

In-Building Systems



COMPROD
Simplifying RF Solutions

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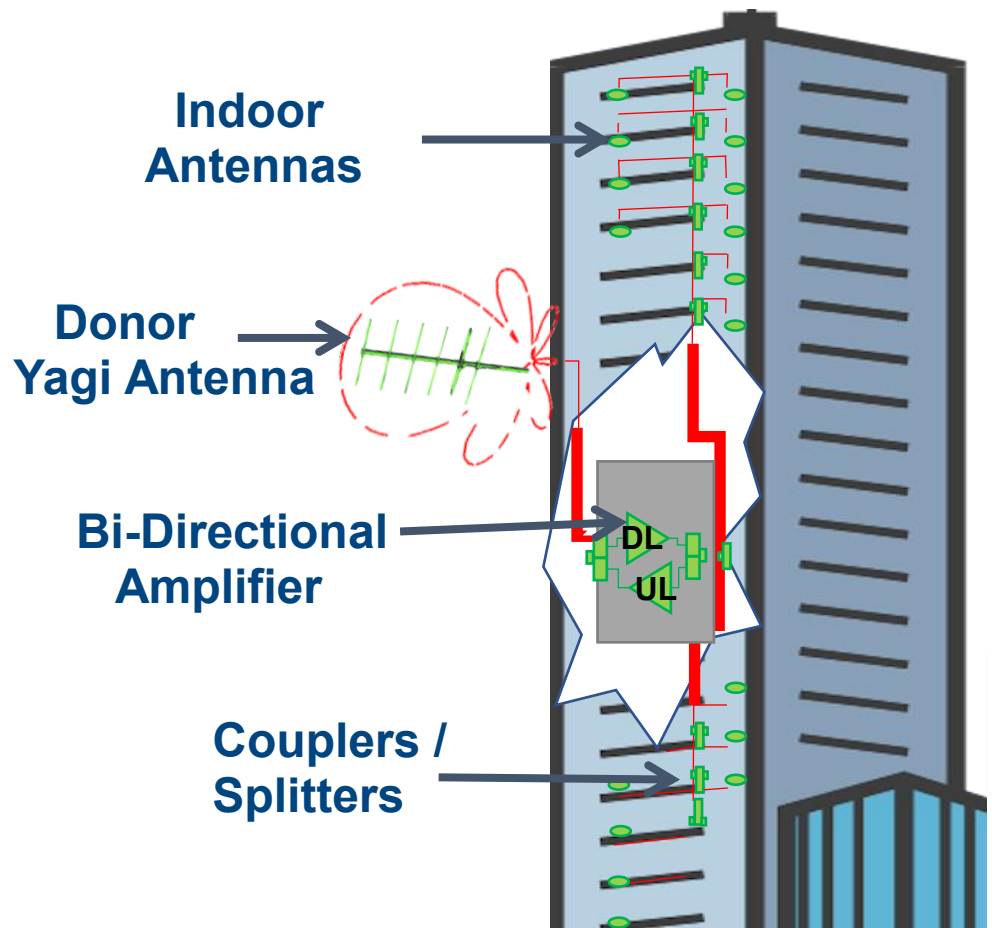
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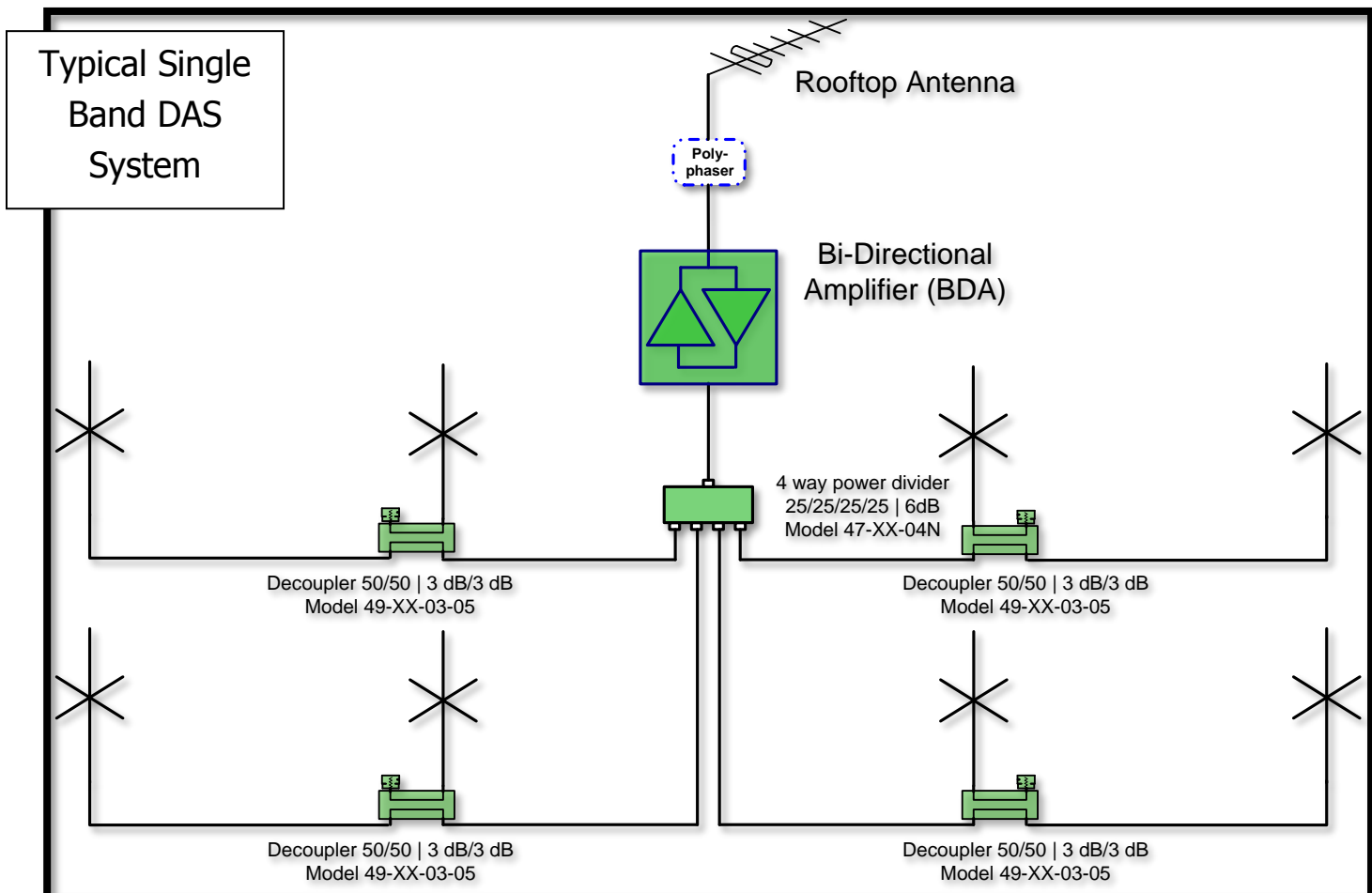
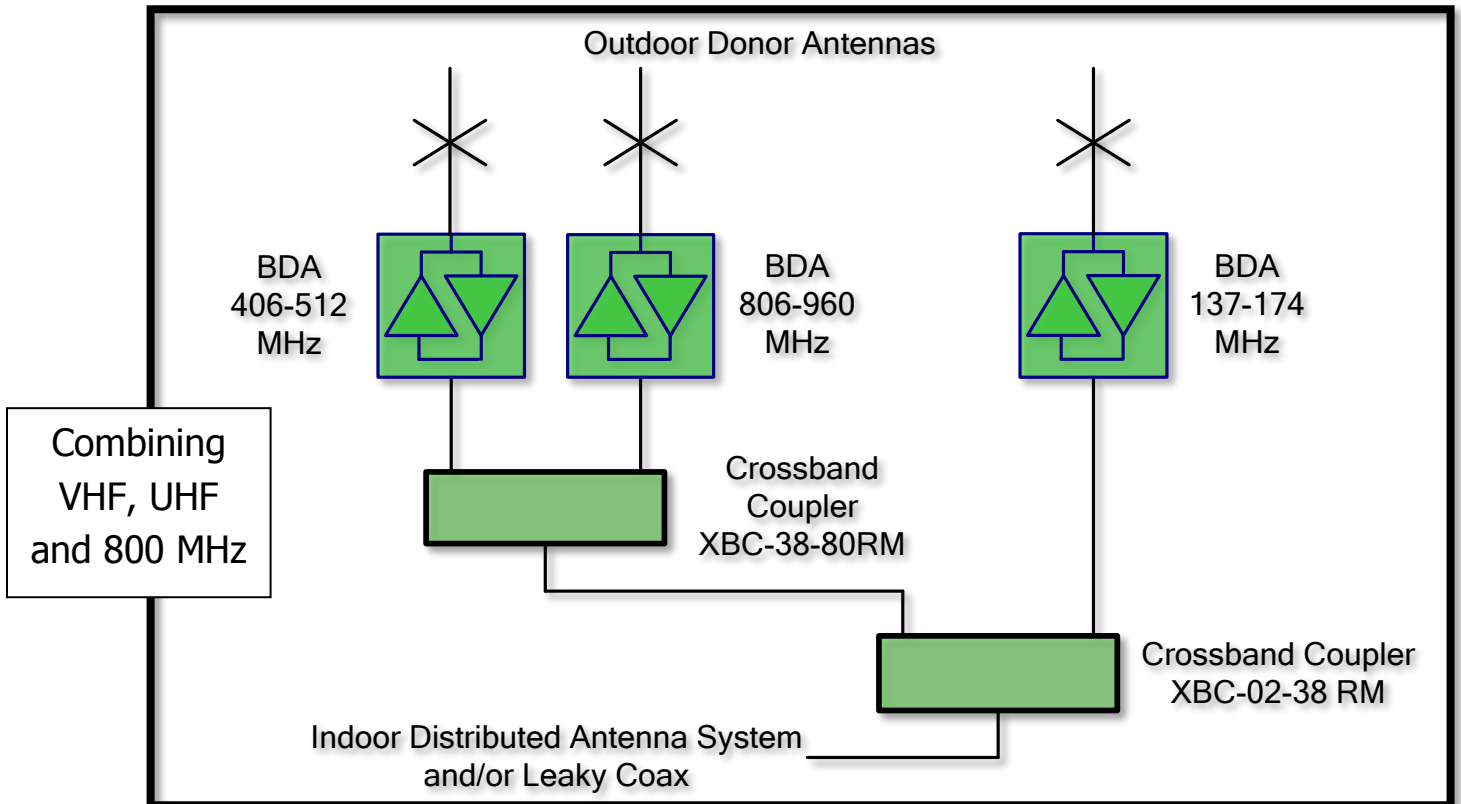
Our In-building antennas are offered for a variety of RF communication projects for environments that require internal propagation of RF for public safety needs. Our products have been deployed for mission critical projects including subway transit in-tunnel or underground projects, high-rise in-building systems, nuclear power plants, correctional facilities, shopping malls, parking garages, casinos and public sports arenas.

