

Westell® | ProtectLink™ Class A & B BDAs

UL2524 & NFPA Public Safety BDA

General Information

The Westell ProtectLink Public Safety BDAs represent the next revolution in Public Safety DAS design, offering the most flexible platform available on the market. The platform includes 700/800 MHz band support, adjustable 0.5 through 2.5 watt RF output options, Class A or Class B operation, and dual-band operation. Westell's ProtectLink public safety BDAs are an integral part of any NFPA complaint ERCES (Emergency Responder Communication Enhancement System).

ProtectLink includes a full-featured, easy to use web GUI. The product also includes adjustable frequency filters, intelligent oscillation management, dedicated FirstNet® filter profile, built-in isolation test, NFPA/UL2524 alarm capabilities, built-in annunciator communication link with an optional remote annunciator panel and built-in battery backup circuitry. Class A settings include 32 filters per band with individual filter bandwidths starting at 12.5KHz to full band. Class B settings include four individual filters starting at 250KHz bandwidth to full band.

Frequency Range

- Uplink Standard models: 788-806 / 806-824 MHz
 CAN model: 798-806 / 806-824 MHz
- Downlink Standard models: 758-776 / 851-869 MHz
 CAN model: 768-776 / 851-869 MHz

Product Highlights

- Available in easy-to-order BDA kits (12 hour and 24 hour)
- RF power, Class B and Class A operation
- Intelligent oscillation management, self-healing
- Gain, standard models: 90dB downlink / 80dB uplink
- Gain, CAN model: 75dB downlink and uplink
- Built-in battery charging and alarm circuitry
- Built-in annunciator communication link
- Emergency transmit disable
- Supports SNMP
- Fast uplink and downlink squelch per filter
- P25 phase 2 AGC (Automatic Gain Control) per time slot to address near/far users on the same channel
- Independent gain control per filter
- Compact footprint
- NEMA4 conduit glands included
- Supports both digital and analog modulation
- Supports P25 phase 1 & 2
- 3-year warranty

Product Certification

- UL 2524: In-building 2-Way Emergency Responder Communication Enhancement Systems (ERCES)
- UL 508A: Industrial control panels (UL50E Type 4)
- UL 62368-1: Audio/Video, Information and Communication Technology Equipment - Part 1: Safety Requirements
- FCC ID:NVRDPSA81090-78



ProtectLink BDA

Ordering Information

Part Number	Description
ProtectLink™ BDAs	
CS40-734834-2524	Dual-band 700/800 MHz, 0.5, 1, 2.5 watt, Class A/B BDA
CS40-734834-CAN	Dual-band 700/800 MHz, 0.5, 1, 2.5 watt, Class A/B BDA. Canada, ISSED RSS-131
CS40-734834-00D-A0	Dual-band 700/800 MHz, 2.5 watt, fiber DAS ready Class A/B BDA
ProtectLink™ BDA Accessories	
CS40-ANNUNC	BDA Remote annunciator for monitoring a single device
CS19-BBC-003	Wall-mountable battery cabinet
CS19-PYL12V45FS	45AH sealed lead-acid battery (2 required, 4 hour)
CS19-PYL12V100FT	100AH sealed lead-acid battery (2 required, 12 hour)
CS19-PYL12V160FT	160AH sealed lead-acid battery (2 required, 24 hour) per NFPA
ProtectLink™ BDA Kits	
CS40-734834-2524K1	Dual-band 700/800 MHz, 0.5 through 2.5 watt, Class A/B BDA kit. Kit includes battery backup cabinet CS19-BBC-003 and 12 hour battery backup with (2) CS19-PYL12V100FT batteries
CS40-734834-2524K2	Dual-band 700/800 MHz, 0.5 through 2.5 watt, Class A/B BDA kit. Kit includes battery backup cabinet CS19-BBC-003 and 24 hour battery backup with (2) CS19-PYL12V160FT batteries

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Westell® | ProtectLink™ Class A & B BDAs

