offset block adjusts the IsoLOG 3D DF antenna position in relation to the GNSS Compass GPS readout.

If setting up a test drive vehicle you need to adjust the position of the IsoLOG 3D DF antenna since it is not the same as the GNSS Compass position (which feeds the GPS position to the complete system). This is what the GPS Offset block is made for. You can add an offset of latitude and longitude but also altitude and azimuth which will offer you a perfect position setup.

Online Information

Control Sequencer

INCLUDED

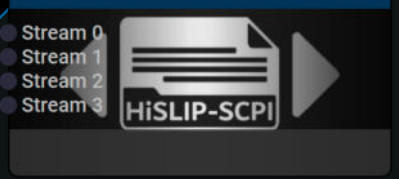
The Control Sequencer block can send a series of commands to all directly or indirectly attached blocks. This allows a specific measurement sequence to be easily repeated with a single button press.

Available commands include starting/stopping different operations individually (like streaming, recording, rotating), adjust configuration values of a specific block, loading a different mission, waiting for data/no data on a specific input and waiting a specific amount of time. It is also possible to repeat (a part of) the sequence multiple times.

Online Information

HiSLIP-SCPI Server

122/046 € 498,00



The HiSLIP-SCPI Server Block provides a TCP/IP server interface with a SCPI command set to control a RTSA Suite PRO Mission remotely. The HiSLIP protocol (if enabled) is supported by the Virtual Instrument Software Architecture (VISA). Therefore, many third-party software, hardware and programming tools (like Matlab, Labview, NI-VISA, C++ library) should support the RTSA Suite Pro out of the box.

Online Information

Receiver Band Sequencer

122/037 € 4.998,00

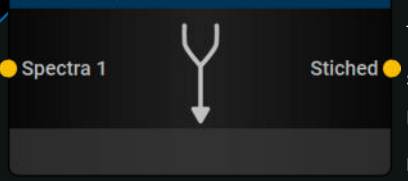
The Receiver Band Sequencer block consists of up to 32 individual frequency band setups which can be run as a batch sequence over and over again.

The Receiver Band Sequencer block is of great help to save receivers for multi channel I/Q monitoring/decoding. You can configure a list of I/Q frequency bands to monitor incl. additional settings e.g. to control the IsoLOG 3D DF antenna.

Online Information

Spectrum Stitcher

122/031 € 4.998,00



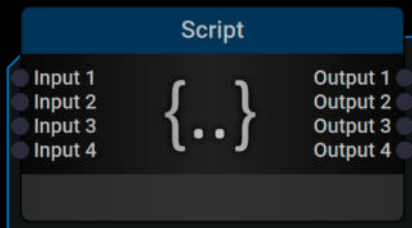
The Spectrum Stitcher block merges/stitches multiple spectra streams to a single new spectra stream.

Up to 8 streams (spectra) can be combined to a single new spectra stream. A great block to expand the RTBW e.g. by combining streams of multiple SPECTRAN V6: With 8 SPECTRAN v6, streaming a RTBW of 245MHz, you get a new RTBW of 8 x 245MHz = 1960MHz RTBW.

Online Information

Script

INCLUDED

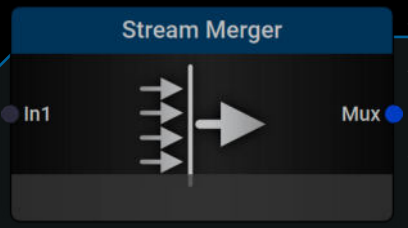


The Script block is a powerful tool to add customized control, measurement and data analysis functionality to the RTSA-Suite PRO. This can be done by writing program code using the JSIQA scripting language, a customized JavaScript variant.

Online Information

Stream Merger

122/023 Stream Bundle € 1.998,00



The Stream Merger block merges up to 16 data stream of any type to a single mixed stream.

You can dock up to 16 streams (any data type e.g. I/Q, SPECTRA, Video, JSON, etc.). Those streams will be combined to a single stream. The main purpose of this block is to save connection space within the block graph editor. This is of great help to clean up very complex setups with a high number of streams that might even cross each other and make the block graph difficult to read. There is no setup needed.