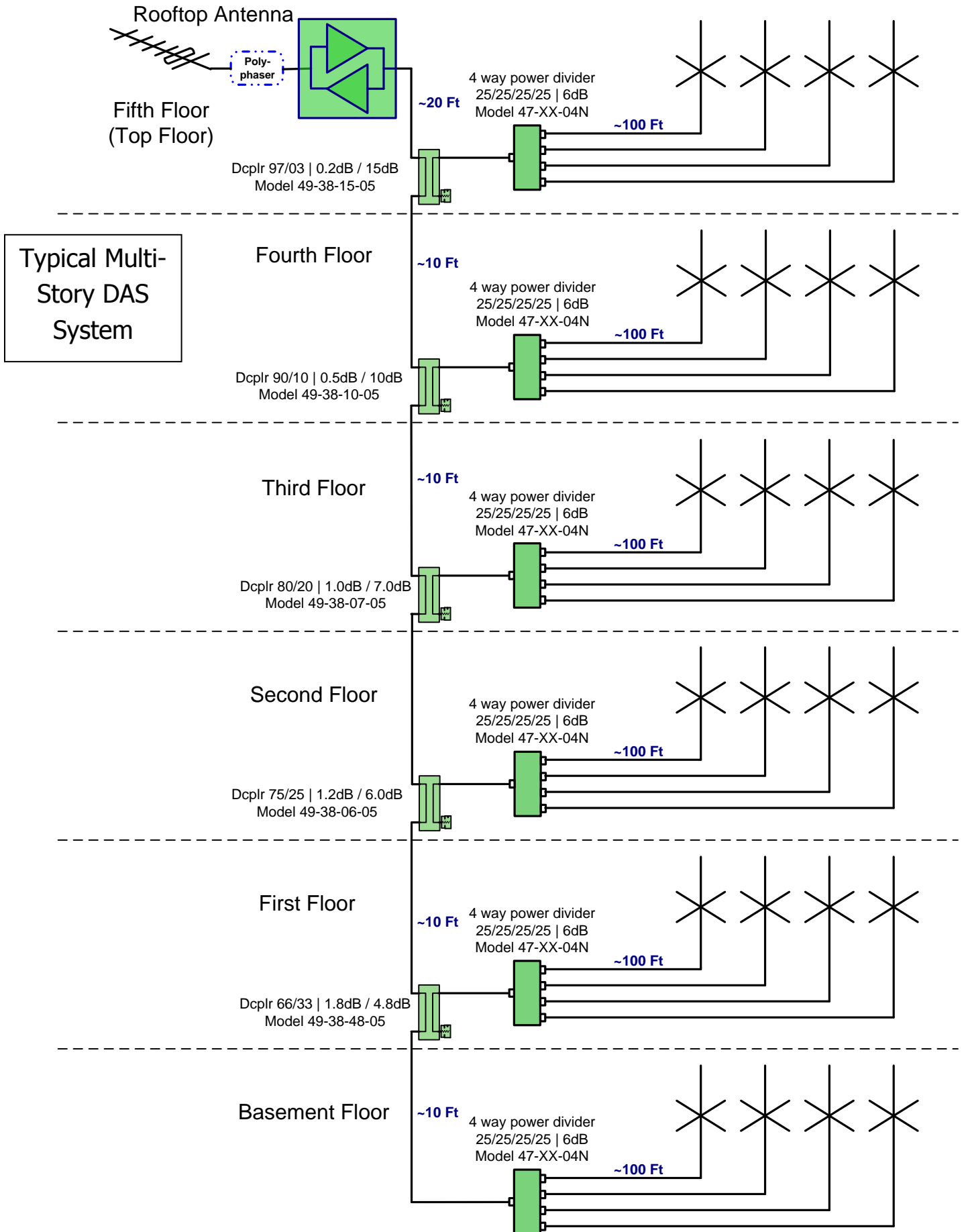
Our line of antenna system solutions incorporates single, dual, and tri-band frequency specifications. These antennas are offered in a wide range of enclosures: radomes, low profile, 6200 Kydex fire-retardant material, ABS high-impact, and polycarbonate.

