

# PS 700 + PS 800 DIGITAL SIGNAL BOOSTERS

**DH7S-A  
DH7S-D**

## Product Features

- Supports Public Safety 700 & 800 MHz in single or dual band versions
- FirstNet Band 14 available
- Upgradeable options: single to dual band, low to high power, class B to class A
- Channel Selective, software programmable or adjustable bandwidths
- Fully digital signal boosters, FPGA based
- US and Canada 700MHz band compatible, software adjustable
- Auto diagnostic
- Uplink and downlink squelch, per channel and per time slot on channel selective mode
- User adjustable gain control, UL and DL independent, per band, per channel and per time slot on channel selective mode
- Automatic gain control per band, per channel, per time slot
- Oscillation detection with alarm and auto-shutdown
- Antenna Isolation measurement feature
- Antenna Isolation alarm
- Built-in input and output spectrum analyzer
- Weatherproof enclosure, IP67/NEMA4X
- NFPA compliant with dry contact alarms
- PS700 and PS800 High capacity versions (64 channels)



## Applications

- For P25 Phase I & Phase II, DMR, NXDN and Conventional systems.
- Indoor coverage: buildings, schools, hospitals, casinos, tunnels, metro stations.
- Outdoor coverage: oil rigs, stadiums, dense urban areas, rural areas.

## Specification

| Specification          | Value   |
|------------------------|---|
| Type                   | Single and Dual Band Digital Signal Boosters  |
| Frequency range        | 758-775 / 788-805 MHz or 764-776 / 794-806 MHz (software adjustable) & 806-824 / 851-869MHz   |
| Passband BW. min       | Channel Selective (150KHz, 100KHz, 75KHz, 62.5KHz, 50KHz, 37.5KHz, 25KHz and 12.5KHz) or 100KHz to full band (depends of configuration)   |
| Number of Passband     | PS700 + FirstNet Class B: 1 FirstNet + 1 BWA<br>PS700 + FirstNet Class A: 32 channel filters + 1 FirstNet + 1 BWA<br>PS700 + FirstNet High Capacity: 64 filters + 1 FirstNet<br>PS800 Class B: 2 BWA<br>PS800 Class A: 32 channel filters + 2 BWA<br>PS800 + High Capacity: 64 filters<br>PS700 + FirstNet + PS800: Class B: 2 BWA per band<br>PS700 + FirstNet + PS800: Class A: 32 channel filters + 2 BWA per band |
| Channel Filter Options | 150KHz, 100KHz, 75KHz, 62.5KHz, 50KHz, 37.5KHz, 25KHz and 12.5KHz   |
| BWA Filters            | Adjustable from 100KHz to fullband in step in steps of 50KHz  |
| Gain, maximum          | 85 dB   |
| Passband ripple        | +/- 2.0 dB  |
| Gain, manual control   | 30dB range, digitally controlled in 1dB steps, per link, per band   |
| Antenna isolation      | Max Gain + 20dB   |

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## DH7S-A DH7S-D

|                                       |   |
|---------------------------------------|---|
| Composite output power, DL            | +33dBm or +27dBm (depending on configuration) per band  |
| Composite output power, UL            | +27dBm  |
| IMD                                   | < -13dBm  |
| Noise figure                          | 9.0dB max   |
| Group delay                           | Channel Selective 150KHz, 11.5µS<br>Channel Selective 100KHz, 13.5µS<br>Channel Selective 75KHz, 16.0µS<br>Channel Selective 62.5KHz, 18.0µS<br>Channel Selective 50KHz, 21.0µS<br>Channel Selective 37.5KHz, 25.5µS<br>Channel Selective 25KHz, 35.0µS<br>Channel Selective 12.5KHz, 61.5µS<br>or Band Selective: 3.5 to 6.5µS, depending on BWA |
| Maximum input power, no damage        | +5dBm (UL), +5dBm (DL)  |
| Maximum input power, normal operation | 0dBm (UL), 0dBm (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, per band, per time slot and per channel (on channel selective mode)   |
| Self diagnostic platform              | Microprocessor based  |
| Alarms                                | Yes, amplifiers status, power amplifiers status, power supply failure, temperature, AGC, RF overload, donor antenna failure, VSWR Indoor.   |
| 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                          | AC 110 VAC, 50/60 Hz or DC +24VDC & -48VDC (depending on configuration)   |
| Power consumption                     | 80W in dual band, 62W in single band  |
| Housing                               | IP67 / NEMA4X   |
| Temperature range                     | -13° to 131° F • -25° to +55° C   |
| Cooling                               | Natural convection  |
| Weight                                | 52.9 lbs • 24 kg  |
| Dimension                             | 17.7 x 17.3 x 5.1 in • 450 x 440 x 130 mm   |
| Mounting                              | Wall or pole mounting (Rack mounting option available)  |
| MTBF                                  | 250000 hours  |