UL2524 & NFPA Public Safety BDA



BDA Electrical Specifications

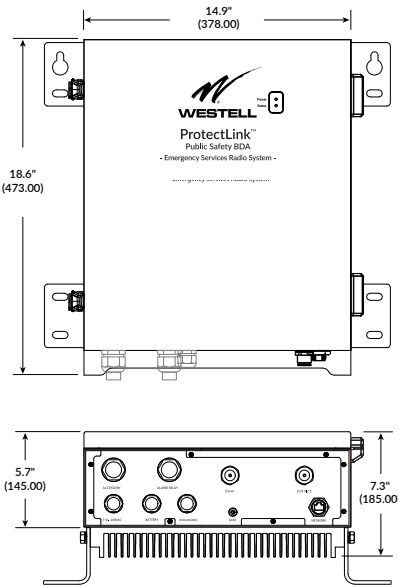
Standard Models:		CAN Model:
Main power input	110 VAC (88-264VAC)	
AC power consumption	210W max. (1.9Amps @ 110VAC)	
Battery charger output	28 VDC	
DC input range	24 - 30 VDC	
DC power consumption (dual-band)	130 watts (5.3 Amps)	
DC power consumption (single-band)	90 watts (3.7 Amps)	
DL output power	34dBm (2.5W) or 30dBm (1W)	
UL output power	27dBm, (0.5W)	
DL gain	90dB typical	75dB typical
UL gain	80dB	75dB
Noise figure @ max gain	<7dB	
AGC dynamic range	60dB	
Gain adjustment range	30dB	
Filter gain adjustment	30dB	
Squelch adjustment range	-60 to -90dBm	
VSWR	<1.5:1	
Filters, Class A BDA	32 per band	
Filters, Class B BDA	4 per band	
Fliter bandwidths, Class A BDA	12.5KHz, 25KHz, 50KHz, 75KHz, 100KHz, 150KHz	
Fliter bandwidths, Class B BDA	250KHz, 500KHz, 1MHz, 2MHz, 3MHz, 7MHz, 10MHz, 18MHz	

BDA Electrical Specifications (cont.)

Standard Models:		CAN Model:
Propagation delay	12.5KHz, 60us	
	25KHz, 36us	
	50KHz, 25us	
	75KHz, 15us	
	100KHz, 15us	
	150KHz, 15us	
	250KHz, 15us	
	500KHz, 9us	
	1MHz, 8us	
	2MHz, 7us	
	3MHz, 7us	
55dB filter rejection, from band edge	7MHz, 6us	
	10MHz, 6us	
	12.5KHz, 30KHz	
	25KHz, 50KHz	
	50KHz, 105KHz	
	75KHz, 210KHz	
	100KHz, 210KHz	
	150KHz, 210KHz	
	250KHz, 210KHz	
	500KHz, 500KHz	
	1MHz, 500KHz	
UL max input power	+10dBm (no damage)	
	0dBm (no damage)	

BDA Mechanical Specifications

Dimensions (H x W x D)	18.6 x 14.9 x 7.3 in
Approximate weight (lbs)	49.5
Mounting	Wall-mount
Weatherproofing	IP65/NEMA Type 4
Cable feedthroughs	Cordgrips and flex conduit fittings included
Connectors	
Antenna ports	4.3-10 female
User interface: GUI & NMS	RJ45 jack, web browser based
Alarm connections	Compression screw terminals
Annunciator	RJ45 jack
AC & DC power	Compression screw terminals
Operating temperature	-30° C - +50° C
Color	Red



Westell® | ProtectLink™ Fiber DAS

UL2524 & NFPA Public Safety Fiber DAS

General Information

The Westell ProtectLink Public Safety Fiber DAS represents the next revolution in Public Safety DAS design, offering the most flexible platform available on the market. This innovative design allows a true pay-as-you-grow solution. Adding an Optical Main to one of our ProtectLink BDAs provides expansion of up to eight 2.5 watt remote units for covering additional buildings or spaces while supporting the local service antennas from the main BDA. This design reduces the number of remotes required when compared with other platforms.