We can complement antenna systems with other RF components from our portfolio to build out the network: splitters, couplers, taps, cables, connectors, signal boosters (Bi-Directional Amplifiers) required for complete RF needs for In-building public safety requirements.



NOTE: For Donor Yagi Antennas please refer to Yagi Antenna section of our Catalog (Base Station Antennas)





| Antennas | | | | | | | | |
|-------------|----------------------|-----------------|-------------------|-------------|--------------|-----------------|----------------|--------------------|
| Part Number | Frequency Range, MHz | Length, in (mm) | Diameter, in (mm) | Pattern | Power, Watts | Radome material | Color | Standard Connector |
| 357-75 | 136-174 | 4 x 21 x 3 | | Omni | 150 | ABS/6200 Kydex | Grey/White | UHF/BNC/ N Female |
| 360-75 | 406-512 | 3.25 x 3 x 11 | | Omni | 50 | ABS/6200 Kydex | Grey/White | UHF/BNC/ N Female |
| 361-75 | 806-960 | 3.15 (80) | 9.3 (236) | Omni | 50 | ABS/6200 Kydex | Grey/White | N Female |
| 362-75 | 806-960 | 2.0 (51) | 4.5 (114) | Omni | 100 | ABS/6200 Kydex | Grey/White | N Female |
| F-3987 | 380-470 | 6.75 (171) | 0.5 (12.75) | Omni | 150 | Aluminum | Black or white | N Male |
| F-3953 | 406-512 | 7.0 (178.5) | 0.625 (15.93) | Omni | 50 | Polycarbonate | Black or white | N Male |
| F-33005 | 806-960 / 1850-1990 | 2 (51) | 4.5 (114) | Omni | 50 | 6200 Kydex | White | N Female |
| F33048 | 740-960 | 2 (51) | 4.5 (114) | Omni | 50 | 6200 Kydex | White | N Female |
| F-3749 | VHF /UHF/ 806-960 | 9.78 (249) | 7.0 (178.5) | Omni | 50 | 6200 Kydex | White | N Female |
| F-3741 | VHF /UHF/ 806-960 | 11.25 (286.88) | 0.65 (16.575) | Omni | 50 | Polycarbonate | Black | N Male |
| 945-70 | 680-2700 | 30x13 | | Directional | 150 | ABS | Grey | 7/16 DIN |

