



NAVIGATOR DT Dual Transceiver All-Outdoor Licensed Microwave Gigabit Radio

NAVIGATOR DT is a dual-transceiver all outdoor, IP radio operating from 6GHz to 42GHz, modulations to 4096QAM, and ultra-wide bandwidth operation to 112MHz ETSI and 160MHz ANSI. NAVIGATOR DT can achieve capacities up to 3.2Gbps per radio and even higher capacities with compression enabled or when operating in high capacity mode.

Each NAVIGATOR DT transceiver supports stacked dual sub-carriers resulting in up to four stacked sub-carriers per radio to increase capacity without requiring any additional equipment.

NAVIGATOR DT also includes XPIC and MIMO frequency re-use technologies to double and quadruple capacity using a single licensed channel. XPIC and 2+0 operation are supported using just a single radio. Built-in Radio Link Aggregation (RLA) seamlessly combines traffic from multiple carriers to simplify customer networking.

NAVIGATOR DT is easily and inexpensively field convertible to different sub-bands via user friendly customer replaceable diplexers. Sparing only needs to include the base radio resulting in no longer a need to spare radios in specific sub-bands.

NAVIGATOR DT is an ideal, highly integrated all-outdoor radio for the most demanding applications.

NAVIGATOR DT

Performance

- Up to 3.2Gbps per radio using stacked quad sub-carriers (higher capacity available with compression enabled or when operating in High Capacity Mode)
- Dual transceivers with each transceiver supporting single carrier or stacked dual sub-carrier operation to efficiently increase capacity without adding any more equipment
- QPSK to 4096QAM
- Ultra wide bandwidth operation to 160MHz ANSI and 112MHz ETSI
- 2x (1+0), 1+1 HSB, 2+0, 2+2 HSB, 2 x (2+0 XPIC), and 4+0 operation
- XPIC supported using a single dual transceiver radio
- LOS 4x4 MIMO to quadruple capacity and 2x2 MIMO to double capacity using only a single license
- Built-in Radio Link Aggregation (RLA) seamlessly combines radio traffic across multiple carriers
- Space Diversity and Frequency Diversity available
- Built-in Advanced Digital Pre-Distortion to drive higher transmission performance
- Customer replaceable diplexers to ease operational logistics and improve system flexibility
- Built-in OMT or coupler to combine carriers from each transceiver
- Different frequencies supported in single dual carrier radio (e.g. 6GHz and 11GHz)
- Adaptable antenna interface supports third party antennas to ease migration and upgrade
- Header and payload compression to further increase capacity
- 2 x 10GbE Ethernet interfaces (optional)
- 2 x CPRI interfaces (optional)
- SyncE and IEEE1588v2
- No-touch WiFi maintenance interface (optional)
- Time based feature license available

Applications

Whatever your business or the goals for your network infrastructure, EtherFlex Navigator can play a critical role in backhaul performance, reliability, and security.

- 4G/5G backhaul
- Fiber extension
- Fiber backup
- Leased line replacement
- Small cell backhaul
- Campus connectivity
- Disaster recovery

NAVIGATOR DT DUAL TRANSCEIVER



Dual transceiver NAVIGATOR DT can include a built-in OMT or coupler to combine channels to a single antenna port



Navigator DT is optionally available with two waveguide ports to support single chassis diversity, ring protection, and repeater configurations

Features	
Data Throughput Rate	Up to 3.2Gbps per radio using stacked quad sub-carriers (4x112MHz) or 3Gbps per radio using dual carriers (2x160MHz) without compression
Configurations	2 x (1+0), 2+0 ACAP/ACCP, 4+0 ACAP/ACCP, 1+1, 2+2, 2+0 XPIC, 2 x (2+0) XPIC, 2x2 MIMO, 4x4 MIMO, 1+0 SD, 2+0 SD, 1+0 FD
Radio Link Aggregation	Dual Carriers or Stacked Quad Sub-Carriers (per Radio)
Frequency Range	6-42GHz
Modulation	QPSK to 4096QAM
Air Interface	Full Duplex FDD
Channel Bandwidths per Carrier	10-160MHz ANSI and 14-112MHz ETSI per Carrier (x2) and 10-80MHz ANSI and 14-112MHz ETSI per Stacked Sub-Carrier (x4)
Diplexer	Customer replaceable
Frequency flexibility	Different frequencies supported in single dual carrier radio (e.g. 6GHz and 11GHz)
Tx Power (diplexer output)	Up to 27dBm with Built-In Advanced Digital Pre-Distortion
Interfaces	
Ethernet	1 x 1G RJ45 (POE), 1 x 1G SFP or 1 x 1G RJ45 (POE), 1 x 1G SFP, 2 x 1/2.5G SFP (CPRI capable) or 1 x 1G RJ45 (POE), 1 x 1G SFP, 2 x 1/10G SFP+
CPRI	2 x CPRI (Modes 2, 3, and 4 - 1228.8Mbps, 2457.6Mbps, and 3072.0Mbps)
Console	<ul style="list-style-type: none"> • USB serial port • WiFi for no-touch maintenance (optional)
Ethernet	
Max Packet Size	16000 bytes (Jumbo Frame)
Ethernet Timing and Synchronization	SyncE (G.8261), IEEE 1588V2 Transparent, Boundary, and Ordinary Clock support
Ethernet Features	<ul style="list-style-type: none"> • IPv6, IPv4 • L2-16K MAC Addresses • 4096 VLAN (IEEE 802.1Q) with 1024 VLANs supported concurrently • VLAN tag translation on ingress or egress • Provider Bridging (IEEE 802.1ad, Q-in-Q) • RSTP / MSTP • Radio Link Aggregation
Ethernet Compression	IFG and Pre-Amble Suppression, Header Compression, Payload Compression
QoS Packet Classification	<ul style="list-style-type: none"> • DiffServ (RFC 2475) • VLAN PRI (IEEE 802.1Q-2003) • MAC PRI • Port Priority • Port Number, Protocol • MPLS PRI
QoS Packet Scheduling	<ul style="list-style-type: none"> • Port - Weighted Round Robin (WRR) • Logic Port (cluster) - Weighted Fair Queuing (WFQ) or Strict Priority (SP) • Priority Queue - WFQ, Strict Priority • 8 priority queues per logical port/queue
QoS Congestion Avoidance	Two-rate/three color marking, WRED, Policing, Flow-Control (PAUSE packets, back-pressure)
QoS Traffic Shaping	Configurable
Protection	ITU-T G.8032 Ring
OAM	ITU-T Y.1731, IEEE 802.1ag, 802.3ah, Radius, Syslog
MEF Compliance	MEF9 Services Test Suite, MEF14 Traffic Management Test Suite
GPS	Advanced timing and MIMO operation (optional)
Mechanical and Environmental	
Input Power Requirements	Direct DC (±36 to 60 VDC) or POE (±44 to 57 VDC or 100 to 240VAC)
Weight	9.2kg (20.3lbs) including internal OMT or coupler (2+0 configuration)
Size	23.9cm x 23.2cm x 12.5cm (9.42"x9.12"x4.94") not including antenna nose or handle
Operating Temperature	-33°C to +55°C (-27°F to +131°F) per ETS 300 019-2-4 Class 4M5
Humidity	5%-100%
Weather	IP67 / All Weather
Safety	IEC/EN 62368-1, IEC/EN 60950-22
Regulatory	US FCC Part 101, FCC Part 15B; ETSI EN 302 217

Note: Specifications are typical and subject to change without notice.

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