| Configurations       | CLASS A      |              |              |              |
|----------------------|--------------|--------------|--------------|--------------|
| Bands                | +33 dBm AC   | +33 dBm DC   | +27 dBm AC   | +27 dBm DC   |
| 700 + FirstNet       | DH7S-A-733A  | DH7S-D-733A  | DH7S-A-727A  | DH7S-D-727A  |
| 800 MHz              | DH7S-A-S33A  | DH7S-D-S33A  | DH7S-A-S27A  | DH7S-D-S27A  |
| 800 + 700 + FirstNet | DH7S-A-7S33A | DH7S-D-7S33A | DH7S-A-7S27A | DH7S-D-7S27A |
| 700MHz High Capacity | DH7S-A-733AH | DH7S-D-733AH | DH7S-A-727AH | DH7S-D-727AH |
| 800MHz High Capacity | DH7S-A-S33AH | DH7S-D-S33AH | DH7S-A-S27AH | DH7S-D-S27AH |

| Configurations       | CLASS B      |              |              |              |
|----------------------|--------------|--------------|--------------|--------------|
| Bands                | +33 dBm AC   | +33 dBm DC   | +27 dBm AC   | +27 dBm DC   |
| 700 + FirstNet       | DH7S-A-733B  | DH7S-D-733B  | -            | -            |
| 800 MHz              | DH7S-A-S33B  | DH7S-D-S33B  | -            | -            |
| 800 + 700 + FirstNet | DH7S-A-7S33B | DH7S-D-7S33B | DH7S-A-7S27B | DH7S-D-7S27B |

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# PS 700 + PS 800 DIGITAL SIGNAL BOOSTERS

## DH7S-A DH7S-D

### Available Upgrades

| MODELS<br>Replace "X" for<br>A: AC or D: DC | DESCRIPTION  | PWR from<br>+27dBm to<br>+33dBm. Same<br>Class and Band | From Class B to<br>Class A. Same<br>Band and PWR | From Single to<br>Dual Band.<br>Same Class and<br>PWR | From Class B to<br>Class A and<br>from Single to<br>Dual Band.<br>Same Power | From +27dBm<br>to +33dBm and<br>from Single to<br>Dual Band.<br>Same Class | PWR from<br>+27dBm to<br>+33dBm and<br>from Class B to<br>Class A |
|---|--|---|--|---|--|--|---|
| DH7S-X-7S27B                                | PS800 + 700 MHz + FirstNet, Dual Band +27dBm p/b, Class B, 2 Adj sub band p/b, NFPA              | ●   | ●  |   |  |  | ●   |
| DH7S-X-733B                                 | PS700 MHz + FirstNet, Single Band +33dBm, Class B, 2 Adj sub band, NFPA                          |   | ●  | ●   | ●  |  |   |
| DH7S-X-S33B                                 | PS800 MHz, Single Band +33dBm, Class B, 2 Adj sub band, NFPA                                     |   | ●  | ●   | ●  |  |   |
| DH7S-X-7S33B                                | PS800 + 700 MHz + FirstNet, Dual Band +33dBm p/b, Class B, 2 Adj sub band p/b, NFPA              |   | ●  |   |  |  |   |
| DH7S-X-727A                                 | PS700 MHz + FirstNet, Single Band +27dBm, Class A, 32 filters + 2 Adj sub band, NFPA             | ●   |  | ●   |  | ●  |   |
| DH7S-X-S27A                                 | PS800 MHz, Single Band +27dBm, Class A, 32 filters + 2 Adj sub band, NFPA                        | ●   |  | ●   |  | ●  |   |
| DH7S-X-7S27A                                | PS800 + 700 MHz + FirstNet, Dual Band +27dBm p/b, Class A, 32 filters p/b + 2 Adj sub band, NFPA | ●   |  |   |  |  |   |
| DH7S-X-733A                                 | PS700 MHz + FirstNet, Single Band +33dBm, 32 filters + 2 Adj sub band, NFPA                      |   |  | ●   |  |  |   |
| DH7S-X-S33A                                 | PS800 MHz, Single Band +33dBm, Class A, 32 filters + 2 Adj sub band, NFPA                        |   |  | ●   |  |  |   |