| Amplifiers | | | | | | | | | |
|-------------|----------------------------|------------------|----------|------------|---------------|------------------|------------------------|--------------------------|----------------------|
| Part Number | Frequency Range, MHz | Size, in (mm) | Color | Connectors | Max. Gain, dB | Noise Figure, dB | Max. Output Power, dBm | Input Voltage | Alarm Indicators |
| UBDA-138225 | 138-225 | 24H x 20W x 14D | Grey | N Female | +80 | 4 typical | DL: +29 UL: +29 | AC: 115-220 | Power Fail |
| UBDA-4551 | 380-512 | 24H x 24W x 12D | Grey | N Female | +70 | 4 typical | DL: +29 UL: +29 | AC: 115-220 | N/A |
| BDA 764806 | DL: 764-776 UL: 794-806 | 10H x 16W x 8.5D | Grey/Red | N Female | +80 | 2.5 typical | DL: +31.5 UL: +31.5 | AC: 115-220 DC: 24-27 | AGC, S/D, Power Fail |
| BDA 806870 | DL: 851-869 UL: 806-824 | 10H x 16W x 8.5D | Grey/Red | N Female | +80 | 2.5 typical | DL: +31.5 UL: +31.5 | AC: 115-220 DC: 24-27 | AGC, S/D, Power Fail |
| BDA 896941 | DL: 935-941 UL: 896-901 | 10H x 16W x 8.5D | Grey/Red | N Female | +80 | 2.5 typical | DL: +31.5 UL: +31.5 | AC: 115-220 DC: 24-27 | AGC, S/D, Power Fail |

SINGLE-BAND IN-BUILDING ANTENNAS

148-960 MHz

Our In-building antennas are designed to provide excellent coverage solutions in order for external Public Safety Radio Frequencies to propagate within buildings, tunnels or public use environments.

We offer a variety of antennas with Fire Retardant 6200 Kydex radomes. These materials are designed for In-building applications and inside public transport vehicles such as underground trains, vans, buses and trains. They meet the recommended fire safety practices of both the Federal Transit Administration (FTA) and the Federal Rail Administration (FRA) for smoke emission and flammability as tested under ASTM E-662 and ASTM E-162.

Our antennas have been installed worldwide and provide RF coverage inside nuclear power plants, correctional institutions, tunnels, high-rise buildings, subways, shopping malls, parking garages, power plants, high-security office networks and mine shafts.

Note: add the material and connector type to the part number when ordering:

- ABS is for outdoor use and is grey in color (Default)
- KYDEX is for indoor use and is white in color



| Electrical Specifications | 357-75 | 360-75 | 361-75 | 362-75 |
|----------------------------|----------------------|----------------------|------------------|------------------|
| Frequency Range, MHz | 148-174 | 406-512 | 806-960 | 806-960 |
| Nominal Gain | Unity | Unity | Unity | Unity |
| Bandwidth 1.5:1 VSWR, MHz | 3 | 20 | 140 | 66 |
| Bandwidth: 2.0:1 VSWR, MHz | 4 | 40 | 140 | 100 |
| Polarization | Vertical | Vertical | Vertical | Vertical |
| Pattern | Omnidirectional | Omnidirectional | Omnidirectional | Omnidirectional |
| Power Rating, Watts | 150 | 50 | 50 | 100 |
| Nominal Impedance, Ohms | 50 | 50 | 50 | 50 |
| Radome | ABS / 6200 Kydex | ABS / 6200 Kydex | ABS / 6200 Kydex | ABS / 6200 Kydex |
| Color | Grey / White | Grey / White | Grey / White | Grey / White |
| Standard Termination | UHF / BNC / N Female | UHF / BNC / N Female | N Female | N Female |

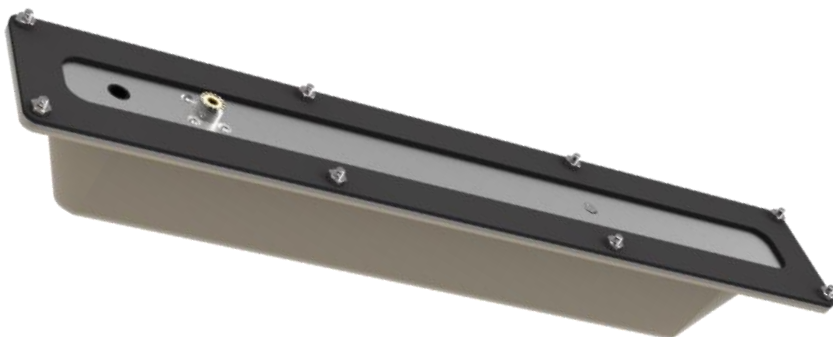
| Mechanical Specifications | 357-75 | 360-75 | 361-75 | 362-75 |
|---|-------------------------|------------------------|------------------------|------------------------|
| Width, in (mm) | 4.0 (102) | 3.0 (76) | 3.15 (80) | 2.0 (51) |
| Length, in (mm) | 21.0 (533) | 11.0 (279) | N/A | N/A |
| Height, in (mm) | 3.0 (76) | 3.25 (83) | N/A | N/A |
| Diameter, in (mm) | N/A | N/A | 9.3 (236) | 4.5 (114) |
| Weight, lbs (kg) | 2.1 (0.945) | 1.0 (0.45) | 2.5 (1.15) | 0.375 (0.169) |
| Required Minimum Ground Plane Size, in (mm) | 36 x 48 (914 x 1219) | 20 x 16 (508 x 406) | 14 x 14 (355 x 355) | 10 x 10 (254 x 254) |
| Mounting hardware | Not Included | Not Included | Not Included | Not Included |



357-75 Top and Underside-view



361-75



360-75



362-75 Top and Underside View



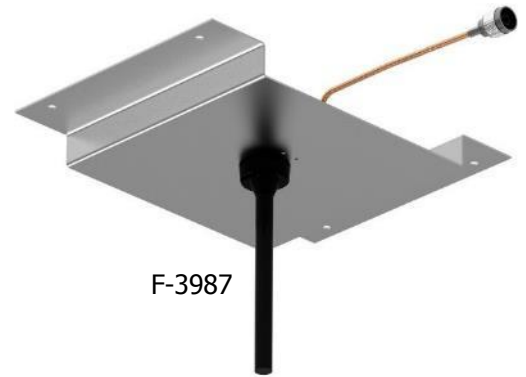
Our In-building antennas are designed to provide excellent coverage solutions in order for external Public Safety Radio Frequencies to propagate within buildings, tunnels or public use environments.

