

# VHF DIGITAL SIGNAL BOOSTERS

## 155 - 174 MHz

**DH124-028**  
**DH124-029**

### Product Features

- Channel Selective, software programmable
- Fully digital signal boosters, FPGA based
- Auto diagnostic
- 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



### 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 (without Antenna Feedback Cancellation)   |
| Frequency range                | 155 - 174 MHz   |
| Passband BW                    | 2MHz max; 3MHz min.   |
| Internal Duplexer              | Yes   |
| Number of Channels             | Channel Selective (90KHz, 45KHz, 30KHz, 20KHz, and 15KHz BW), 1 to 32   |
| Gain, maximum                  | 80 dB   |
| Passband ripple                | +/- 2.0 dB  |
| Gain, manual control           | 28dB range, digitally controlled in 1dB steps   |
| Antenna isolation              | Max Gain + 15 dB  |
| Composite output power, DL     | +24 dBm composite   |
| Composite output power, UL     | +24 dBm composite   |
| IM and spurious generation     | < -13 dBm   |
| Simplex option                 | Configurable  |
| Noise figure                   | 9.0 dB max at maximum gain  |
| Impedance                      | 50 Ω  |
| Group delay                    | Channel Selective 90KHz, 14μS<br>Channel Selective 45KHz, 23μS<br>Channel Selective 30KHz, 32μS<br>Channel Selective 20KHz, 45μS<br>Channel Selective 15KHz, 55μS |
| Maximum input power, no damage | 0 dBm (UL)<br>-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  |

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| 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. Wireless modem, SNMP as optional.   |
| RoHS compliance                   | Yes   |
| Power Supply                      | see table   |
| Power Consumption                 | 170 W   |
| Housing                           | IP67 / NEMA4X   |
| Temperature range                 | -13° to 131° F • -25° to +55° C   |
| Cooling                           | Natural convection  |
| Dimension                         | 20.2 x 18.2 x 9 inches • 514 x 462 x 230 mm   |
| Weight                            | 55 lbs • 25 kg  |
| Mounting                          | Wall mounting   |
| MTBF                              | <50.000 hours   |

| Product Code | Class                                | Config. | Composite Output Power | Power Supply Option |
|--------------|--------------------------------------|---------|------------------------|---------------------|
| DH124-028    | A - 32 channels UL<br>32 channels DL | 01      | + 24dBm per band       | AC                  |
| DH124-029    | A - 32 channels UL<br>32 channels DL | 01      | + 24dBm per band       | DC                  |

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