### Upgrades Code

### Description

|                       |  |
|-----------------------|--|
| UPGR-DH7S-7S27B-7S33B | CONFIGURATION UPGRADE DH7S FAMILY. From PS700, +27dBm, Class B to PS700, +33dBm, Class B             |
| UPGR-DH7S-7S27B-7S27A | CONFIGURATION UPGRADE DH7S FAMILY. From PS700&PS800, +27dBm, Class B to PS700&PS800, +27dBm, Class A |
| UPGR-DH7S-7S27B-7S33A | CONFIGURATION UPGRADE DH7S FAMILY. From PS700&PS800, +27dBm, Class B to PS700&PS800, +33dBm, Class A |
| UPGR-DH7S-733B-733A   | CONFIGURATION UPGRADE DH7S FAMILY. From PS700, +33dBm, Class B to PS700, +33dBm, Class A             |
| UPGR-DH7S-S33B-S33A   | CONFIGURATION UPGRADE DH7S FAMILY. From PS800, +33dBm, Class B to PS800, +33dBm, Class A             |
| UPGR-DH7S-7S33B-7S33A | CONFIGURATION UPGRADE DH7S FAMILY. From PS700&PS800, +33dBm, Class B to PS700&PS800, +33dBm, Class A |
| UPGR-DH7S-733B-7S33B  | CONFIGURATION UPGRADE DH7S FAMILY. From PS700, +33dBm, Class B to PS700&PS800, +33dBm, Class B       |
| UPGR-DH7S-S33B-7S33B  | CONFIGURATION UPGRADE DH7S FAMILY. From PS800, +33dBm, Class B to PS700&PS800, +33dBm, Class B       |
| UPGR-DH7S-733A-7S33A  | CONFIGURATION UPGRADE DH7S FAMILY. From PS700, +33dBm, Class A to PS700&PS800, +33dBm, Class A       |
| UPGR-DH7S-S33A-7S33A  | CONFIGURATION UPGRADE DH7S FAMILY. From PS800, +33dBm, Class A to PS700&PS800, +33dBm, Class A       |
| UPGR-DH7S-733B-7S33A  | CONFIGURATION UPGRADE DH7S FAMILY. From PS700, +33dBm, Class B to PS700&PS800, +33dBm, Class A       |
| UPGR-DH7S-S33B-7S33A  | CONFIGURATION UPGRADE DH7S FAMILY. From PS800, +33dBm, Class B to PS700&PS800, +33dBm, Class A       |
| UPGR-DH7S-727A-733A   | CONFIGURATION UPGRADE DH7S FAMILY. From PS700, +27dBm, Class A to PS700, +33dBm, Class A             |
| UPGR-DH7S-S27A-S33A   | CONFIGURATION UPGRADE DH7S FAMILY. From PS800, +27dBm, Class A to PS800, +33dBm, Class A             |
| UPGR-DH7S-7S27A-7S33A | CONFIGURATION UPGRADE DH7S FAMILY. From PS700&PS800, +27dBm, Class A to PS700&PS800, +33dBm, Class A |
| UPGR-DH7S-727A-7S27A  | CONFIGURATION UPGRADE DH7S FAMILY. From PS700, +27dBm, Class A to PS700&PS800, +27dBm, Class A       |
| UPGR-DH7S-S27A-7S27A  | CONFIGURATION UPGRADE DH7S FAMILY. From PS800, +27dBm, Class A to PS700&PS800, +27dBm, Class A       |
| UPGR-DH7S-727A-7S33A  | CONFIGURATION UPGRADE DH7S FAMILY. From PS700, +27dBm, Class A to PS700&PS800, +33dBm, Class A       |
| UPGR-DH7S-S27A-7S33A  | CONFIGURATION UPGRADE DH7S FAMILY. From PS800, +27dBm, Class A to PS700&PS800, +33dBm, Class A       |

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