Our antennas can cover single or multiple frequency bands.

We offer a wide variety of antennas with Fire Retardant 6200 Kydex radomes. These materials are designed for In-building applications and inside public transport vehicles such as underground trains, vans, buses and trains. They meet the recommended fire safety practices of both the Federal Transit Administration (FTA) and the Federal Rail Administration (FRA) for smoke emission and flammability as tested under ASTM E-662 and ASTM E-162.

Our antennas have been installed worldwide and provide RF coverage inside nuclear power plants, correctional institutions, tunnels, high-rise buildings, subways, shopping malls, parking garages, power plants, high-security office networks and mine shafts.

| Electrical Specifications | F-3987 | F-3953 |
|---|-----------------------|---------------------------|
| Frequency Range, MHz | 406-470 / 450-512 | 406-470 / 450-512 |
| Nominal Gain | Unity | Unity |
| Bandwidth: 2.0:1 VSWR, MHz | 64 | 64 |
| Polarization | Vertical | Vertical |
| Pattern | Omnidirectional | Omnidirectional |
| Power Rating, Watts | 150 | 50 |
| Nominal Impedance, Ohms | 50 | 50 |
| Radome | Aluminium Painted | Aluminium Painted |
| Color | Black / White | Black / White |
| Standard Termination | N Male | NMO |
| Mechanical Specifications | F-3987 | F-3953 |
| Max. Length, in (mm) | 6.75 (171) | 7.0 (178.5) |
| Diameter, in (mm) | 0.5 (12.75) | 0.625 (15.93) |
| Weight, lbs (kg) | N/A | N/A |
| Required Minimum Ground Plane Size, in (mm) | 8 x 8 (203 x 203) | 8 x 8 (203 x 203) |
| Mounting hardware | Ground Plane Included | Ground Plane Not Included |



F-3987



F-3953

MULTI-BAND IN-BUILDING ANTENNAS

760-1990 MHz

Our In-building antennas are designed to provide excellent coverage solutions in order for external Public Safety Radio Frequencies to propagate within buildings, tunnels or public use environments.

Our antennas can cover single or multiple frequency bands.

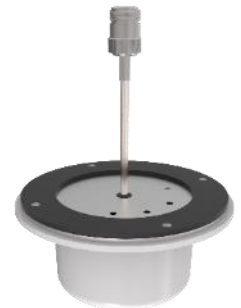
We offer a wide variety of antennas with Fire Retardant 6200 Kydex radomes. These materials are designed for In-building applications and inside public transport vehicles such as underground trains, vans, buses and trains. They meet the recommended fire safety practices of both the Federal Transit Administration (FTA) and the Federal Rail Administration (FRA) for smoke emission and flammability as tested under ASTM E-662 and ASTM E-162.

The antennas are installed on ceilings to provide RF coverage inside nuclear power plants, correctional institutions, tunnels, high-rise buildings, subways, shopping malls, parking garages, power plants, high-security office networks and mine shafts.

| Electrical Specifications | F-33005 | F-33048 | F-33048-A |
|---|--------------------------|--------------------------------|-----------------------|
| Frequency Range, MHz | 806-960 / 1850-1990 | 760-960 | 760-960 |
| Nominal Gain | Unity | Unity | Unity |
| Bandwidth: 1.5:1 VSWR, MHz | | | |
| 138-174 | N/A | N/A | N/A |
| 406-512 | N/A | N/A | N/A |
| 760-960 | N/A | 200 | 200 |
| 806-960 | 72 (specify frequencies) | N/A | N/A |
| 1800-1990 | 140 | N/A | N/A |
| Polarization | Vertical | Vertical | Vertical |
| Pattern | Omnidirectional | Omnidirectional | Omnidirectional |
| Power Rating, Watts | 50 | 50 | 50 |
| Nominal Impedance, Ohms | 50 | 50 | 50 |
| Radome | 6200 Kydex | 6200 Kydex | 6200 Kydex |
| Standard Termination | N Female | N Female installed at the base | 32" Jumper - N Female |
| Mechanical Specifications | F-33005 | F-33048 | F-33048-A |
| Max. Length, in (mm) | 2 (51) | 2 (51) | |
| Diameter, in (mm) | 4.5 (114) | 4.5 (114) | |
| Weight, lbs (kg) | 0.375 (0.169) | 0.375 (0.169) | |
| Required Minimum Ground Plane Size, in (mm) | 8 x 8 (203 x 203) | 8 x 8 (203 x 203) | |
| Mounting hardware | Not Included | Not Included | |



F-33005



F-33048-A

TRI-BAND IN-BUILDING ANTENNAS

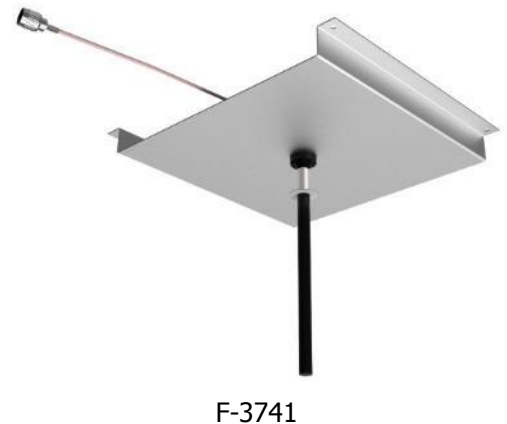
VHF / UHF / 760-960 MHz

Our In-building antennas are designed to provide excellent coverage solutions in order for external Public Safety Radio Frequencies to propagate within buildings, tunnels or public use environments.

