

# 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.

Westell, formerly 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 utilizing high quality state-of-the-art DSP components. The Westell 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, Westell has a digital repeater to suit any in-building application.



DSP85-250/251/255 Rack Mount Modular Series

## Accessories

- Modems
- Mounting Kits
- UPS Power Supplies

## 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/DSP95 Digital Repeaters: ½W, 1W and 5W



## Electrical Specifications

	Single Band	Dual Band
Passband options	1 MHz - full band	1 MHz - full band
Linear output power (typical)		
1/2 watt	27 dBm	27 dBm
1 watt	30 dBm	30 dBm
5 watts	37 dBm	37 dBm
Noise figure @ max gain	5.0 dB	5.0 dB
AGC dynamic range	31 dB	31 dB
Propagation delay	<2.5 microseconds	<2.5 microseconds
Gain adjustment range	30 dB, 0.5 dB steps	30 dB, 0.5 dB steps
VSWR	<1.5:1	<1.5:1
Spurious emissions	<-13 dBm	<-13 dBm

## Mechanical Specifications

	Single Band	Dual Band
Power Requirements		
1/2 watt	0.9 Amps @ 120 VAC / 0.5 Amps @ 230 VAC	1.5 Amps @ 120 VAC / 0.8 Amps @ 230 VAC
1 watt	1.1 Amps @ 120 VAC / 0.6 Amps @ 230 VAC	1.7 Amps @ 120 VAC / 0.9 Amps @ 230 VAC
5 watt	1.2 Amps @ 120 VAC / 0.7 Amps @ 230 VAC	2.0 Amps @ 120 VAC / 1.1 Amps @ 230 VAC
Dimensions		
DSP85/DSP85-201	18.5 x 10 x 4.7 in (approx.)	19.25 x 18.6 x 4.7 in (approx.)
DSP85N	20 x 16 x 6 in (approx.)	-
DSP85-250 and 251	19 x 18 x 3.5 in (2U) (approx.)	19 x 18 x 3.5 in (2U) (approx.)
DSP95-255	18.63 x 19.25 x 5.25 in (3U) (approx.)	18.63 x 19.25 x 5.25 in (3U) (approx.)
Weight/Shipping Weight		
DSP85	23 lbs / 28 lbs (approx.)	42 lbs / 50 lbs (approx.)
DSP85N	23 lbs / 28 lbs (approx.)	-
DSP85-250 and 251	17 lbs / 27 lbs (approx.)	21 lbs / 31 lbs (approx.)
DSP95-255	24 lbs / 28 lbs (approx.)	34 lbs / 38 lbs (approx.)
Connectors	N-female	N-female
Operating Temperature	-10° to 50° C	-10° to 50° C

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## 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	X	X	X	X			
Public Safety 800	X	X	X	X	X	X	X
Cellular 850	X	X			X	X	X
PCS 1900	X	X			X	X	X
AWS					X		X
L7					X	X	
U7C					X	X	X
Simplex					X	X	
MIMO					X	X	X
Heatsink cooling	X	X	X	X			
Fan cooling					X	X	X

Specifications subject to change without notice



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