NAVIGATOR DT

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 5.5Gbps per radio without compression.

Each NAVIGATOR DT transceiver supports dual sub-carriers resulting in up to four sub-carriers per dual transceiver 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.

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.

Performance

- Up to 5.5Gbps per radio using quad sub-carriers without compression
- Dual transceivers with each transceiver supporting single carrier or 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, 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
- 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
- AES256 encryption
- No-touch WiFi maintenance interface (optional)
- GPS antenna (optional)
- Time based feature licensing 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

Features	
Data Throughput Rate	Up to 5.5Gbps per radio using quad sub-carriers or 3Gbps per radio using two carriers 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
Frequency Range	6-42GHz
Modulation	QPSK to 4096QAM
Air Interface	Full Duplex FDD
Channel Bandwidths per Carrier	10-160MHz ANSI and 7-112MHz ETSI
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	• 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	• 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	Interface Gap and Pre-Amble Suppression, Header Compression, Payload Compression
QoS Packet Classification	• DiffServ (RFC 2475) • VLAN PRI (IEEE 802.1Q-2003) • MAC PRI • Port Priority • Port Number, Protocol • MPLS PRI
QoS Packet Scheduling	• 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
Encryption	AES256
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	-48 VDC direct DC or PoE (-36 VDC to -60 VDC range)
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	-33ºC to +55ºC (-27ºF to +131ºF) per ETS 300 019-2-4 Class 4M5
Humidity	5%-100%
Weather	IP67 / All Weather
Safety	IEC 60950-1, -22
Regulatory	US FCC Part 101, FCC Part 15B; ETSI EN 302 217

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

www.bridgewave.com   www.remecbroadband.com

BridgeWave Communications | REMEC Broadband Wireless Networks | 17034 Camino San Bernardo • San Diego, CA 92127 USA

Ph: +(1) 408-567-6908 I Fax: +(1) 858-312-6901