Our antennas can cover single or multiple frequency bands. We offer a wide variety of antennas with Fire Retardant 6200 Kydex radomes. These materials are designed for In-building applications and inside public transport vehicles such as underground trains, vans, buses and trains. They meet the recommended fire safety practices of both the Federal Transit Administration (FTA) and the Federal Rail Administration (FRA) for smoke emission and flammability as tested under ASTM E-662 and ASTM E-162.

The F-3741 has been designed for mounting with a ground plane on a concrete surface. This is a requirement for meeting full bandwidth specifications. Polycarbonate tubing is used for the radome on the F-3741. It's a flame resistant and self-extinguishing material.

| Electrical Specifications | F-3741 |
|----------------------------|---------------------|
| Frequency Range, MHz | VHF / UHF / 760-960 |
| Nominal Gain | Unity |
| Bandwidth: 2.0:1 VSWR, MHz | |
| 138-174 | 8 |
| 406-512 | 64 |
| 764-890 | 126 |
| 806-960 | 154 |
| 1800-1990 | N/A |
| 2400-3000 | N/A |
| Polarization | Vertical |
| Pattern | Omnidirectional |
| Power Rating, Watts | 50 |
| Nominal Impedance, Ohms | 50 |
| Radome | Polycarbonate |
| Standard Termination | N Male |
| Mechanical Specifications | F-3741 |
| Length, in (mm) | 11.25 (286.88) |
| Diameter, in (mm) | 0.65 (16.575) |
| Weight, lbs (kg) | N/A |
| Mounting hardware | Included |



TRI-BAND IN-BUILDING ANTENNAS

VHF / UHF / 760-960 MHz

Our In-building antennas are designed to provide excellent coverage solutions in order for external Public Safety Radio Frequencies to propagate within buildings, tunnels or public use environments.

Our antennas can cover single or multiple frequency bands. We offer a wide variety of antennas with Fire Retardant 6200 Kydex radomes. These materials are designed for In-building applications and inside public transport vehicles such as underground trains, vans, buses and trains. They meet the recommended fire safety practices of both the Federal Transit Administration (FTA) and the Federal Rail Administration (FRA) for smoke emission and flammability as tested under ASTM E-662 and ASTM E-162.

The F-3749/A/B antennas are available in custom colors for orders of 150 or more.

| Electrical Specifications | F-3749 | F-3749A | F-3749-B |
|---|---------------------------------|---------------------------------|--------------------|
| Frequency Range, MHz | VHF / UHF/ 760-960 | VHF / UHF/ 760-960 | VHF / UHF/ 760-960 |
| Nominal Gain | Unity | Unity | Unity |
| Bandwidth: 2.0:1 VSWR, MHz | | | |
| 138-174 | 8 | 8 | 8 |
| 406-512 | 64 | 64 | 64 |
| 764-890 | 126 | 126 | 126 |
| 806-960 | 154 | 154 | 154 |
| 1800-1990 | N/A | N/A | N/A |
| 2400-3000 | N/A | N/A | N/A |
| Polarization | Vertical | Vertical | Vertical |
| Pattern | Omnidirectional | Omnidirectional | Omnidirectional |
| Power Rating, Watts | 50 | 50 | 50 |
| Nominal Impedance, Ohms | 50 | 50 | 50 |
| Radome | 6200 Kydex | 6200 Kydex | 6200 Kydex |
| Mean Time Between Failure, | 87,000 | 87,000 | 87,000 |
| Color | White | White | White |
| Standard Termination | N Female | 2' jumper to N Male | N Female |
| Mechanical Specifications | F-3749 | F-3749A | F-3749-B |
| Max. Length, in (mm) | 9.78 (249) | 9.78 (249) | |
| Diameter, in (mm) | 7.0 (178.5) | 7.0 (178.5) | |
| Weight, lbs (kg) | 4 (1.8) | 4 (1.8) | |
| Required Minimum Ground Plane Size, in (mm) | 14 x 14 (357 x 357) | 14 x 14 (357 x 357) | |
| Mounting hardware | Not Included (see next page) | Not Included (see next page) | |



F-3749-B



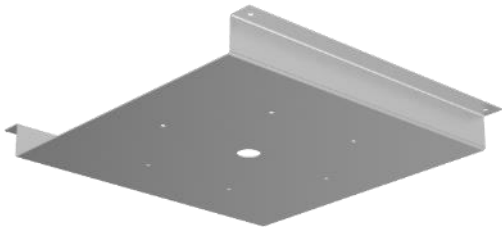
TRI-BAND IN-BUILDING ANTENNAS

VHF / UHF / 760-960 MHz

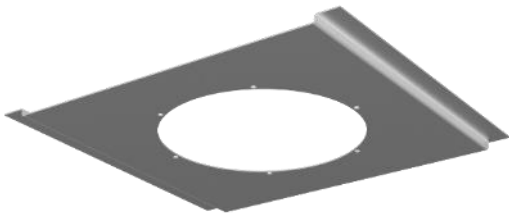
Our In-building antennas require a ground plane to work properly. The minimum ground plane size is specified for each antenna. Failure to provide the ground plane may result in poor propagation and/or poor frequency coverage.



| Specifications | F-33034 | F-33220 | F-33135 | F-33203 | F-33159 | F-33105 |
|-----------------------|------------|----------|------------|------------|------------|------------|
| Fits Antennas | F-3749/A/B | F-3749/B | F-3749/A/B | F-3749/A/B | F-3749/A/B | F-3749/A/B |
| Ground Plane in | 14x14 | 14x14 | 24x48 | 24x24 | 12x26 | 14x14 |
| Included with Antenna | No | No | No | No | No | No |
| Length, in | ~16 | ~16 | 24 | 24 | 12 | 14 |
| Width, in | 14 | 14 | 48 | 24 | 26 | 14x5.625 |