Online Information

Short Burst Suppression Filter

122/001 € 1.498,00

The Short Burst Suppression Filter attempts to suppress short pulses from an incoming spectra stream.

It does this by dampening those samples where a pulse matching the specified parameters is detected. Only the specified frequency range is monitored, and only peaks above the specified power level can trigger the suppression.

Online Information

Stream Multiplexer

122/016 € 998,00

The Stream Multiplexer block switches/selects from multiple sources (even different data formats e.g. IQ, video, spectra are supported).

You can dock up to 16 streams (any data type e.g. I/Q, SPECTRA, Video, JSON, etc.) and select 1 of x streams to go through the Stream Multiplexer block, e.g. to easily switch between different devices. Simply select the needed input from the block setup.

Online Information

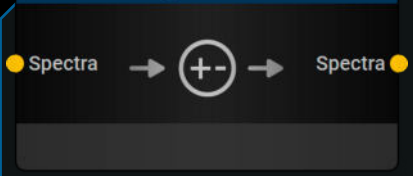
Stream Splitter

122/023 Stream Bundle € 1.998,00

The Stream Splitter block splits the output of the Stream Merger block back to the original streams.
Up to 16 streams (any data type e.g. I/Q, SPECTRA, Video, JSON, etc.) could be within the Mux stream. At the stream selection output you can connect any block that might match to one of those streams within the mux stream. This allows to easily save and replay multiple related streams in a time-synchronized way. You can even reassign the streams to different outputs or create multiple outputs for the same stream.

Online Information

Unary Arithmetic



INCLUDED

The Unary Arithmetic block can apply one or multiple filters on an incoming spectra data stream and output the result to other blocks. Filters can be added using the hamburger icon of the Operators configuration menu.
For example using the Spectrum Segment filter it is possible to crop the frequency range of the stream so only that section is then used by subsequent blocks.

Online Information

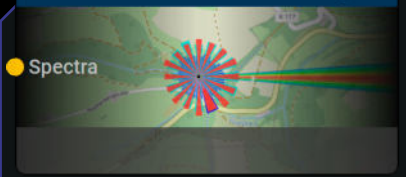
Stream Statistics

INCLUDED

This block generates measurement tables about the following RF measurement statistics:
PDF (Probability Density Function), CDF (Cumulative Distribution Function), CCDF (Complementary Cumulative Distribution Function), Relative CCDF (Relative Complementary Cumulative Distribution Function).
Data export can be realized as CSV, XML or JSON.

Online Information

IsoLOG Directional Finding



122/020 Direction Finder Bundle € 19.980,00

The IsoLOG Directional Finding block shows you the direction of any selected RF signal(s) in real-time and high accuracy on a map.
The IsoLOG Directional Finding block offers all you need to setup a perfect DF (Directional Finding) application in 3D. It supports our ultra fast sector switching of down to 1µs to catch even ultra short signals. For the usage of this block you need our unique, patented IsoLOG 3D DF antenna array which can detect all RF signals within a broad frequency range in 3D.

Online Information

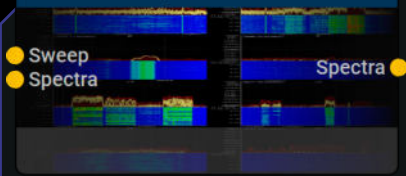
Time Resampler

INCLUDED

The Time Resampler block can downsample an incoming spectra data stream to a lower sample rate.
The desired target sample rate can be specified between 1 Hz and 100 kHz, but the resulting sample rate can never be higher than the sample rate of the input stream (there is no upsampling support). Resampling is performed using the algorithm selected by the Interpolation setting. It is also possible to apply a fixed offset to the timestamps of the resulting samples.

Online Information

Multi Spectrum Zoom



122/014 € 29.980,00

The Multi Spectrum Zoom block is a very capable tool to monitor a large frequency spectrum. It displays the whole range of a connected sweep block, and allows to define up to 32 areas (simply via cursor selection) that can be monitored in a zoomed in separate graph and waterfall. This way multiple mobile phone and wireless bands can be observed in parallel with a single device and minimal configuration effort (obviously performance will be limited compared to a multi-device setup).

