

DSP85/DSP95 Digital Repeaters: 1/2W, 1W and 5W

Product Applications

An in-building digital repeater is utilized to propagate over-the-air radio frequency signals from a local cell tower into buildings via a fiber or coax distributed antenna system (DAS). Once installed, a digital repeater provides the signal power necessary for wireless devices in the building to operate seamlessly.

Utilizing high quality state-of-the-art DSP components, Cellular Specialties, Inc. (CSI) was the first company to introduce a digitally filtered repeater capable of passing all of the wireless service provider spectrum requirements. The CSI digital repeater line utilizes digital signal processing (DSP) technology to achieve the highest level of performance and flexibility available today. This product offers major benefits over traditional in-building repeaters including unlimited spectrum agility, sharp filtering, and state-of-the-art monitoring and control. Available in different housing options, multiple frequency bands, single-band to quad-band configurations and various port configurations, CSI has a digital repeater to suit any in-building application.

Product Highlights

Repeater Line Overview

- Remote monitoring and control
- 1/2, 1 and 5 watt power options
- Single, dual, tri and quad-band configurations available
 - Simplex port configurations are available in modular form
- Modular units are flexible and lightweight
 - Easily accommodates up to four frequency bands
 - MIMO options available
- Wall mount original series housing is sturdy and ideal for single and dual-band systems

Digital Software-based Filter Technology

- High selectivity
 - DSP filter technology provides a higher standard of filter characteristics and excellent out-of-band rejection
- Spectrum agility
 - User-defined band edges
 - From full band to multiple sub-bands per technology
- Easily change filter combinations
 - Standard filter combinations on demand
 - Custom filters can be downloaded locally or remotely



DSP85-250/251/255
Wall Mount Modular Series



DSP85-250/251/255
Rack Mount Modular Series



DSP85-201
Original Series Single Band

Accessories

Contact CSI for additional accessories including:

- Modems
- Mounting Kits
- UPS Power Supplies



Product Info

Electrical Specifications

Passband options
 Linear output power (typical)
 1/2 watt
 1 watt
 Noise figure @ max gain
 AGC dynamic range
 Propagation delay
 Gain adjustment range
 VSWR
 Spurious emissions

Single Band

1 MHz - full band

 27 dBm
 30 dBm
 5.0 dB
 31 dB
 <2.5 microseconds
 30 dB, 0.5 dB steps
 <1.5:1
 <-13 dBm

Dual Band

1 MHz - full band

 27 dBm
 30 dBm
 5.0 dB
 31 dB
 <2.5 microseconds
 30 dB, 0.5 dB steps
 <1.5:1
 <-13 dBm

Mechanical Specifications

Power Requirements
 1/2 watt

 1 watt

 5 watt

Dimensions

DSP85/DSP85-201
 DSP85N
 DSP85-250 and 251
 DSP95-255

Weight/Shipping Weight

DSP85
 DSP85N
 DSP85-250 and 251
 DSP95-255

Connectors

Operating Temperature

Single Band

0.9 Amps @ 120 VAC
 0.5 Amps @ 230 VAC
 1.1 Amps @ 120 VAC
 0.6 Amps @ 230 VAC
 1.2 Amps @ 120 VAC
 0.7 Amps @ 230 VAC

 18.5 x 10 x 4.7 in
 20 x 16 x 6 in
 19 x 18 x 3.5 in (2U)
 16.63 x 19 x 3.5 in (3U)

 23 lbs / 28 lbs
 23 lbs / 28 lbs
 17 lbs / 27 lbs
 24 lbs / 28 lbs
 N-female
 -10° to 50° C

Dual Band

1.5 Amps @ 120 VAC
 0.8 Amps @ 230 VAC
 1.7 Amps @ 120 VAC
 0.9 Amps @ 230 VAC
 2.0 Amps @ 120 VAC
 1.1 Amps @ 230 VAC

 19.25 x 18.6 x 4.7 in

 19 x 18 x 3.5 in (2U)
 16.63 x 19 x 3.5 in (3U)

 42 lbs / 50 lbs

 21 lbs / 31 lbs
 34 lbs / 38 lbs
 N-female
 -10° to 50° C

Repeater Lines and Features

| | DSP85 | DSP85-201 | DSP85N | DSP85N-201 | DSP85-250 | DSP85-251 | DSP95-255 |
|--------------------------|--------|-----------|--------|------------|-----------|-----------|---------------------|
| Power level | 27 dBm | 30 dBm | 27 dBm | 30 dBm | 27 dBm | 30 dBm | 27 dBm UL/37 dBm DL |
| Chassis type | Wall | Wall | Nema 4 | Nema 4 | Rack/Wall | Rack/Wall | Rack/Wall |
| Gain | 85 | 85 | 85 | 85 | 85 | 85 | 90 |
| Frequency | | | | | | | |
| Public Safety 700 | ✓ | ✓ | ✓ | ✓ | | | |
| Public Safety 800 | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ |
| Cellular 850 | ✓ | ✓ | | | ✓ | ✓ | ✓ |
| PCS 1900 | ✓ | ✓ | | | ✓ | ✓ | ✓ |
| AWS | | | | | ✓ | | ✓ |
| L7 | | | | | ✓ | ✓ | |
| U7C | | | | | ✓ | ✓ | ✓ |
| Simplex | | | | | ✓ | ✓ | |
| MIMO | | | | | ✓ | ✓ | ✓ |
| Heatsink cooling | ✓ | ✓ | ✓ | ✓ | | | |
| Fan cooling | | | | | ✓ | ✓ | ✓ |

