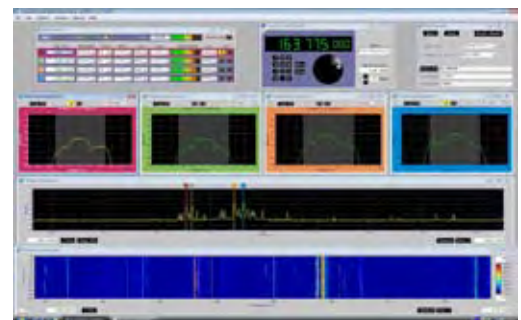


Features and benefits

- Dual receiver configurations for spectrum monitoring and Geolocation applications
- Direction Finding and TDoA
- HF/VHF/UHF/SHF operation is continuously tuned from 1-3000MHz
- 37.5MHz 'Wideband Stepped Stare' architecture
- Simultaneous monitoring and display of four tuned channels (Narrowband Digital Drop Receivers)
- Standard demodulation modes include: AM, FM, SSB, CW
- Low power (<10W) with single 12v supply for dual channel AGS – ideal for man-portable & vehicular based applications
- Standard USB2.0 interface for data and control
- Windows®-based GUI and API
- Integrated GPS provides location, clock conditioning and time stamping
- Optional single board micro PC for autonomous operation and control via network interface
- Single Channel version also available
- Small size 160x130x270 mm
- Weight 3.9kg



Front view - DF/Monitoring, GPS & auxiliary antenna inputs



Example AGS Sensor operator GUI

Description

Acquisition and Geolocation Sensor (AGS) is a dual channel, wideband receiver, optimised for intercept and geolocation of modern waveforms. It provides continuous coverage from 1-3000MHz.

Due to the wideband nature of the receiver, it can support up to 37.5MHz instantaneous bandwidth per receiver channel; providing capability against many modern wideband waveforms.

The two receiver channels can be software configured as two coherent receivers for direction finding or as two independent wideband receivers.

When used as two coherent receivers they can be employed directly for two channel DF algorithms, such as 2 modes from a Butler Matrix network. Alternatively AGS provides a solid state antenna commutating switch that enables up to 5 antenna DF to be employed such as Correlative DF algorithms.

Description (cont.)

The wideband digitiser in AGS employs the latest generation of 16 bit, high dynamic range, wideband ADC's.

In addition to the inherent wideband digitisation, each receiver offers 4 digital down converter (DDC) channels. There is also a powerful onboard FPGA if, for example, FFT processing is required.

A small integral GPS module provides for three functions: 1) position location of the AGS unit 2) local oscillator/clock conditioning and 3) precision time stamping of the data to a few ns. The time stamping feature is employed when TDOA geolocation is being employed from multiple AGS units.

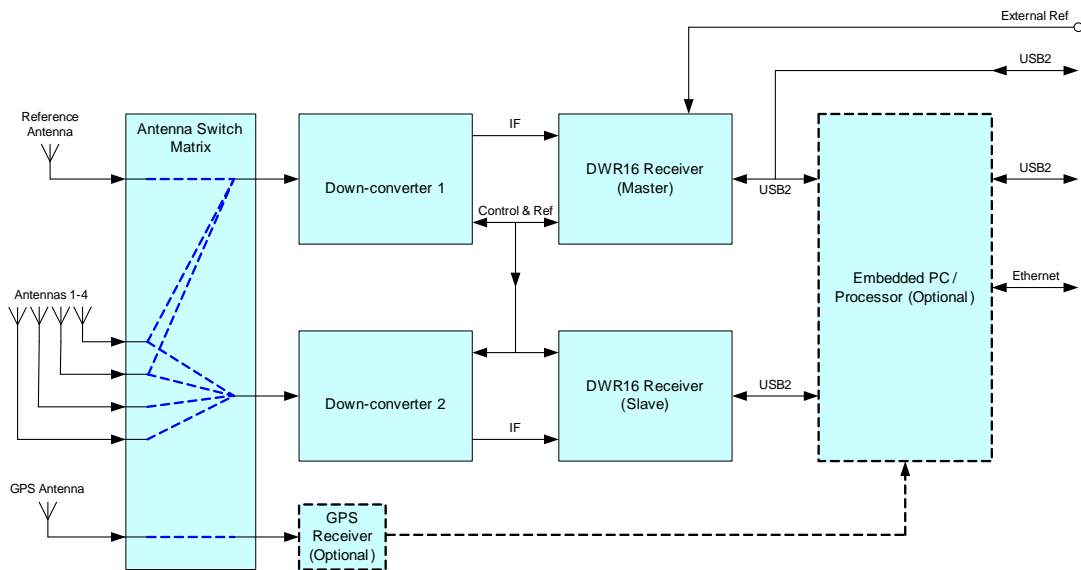
The AGS units are designed to interconnect on a standard IP network. For position fixing at least 2 AGS units are required with DF algorithms and at least 3 AGS units for TDOA applications.

The IP network backbone can be provided either by a wired system or via a wireless mesh network employing say Wimax or satellite links.

For ease of use, AGS provides a standard USB 2 interface for control and data transfer to say a local PC. In addition AGS can be fitted with an internal micro PC running full Windows XP operating system. In either case the PC is used for the standard signal processing, digital filtering, DF, TDOA, demodulation and control. For specialist signal processing an additional DSP solution is available.

AGS is both high performance and low power. The low power is achieved in part by the switched down-converter architecture such that only the required circuitry specific to a band is powered up. The total AGS unit requires only 10 watts from a 12 volt supply when fully operational, however, a sleep mode is also available.

AGS is also available in a single channel version with a commensurate reduction in size and power consumption. This unit is suitable if only signal monitoring is required or if a single receiver channel geolocation technique such as TDOA or FDOA is employed.



Further information and a more comprehensive data sheet is available for request.

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