

# VHF & UHF DIGITAL SIGNAL BOOSTERS

## 136 - 174 MHz & 380 - 512 MHz

**DH14 Series**

### Product Features

- Simultaneous dual band 136 - 174 MHz & 380 - 512 MHz
- Channel Selective, software programmable, 32 channels 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
- Oscillation detection with alarm and auto-shutdown
- Weatherproof enclosure, IP67/NEMA4X
- 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

Type	Digital Signal Boosters
Frequency range	VHF: 136-174 MHz / UHF: 380 - 512 MHz
Internal Duplexer	See part number configurator
Number of Channels	32 + 2 BWA per band
Available channel filters	150 KHz, 100 KHz, 75 KHz, , 62.5 KHz, 50 KHz, 37.5 KHz, 25 KHz & 12.5 KHz
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 composite UHF: +30 dBm
Composite output power, UL *	VHF & UHF: +24 dBm composite 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 or Band selective: 3.5 to 6.5μS, depending on BWA

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

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## 136 - 174 MHz & 380 - 512 MHz

**DH14 Series**

Maximum input power, no damage	0 dBm (UL) -35dBm (DL)
Connectors	N(f) as standard
RF Input/Output impedance	50Ω
Uplink squelch function	Yes, user selectable, to avoid UL noise when no carriers present, by time slot and by channel (Channel Selective model only)
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, oscillation.
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
Mounting	Wall mounting
MTBF	<50.000 hours
FCC ID	P3TDH14-1A

### PART NUMBER CONFIGURATOR

DH14E	A	- A [BAND]	-	[FILTERING VHF]	[FILTERING UHF]	[PORT CONFIGURATION]
		<b>VL:</b> 136-174+380-430		<b>ND:</b> NO DUPLEX	<b>ND:</b> NO DUPLEX	BLANK: BOTH ENDS
		<b>VU:</b> 136-174+450-470		<b>20:</b> 2MHz BW	<b>07:</b> 0.7MHz BW - Band U 450-470MHz	<b>-DD:</b> DONOR SIDE ONLY
		<b>VT:</b> 136-174+470-512		<b>35:</b> 3MHz BW	<b>07:</b> 0.7MHz BW - Band T 470-512MHz	<b>-SD:</b> SERVICE SIDE ONLY
		<b>VUT:</b> 136-174+450-512			<b>20:</b> 2.0MHz BW - Band U 450-470MHz	
					<b>20:</b> 2.0MHz BW - Band T 470-512MHz	
					<b>40:</b> 4.0MHz BW - Band U 450-470MHz	
					<b>15:</b> 1.5MHz BW - Band T 470-512MHz	
					<b>50:</b> 5.0MHz BW - Band L 380-430MHz	
					<b>50:</b> 5.0MHz BW - Band U 450-470MHz	
					<b>MDA:</b> 453-454/458-459 & 460-462/465-467MHz	
					<b>WMO:</b> 489-491/492-494 & 496.3-497/499.3-500 MHz	
					<b>RWC:</b> 483.4-484.5/486.4-487.5 & 488.5-489/491.5-492 MHz	
					<b>2020:</b> Dual sub band 2.0MHz BW each - Band U 450-470MHz	
					<b>0740:</b> Dual sub band 0.7 and 4.0MHz BW each - Band U 450-470MHz	
					<b>0707:</b> Dual sub band 0.7MHz BW each - Band T 470-512MHz	
					<b>1515:</b> Dual sub band 1.5MHz BW each - Band T 470-512MHz	
					<b>0715:</b> Dual sub band 0.7 and 1.5MHz BW each - Band T 470-512MHz	
					<b>2007:</b> Dual sub band 2.0MHz BW in Band U 450-470MHz and 0.7MHz BW in Band T 470-512MHz	
					<b>2015:</b> Dual sub band 2.0MHz BW in Band U 450-470MHz and 1.5MHz BW in Band T 470-512MHz	
					<b>2020:</b> Dual sub band 2.0MHz BW in Band U 450-470MHz and 2.0MHz BW in Band T 470-512MHz	

**\* 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 LICENCE 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.