TrackFi Pro SP-7003

Advanced 5GHz wireless telemetry with meshing capabilities

AB Dynamics improves on its existing TrackFi product line with TrackFi Pro. Using military grade radio hardware, newly available in the license free 5.8GHz ISM band, Track-Fi Pro is powered by a unique meshing protocol which operates across the radio network. This allows low latency, high resilience communication between any radios in the system, even with no direct connection.

Driverless testing undertaken using TrackFi Pro telemetry

TrackFi Pro Radio

With the advances in the level of communications required for on track testing, TrackFi Pro enables users to stream IP data from multiple sources to multiple locations simply and efficiently. With the ability to dynamically add and remove nodes, TrackFi Pro offers unparalleled flexibility for increasing and changing coverage area or adding in extra vehicles to the test environment.

Using low bandwidth COFDM modulation to achieve high speed data transfer rates of up to 8.8Mbit/s gives TrackFi Pro the ability to surpass the performance of TrackFi whilst using a significantly smaller spectral footprint. The range of the system can be increased by chaining nodes together, allowing a much larger total range to be achieved.

A web-browser is used for setup and configuration of the units which are able to be set up with multiple frequency and power configurations. These can be set remotely on each unit enabling the quick re-allocation of frequency space amongst the mesh.

Additional features:

- Multi-user talk-to-talk radio communications integrated across mesh network
- Point to point serial communication between nodes
- Sufficient bandwidth to incorporate easy use of IP cameras for video communication

TrackFi Pro is best suited for the following applications:

- Driverless Testing over larger areas (> 1 km radius from basestation)
- Transfer of real-time measurement data for relative vehicle position and speed (for example with the RT-Range from Oxford Technical Solutions) between two or more moving vehicles.
- Relay of test data from a moving vehicle to the laboratory for analysis while the tests are on-going

Specification:

Interfaces		IP Interface	
RF Interfaces		Ethernet electrical	100BaseT Ethernet
(Antenna 1 and 2)	N-Type	IP address allocation	DHCP dynamic IP addressing
Power & Ethernet	Lemo	Video and audio	Multicast VLC compatible
Comms	Lemo	Multi-user audio comms channel	Interface microphone level/headphone o/p
		Compression	G726 32 kbit audio
Typical range		**Encryption**	
LOS	> 1 km @ 100 mW	Type	AES128 or AES256 (both optional)

RF Interfaces		Control	
Antenna 1 Switched transmit receive antenna		Local control	LEDs power and mesh status
Antenna 2 Receive only antenna		Remote control	Web browser

RF and modulation		Physical	
Output frequency	5.50 to 5.95 GHz	Sealing	Designed to meet IP67
Tuning step size	125 kHz step	Dimensions	L 176 x W 121 x H 62 mm (excluding antennas)
Output power	+20 to 0 dBm in 0.25 dB steps	Mounting	4 x rubber coated magnets
Bandwidth	2.5, 3.0, 3.5, 5.0, 6.0 MHz	Weight	1.4 kg (including heat sink)
Mesh capacity	Up to 8.8 Mb/s		
Modulation	COFDM 360 carrier modulation		
Carrier Modulation	BPSK, QPSK or 16QAM (adaptive)		
FEC rate	FEC1/2		
Receive diversity	Maximum Ratio Combining		
Receive sensitivity	-98 dBm for most robust mode		

Environment		Power	
Temperature range	-10 to 50 deg C	DC input	9 – 18 V (with provided external convertor)
		Power consumption	10 W approx.
		Power output	100 mW +20 to 0 dBm in 0.25 dB steps (± 1 dB)

GET IN TOUCH

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RELEASE DATE
2nd November 2017

ISSUE No.
03