F-33034 Mounting Bracket



F-33220 Mounting Bracket

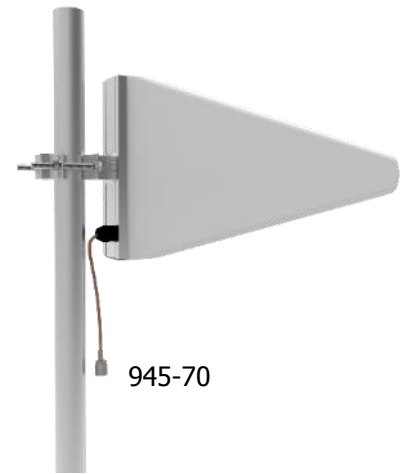
945-70

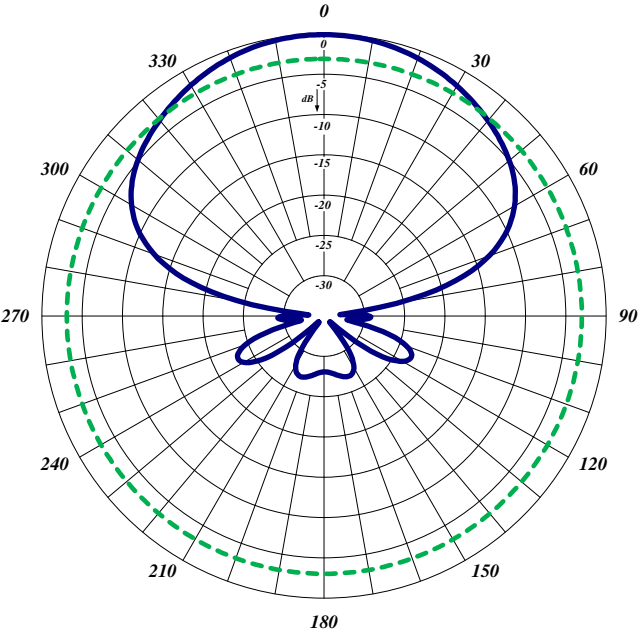
This antenna is a broadband antenna that can be used for public safety as well as in cellular bands. It makes an ideal solution for a donor antenna for a DAS system. Our In-building system antennas are designed to provide excellent coverage solutions in order for external Public Safety Radio Frequencies to propagate within buildings, tunnels or public use environments.

Features:

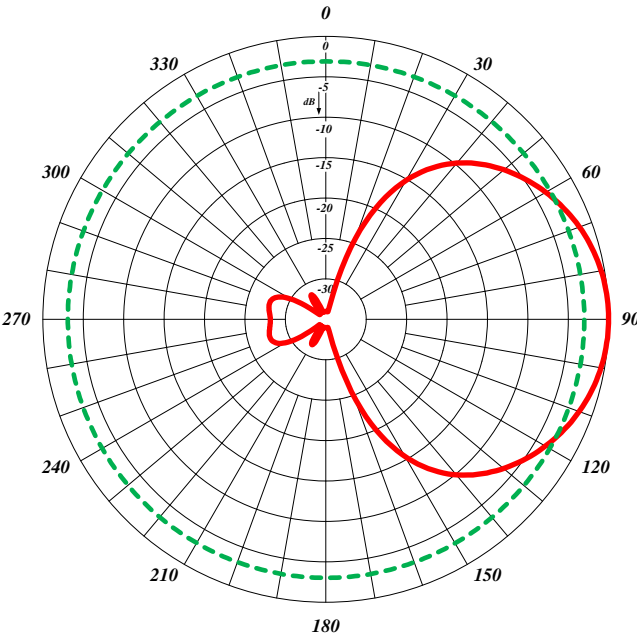
- Rugged design to withstand the most extreme environmental conditions.
- Extra wide bandwidth for use in multiple bands.

| Specifications | 945-70 |
|---|--|
| Frequency Band: | 580-2700 MHz |
| Gain: | 8-9 dBd |
| Impedance: | 50 Ohm |
| Intermodulation IM3 2 carrier, 20 W each: | -150 dBc |
| Power: | 300 Watts at lowest frequency, 150 Watts at highest frequency |
| Front to back Ratio: | 25 dB |
| Half power Horizontal Beamwidth (V Pol): | 60 (high frequency) degrees -65 (low frequency) degrees |
| Half power Vertical Beamwidth (V Pol): | 45 (high frequency) degrees -50 (low frequency) degrees |
| Connector: | DIN 7/16. N type also available (PIM not guaranteed with N type connector) |
| Max wind Velocity: | 240 Km/h (150 mph) |
| Dimensions: | 30" x 13" x 3" |