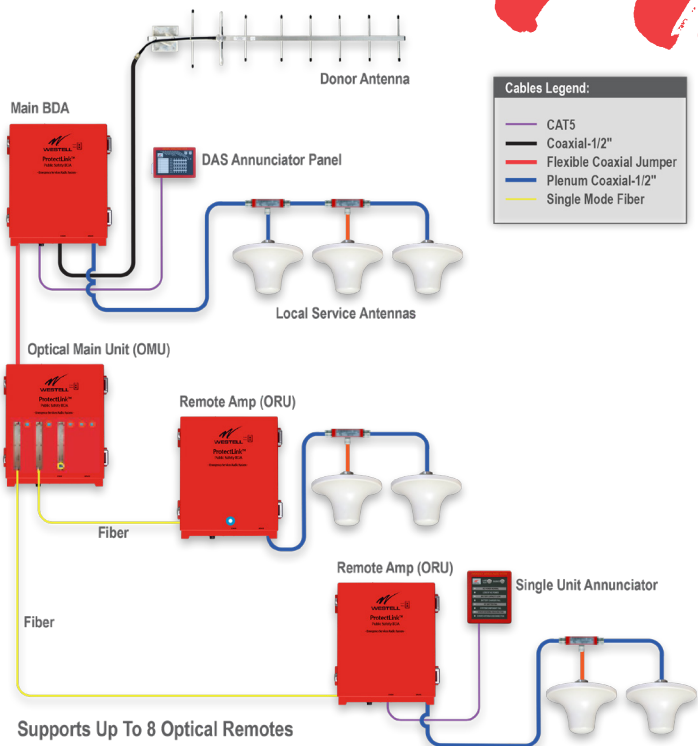
“Intelligence Built-In” has been a hallmark of Westell products, and nowhere else is that more evident than with ProtectLink DAS. With auto-discovery of new remotes, auto firmware upgrade across the entire network, auto compensation for fiber loss, we’ve made this product the easiest to install, most reliable PS fiber DAS available. And with a full 90dB of end-to-end gain and 2.5 Watts per band per remote, it’s sure to support a wide range of applications and building types.

Frequency Range

- Uplink: 788-806 / 806-824 MHz
- Downlink: 758-776 / 851-869 MHz

Product Highlights

- Expandable to support from 1 to 8 remotes
- Intelligent oscillation management and self-healing
- 90 dB system downlink gain, 80dB uplink
- Listed to UL2524, UL62368-1, UL50E Type4
- Built-in battery charging and alarm circuitry
- Built-in annunciator communications link
- EPO (Emergency Power Off)
- Uplink & downlink squelch per filter
- Independent gain control per filter
- Compact footprint
- NEMA4 conduit glands included
- Supports both digital and analog modulation
- Supports P25 phase 1 & 2
- Supports SNMP
- 3-year warranty



Ordering Information

Part Number	Description
CS40-734834-00D-A0	Dual-band 700/800 MHz, 2.5 watt, fiber DAS Class A/B BDA
CS40-OPTMASTER	Optical main chassis, supports up to 8 radio modules
CS40-OPTRADIOMOD	Optical radio module, converts RF to fiber, one per remote
CS40-734834-00D-AR	Dual-band 700/800 MHz, 2.5 watt, Class A/B remote
CS40-734834-00D-BR	Dual-band 700/800 MHz, 2.5 watt wideband remote
CS40-ANNUNC	BDA Remote annunciator, for monitoring a single device
CS40-DASANNUNC	DAS Remote annunciator, for monitoring all DAS units

Product Certification

UL 2524	In-Building 2-Way Emergency Radio Communication Enhancement Systems (ERCES / ERRCS)
UL 62368-1	Audio/Video, Information and Communication Technology Equipment - Part 1: Safety Requirements
UL 508A	Industrial Control Panels (UL50E Type 4)
FCC ID	NVRDPSA81090-78

Westell® | ProtectLink™ Fiber DAS

UL2524 & NFPA Public Safety Fiber DAS



Electrical Specifications

Main power input	110 VAC (88-264VAC)
AC power consumption	210W max. (1.9Amps @ 110VAC)
Battery charger output	28 VDC
DC input range	24 - 30 VDC
DC power consumption (dual-band)	130 watts (5.3 Amps)
DC power consumption (single-band)	90 watts (3.7 Amps)
DL output power	34dBm (2.5W)
UL output power	27dBm, ½ watt
DL gain	90dB typical
UL gain	80dB
Noise figure @ max gain	<7dB (with one remote)
AGC dynamic range	60dB
Gain adjustment range	30dB
Filter gain adjustment	30dB
Squelch adjustment range	-60 to -90dBm
VSWR	<1.5:1
Number of filters class A system	32 per band
Number of filters class B system	4 per band
Class A BDA filter bandwidths	12.5KHz, 25KHz, 50KHz, 75KHz, 100KHz, 150KHz
Class B BDA filter bandwidths	250KHz, 500KHz, 1MHz, 2MHz, 3MHz, 7MHz, 10MHz, 18MHz
MTBF	161,000 hours (18.3 years)

Optical Specifications

Optical connector	SC/APC
Optical link budget	8dB
Fiber type	Single-mode
Fiber count	One

