

VHF & UHF DIGITAL SIGNAL BOOSTERS

136 - 174 MHz & 450 - 512 MHz

DH14 Series

Product Features

- Single VHF or UHF and dual band options
- Simultaneous dual band 136 - 174 MHz & 450 - 512 MHz with multiple sub band options in UHF
- Channel Selective, software programmable, 32 channels per band and BW adjustable filters per band
- Fully digital signal boosters, FPGA based
- Auto diagnostic
- Downlink & Uplink squelch, per channel and per time slot
- User adjustable gain control, UL and DL independent, per channel
- Automatic Gain Control, per channel and per time slot
- Weatherproof enclosure, IP67/NEMA4X
- NFPA compliant
- Built in spectrum analyzer
- Preserves far-end communications
- Preserves BTS UL sensitivity
- Compatible with P25 Phase 1 and 2, TETRA, TETRAPOL, NXDN, DMR, Conventional, MPT1327, among others
- UL2524 2nd Edition Listing with SGS, Nationally Recognized Testing Laboratory (NRTL) approved by OSHA for UL2524
- IFC 2015, 2018, 2021 Edition
- NFPA 72 2013 Edition, NFPA 1221 2016 2019 Edition
- Buy American Compliant: Meets the definition of Domestic Construction Material under the Buy American Act



Applications

- Indoor coverage: tunnels and mobile fast-deploy communication units
- Outdoor coverage: oil rigs, stadiums, dense urban areas, rural areas, cliffs

Specification

Value

Specification	Value
Type	Digital Signal Boosters
Frequency range	VHF: 136-174 MHz / UHF: 450 - 512 MHz
Internal duplexer	Multiple bandwidth options available, see table
Number of Channels	32 per band
Channel Bandwidth	150 KHz, 100 KHz, 75 KHz, , 62.5 KHz, 50 KHz, 37.5 KHz, 25 KHz & 12.5 KHz
Number of BWA filters	2 per band
Gain, maximum*	85 dB +/- 2.0 dB
Passband ripple	+/- 3 dB
Gain, manual control	28dB range, digitally controlled in 1dB steps
Antenna isolation	Max Gain + 20dB
Composite output power, DL*	VHF: +24 dBm, UHF: +30 dBm
Composite output power, UL*	VHF & UHF: +24 dBm per band
IM and spurious generation	< -13 dBm
Simplex option	Configurable per channel
Noise figure	9.0 dB max at maximum gain
Impedance	50 Ω
Group delay	Channel Selective 150KHz, 11.5μS Channel Selective 100KHz, 13.5μS Channel Selective 75KHz, 16.0μS Channel Selective 62.5KHz, 18.0μS Channel Selective 50KHz, 21.0μS Channel Selective 37.5KHz, 25.5μS Channel Selective 25KHz, 35.0μS Channel Selective 12.5KHz, 61.5μS

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Maximum input power, no damage	or Band selective: 3.5 to 6.5 μ S, depending on BWA 0 dBm (UL) -35dBm (DL)
RF Connectors	N(f) as standard
RF Input/Output impedance	50 Ω
Uplink squelch function	Yes, user selectable, to avoid UL noise when no carriers present, by time slot and by channel
Self diagnostic platform	Microprocessor based
Alarms	Yes, amplifiers status, power amplifiers status, power supply failure, battery backup failure, temperature, AGC, RF overload, poor antenna isolation.
Local management and supervising	Local access via USB and Ethernet (web browser)
Remote management and supervising	Remote access via Ethernet.
RoHS compliance	Yes
Power Supply	110VAC 60Hz & +24VDC
Power Consumption	100 W
Housing	IP67 / NEMA4X
Temperature range	-13° to 131° F • -25° to +55° C
Cooling	Natural convection
Dimensions	Cabinet Type "C": 27,2 x 20 x 9 in Cabinet Type "E": 30x 24 x 12 in
Mounting	Wall mounting
MTBF	<50.000 hours
FCC ID	P3TDH14-1A

* Value valid for non duplexed units. This value can change depending on the filtering insertion loss of the duplexer.

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DH14 [CABINET]	A	- A [BAND]	- [FILTERING VHF]	[FILTERING UHF]	[PORT CONFIGURATION]
Type C		V: 136-174	ND: NO DUPLEX	ND: NO DUPLEX	BLANK: BOTH ENDS
Type E		L: 380-430	20: 2 MHz BW	07: 0.7MHz BW - Band U 450-470MHz	-DD: DONOR SIDE ONLY
		U: 450-470	35: 3.5 MHz BW	07: 0.7MHz BW - Band T 470-512MHz	-SD: SERVICE SIDE ONLY
		T: 470-512	1A: 1 x ACF	20: 2.0MHz BW - Band U 450-470MHz	
		UT: 450-512	2A: 2 x ACF	20: 2.0MHz BW - Band T 470-512MHz	
		VU: 136-174+450-470		40: 4.0MHz BW - Band U 450-470MHz	
		VT: 136-174+470-512		15: 1.5MHz BW - Band T 470-512MHz	
		VUT: 136-174+450-512		50: 5.0MHz BW - Band L 380-430MHz	
				50: 5.0MHz BW - Band U 450-470MHz	
				MDA: 453-454/458-459 & 460-462/465-467MHz	
				WMO: 489-491/492-494 & 496.3-497/499.3-500 MHz	
				RWC: 483.4-484.5/486.4-487.5 & 488.5-489/491.5-492 MHz	
				2020: Dual sub band 2.0MHz BW each - Band U 450-470MHz	
				0740: Dual sub band 0.7 and 4.0MHz BW each - Band U 450-470MHz	
				0707: Dual sub band 0.7MHz BW each - Band T 470-512MHz	
				1515: Dual sub band 1.5MHz BW each - Band T 470-512MHz	
				0715: Dual sub band 0.7 and 1.5MHz BW each - Band T 470-512MHz	
				2007: Dual sub band 2.0MHz BW in Band U 450-470MHz and 0.7MHz BW in Band T 470-512MHz	
				2015: Dual sub band 2.0MHz BW in Band U 450-470MHz and 1.5MHz BW in Band T 470-512MHz	
				2020: Dual sub band 2.0MHz BW in Band U 450-470MHz and 2.0MHz BW in Band T 470-512MHz	

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- * Cabinet type depends on band and filtering options selection
- * Only one filter option per band

WARNING: This is NOT a CONSUMER device. It is designed for installation by FCC LICENSEES and QUALIFIED INSTALLERS. You MUST have an FCC LICENSE or express consent of an FCC Licensee to operate this device. Unauthorized use may result in significant forfeiture penalties, including penalties in excess of \$100,000 for each continuing violation.