

VHF DIGITAL SIGNAL BOOSTERS

136 - 174 MHz

DH14 Series

Product Features

- 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
- 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

Specification	Value
Type	Digital Signal Boosters
Frequency range	VHF: 136-174 MHz
Internal Duplexer	Available
Number of Channels	32 channels + 2 BW adjustable per band
Available channel filter BW	150 KHz, 100 KHz, 75 KHz, 62.5 KHz, 50 KHz, 37.5 KHz, 25 KHz & 12.5 KHz
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
Gain, maximum *	80 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 *	+24 dBm composite
Composite output power, UL *	+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
Maximum input power, no damage	0 dBm (UL) -35dBm (DL)

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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.
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

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

MODEL	BAND	BW Duplexer	Port Config	Dimensions
DH14CA-AV-ND	VHF	Non Duplexer	Non Duplexer	27,2 x 20 x 9 in
DH14CA-AV-20	VHF	2MHz BW	Both sides Duplexed	27,2 x 20 x 9 in
DH14CA-AV-35	VHF	3.5MHz BW	Both sides Duplexed	27,2 x 20 x 9 in
DH14CA-AV-20-DD	VHF	2MHz BW	Donor side Only	27,2 x 20 x 9 in
DH14CA-AV-35-DD	VHF	3.5MHz BW	Donor side Only	27,2 x 20 x 9 in
DH14CA-AV-20-SD	VHF	2MHz BW	Serving side Only	27,2 x 20 x 9 in
DH14CA-AV-35-SD	VHF	3.5MHz BW	Serving side Only	27,2 x 20 x 9 in

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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.