BDA & Remote

Mechanical Specifications

Dimensions (H x W x D)	18.6 x 14.9 x 7.3 in
Approximate weight (lbs)	49.5
Mounting	Wall-mount
Weatherproofing	IP65/NEMA Type 4
Cable feedthroughs	Cordgrips and flex conduit fittings included
Connectors	
Antenna ports	4.3-10 female
User interface: GUI & NMS	RJ45 Jack, web browser based
Alarm connections	Compression screw terminals
Annunciator	RJ45 Jack
AC & DC power	Compression screw terminals
Operating temperature	-30° C - +50° C
Color	Red
UL max input power	+10dBm

OMU Mechanical Specifications

Dimensions (H x W x D)	18.6 x 14.9 x 7.3 in
Approximate weight (lbs)	49.5 lbs.
Mounting	Wall-mount
Weatherproofing	IP65/NEMA Type 4
Cable feedthroughs	Flex conduit fittings included
Power	24VDC, supplied by BDA
RF connectors	SMA female
Operating temperature	-30° C - +50° C
Color	Red



Optical Main Unit (OMU)



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UL2524 & NFPA Public Safety Fiber DAS

Remote Annunciators and Battery Backup

Alarm annunciation of each active element in the system can be monitored at the fire control room or wherever needed through a remote annunciator and via the alarm relay outputs on the BDA. Our remote annunciators are compact and mount to the front of a typical 2 or 3 gang electrical box and interconnected with a single standard CAT5 cable up to 3000 feet away, providing a compact and clean solution for monitoring the health of each active DAS element.

With both optical and audible annunciation of alarms, first responders will have a clear indication of the DAS system performance as they enter the building. Select the single unit annunciator to monitor a single ORU or the DAS Annunciator to monitor all DAS devices from a single location.

Product Highlights

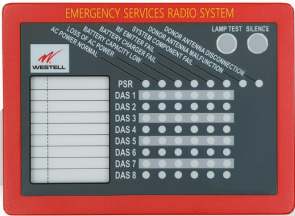
- Provides remote annunciation of alarms
- Compact, unobtrusive design
- Operates up to 3000 feet (1000 meters) from BDA
- Includes audible annunciation
- Uses single CAT5 cable

Remote Annunciator Specifications

Dimensions (H x W x D)	6.1" x 5.1" x 1.1" in (CS40-ANNUNC)
	5.1" x 7.1" x 1.1" in (CS40-DASANNUNC)
Weight	1.5 lbs



CS40-ANNUNC



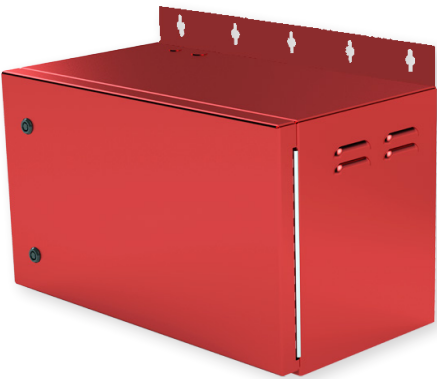
CS40-DASANNUNC

Mounting	2 gang electrical box (CS40-ANNUNC)
	3 gang electrical box (CS40-DASANNUNC)
Maximum cable distance	3000 feet (1000 meters)

Westell's CS19-BBC-003 battery cabinet is designed to house up to 160AH of battery capacity in a red, UL2524 approved, NEMA3R cabinet. The battery cabinet comes complete with everything needed for install including conduit fittings, wire and terminals. Short circuit protection is provided by a circuit breaker inside the cabinet which also provides a convenient way to test for charger fail alarm.

Battery Cabinet and Battery Specifications

Battery Cabinet Specifications	
Dimensions (W x H x D)	26" x 15.6" x 14" in
Weight	35 lbs
Mounting	Wall mount
Cable feedthroughs	Flex conduit fittings included
Battery Specifications	
CS19-PYL12V45FS (dims)	11" x 7.8" x 4" (2 required for 4 hours)
CS19-PYL12V45FS (wt)	33 lbs
CS19-PYL12V100FT (dims)	20" x 9.3" x 4.2" (2 required for 12 hours)
CS19-PYL12V100FT (wt)	76.9 lbs
CS19-PYL12V160FT (dims)	21.9" x 11" x 4.9" (2 required for 24 hours)
CS19-PYL12V160FT (wt)	116 lbs



CS19-BBC-003 Battery Cabinet



Providing Public Safety Solutions for Over 20 Years



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