Online Information

RF Drive Test

122/035 € 14.998,00

The RF Drive Test block offers a functional RF drive test solution.
All you need for operation is a PC/Laptop, a SPECTRAN V6 with GPS option (or our GNSS Compass for best possible accuracy) and an OmniLOG PRO antenna (use the magnetic stand to mount it on the rooftop of your vehicle) - done. Optional you can use this solution as a man pack RF monitoring system. Simply place above hardware in backpack and walk around the area you want to monitor/record.

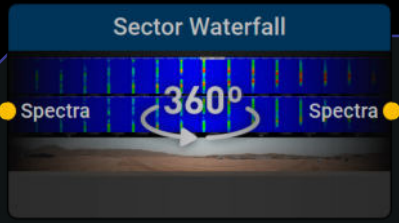
Online Information

Direction Waterfall

INCLUDED

No information available at present.
Please contact our sales department.

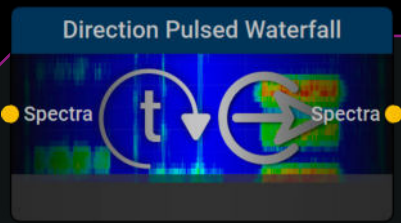
Sector Waterfall



122/020 Direction Finder Bundle € 19.980,00

The IsoLOG Directional Finding block shows you the direction of any selected RF signal(s) in real-time and high accuracy on a map.
The IsoLOG Directional Finding block offers all you need to setup a perfect DF (Directional Finding) application in 3D. It supports our ultra fast sector switching of down to 1µs to catch even ultra short signals. For the usage of this block you need our unique, patented IsoLOG 3D DF antenna array which can detect all RF signals within a broad frequency range in 3D.

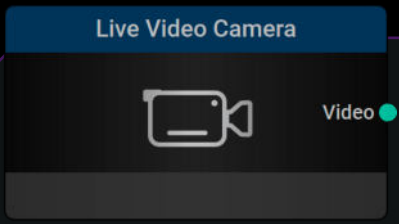
Direction Pulsed Waterfall



INCLUDED

No information available at present.
Please contact our sales department.

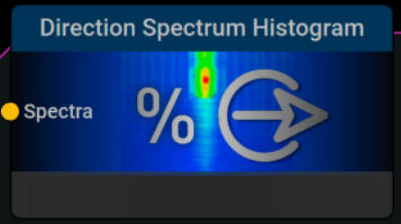
Live Video Camera



122-021 Live Cam Bundle € 498,00

Allows the usage of the system camera (PC internal or USB) in RTSA-Suite PRO.

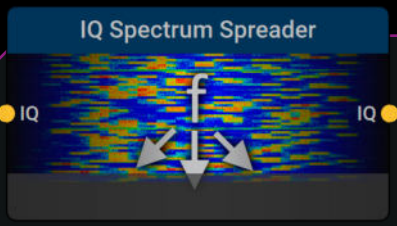
Direction Spectrum Histogram



INCLUDED

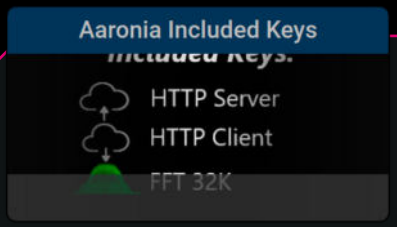
No information available at present.
Please contact our sales department.

INCLUDED



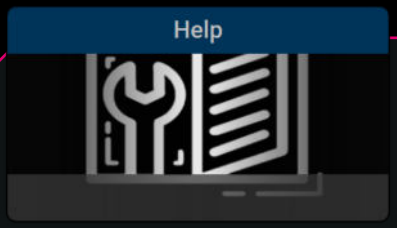
No information available at present.
Please contact our sales department.

INCLUDED



Provides the keys included with the basic RTSA-Suite PRO license for the HTTP Server block, HTTP Client block and the IQ Power Spectrum block.

INCLUDED



Downloads and installs the help database, which can be accessed with the F1 keyboard button or in the upper program menu via “?” -> “Technical Help”.

AARONIA AG
WWW.AARONIA.DE

Gewerbegebiet Aaronia AG II
Aaroniaweg 1
54597 Strickscheid, Germany

Phone: +49 6556 900310
Web: www.aaronia.com
eMail: mail@aaronia.de

MADE IN GERMANY