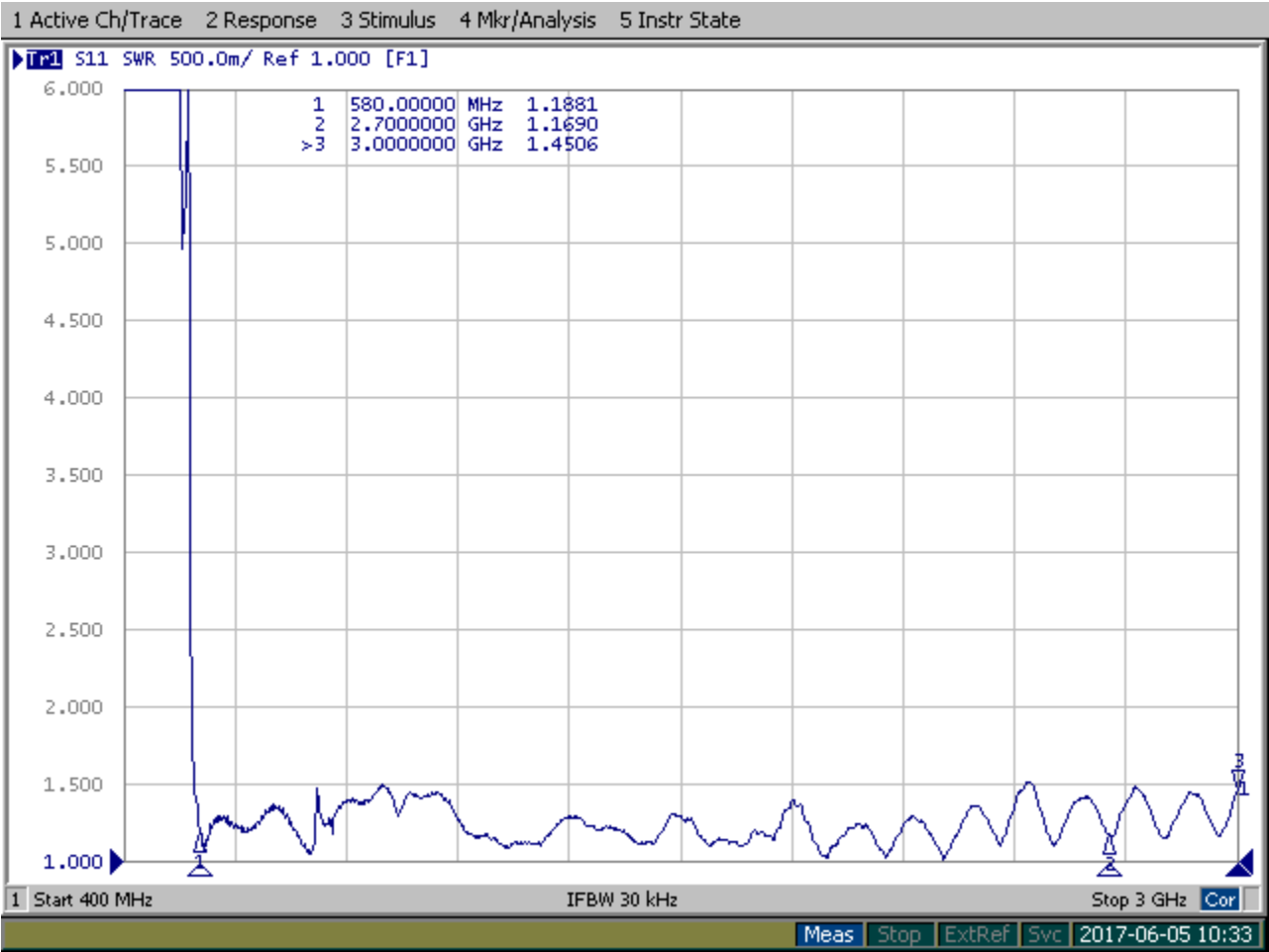




Horizontal Pattern 580-1690 Vertical Polarization



Vertical Pattern 580-1690 Vertical Polarization



BDA-138225-SERIES

Our BDA138225 is an unidirectional Class B signal booster. It covers both the 138-174 MHz and 216-225 MHz bands. The amplifier can be used with input / output filters as an Unidirectional Amplifier or it can be combined with input and output duplexers to create a FCC and IC Certified Bi-Directional Amplifier.

Note: The BDA138225 must have adequate input and output filtering to prevent undesired interference. Our Technical Solutions Specialists can provide guidance on the required filtering solution for a complete BDA system design.

| Electrical Specifications | Canada | USA |
|---|------------------------|-----------------------|
| Certification | IC: 7755A-UDA138225 | FCC: WDM-BDA138225 |
| Frequency Range, MHz | 138-225 | 150-225 |
| Automatic Level Control (ALC), dB | 35 | 35 |
| Amplifier Maximum Gain, dB | +80 Typical | +80 Typical |
| System Nominal Gain at -45 dBm input power | +75 | +75 |
| Input Manual Attenuator Range, dB | 0 to 30 in 2 dB steps | 0 to 30 in 2 dB steps |
| Output Level Manual Adjustment range, dB | 0 to 15 in 1 dB steps | 0 to 15 in 1 dB steps |
| 3rd Order Output Intercept Point, dBm | +48 Typical | +48 Typical |
| Noise Figure, Typical (without filters), dB | 4 | 4 |
| Limited Output Composite Power, dBm | +31 | +31 |
| Nominal Impedance, Ohms | 50 | 50 |
| Input / Output Connectors | N Female | N Female |
| AC Power Source Input, Volts | 100 to 260 50/60Hz | 100 to 260 50/60Hz |
| Optional DC Power Source Voltages, Volts | +24 or +48 | +24 or +48 |
| Optional dry contact alarms | Power Failure | Power Failure |
| Mechanical Specifications (Typical) | | |
| Dimensions, in (H x W x D) | 24 x 20 x 13.5 | |
| Temperature Range, °F (°C) | -4 to 131 (-20 to +55) | |
| Weight, lbs (Kg) | 100 (45) | |



UBDA-3845/4551-SERIES

Our BDA system is designed for high standards with government and industrial clients in mind. The solution can be customized for unique client requirements.

Reliable RF coverage for public safety and utility clients in 380-512 MHz offered for applications including hotel parking garages, underground mining facilities, shopping malls, hospitals, government buildings, subway stations and tunnels. Available in rack mount, NEMA stainless steel or painted steel NEMA enclosures. Compliant to Govt. standards: FCC WDM-UBDA 4551; IC 7755A-UBDA4551. Our Technical Solutions Specialists can provide guidance on the required filtering solution for a complete BDA system design.

| Electrical Specifications | |
|---|--|
| Frequency Range, MHz | 380-512 |
| Passbands | 2 (4 passband version available) |
| Guard Band, MHz | 2-3 |
| Window Bandwidth, MHz (configured by channel filters) | 2-3 |
| Automatic Level Control (ALC), dB | Yes (30 dB) |
| Maximum Gain, dB | +70 dB Typical |
| Output Level / Input Attenuator Range, dB | 0 to 15 in 1 dB steps / 0 to 30 in 2 dB steps |
| 3rd Order Output Intercept Point, dBm | +48 Typical |
| Output 1 dB Compression Point, dBm | +38 Typical |
| Noise Figure, Typical (with filters), dB | 5.5 |
| Uplink Max Output (Composite), dBm | +29 |
| Downlink Max Output (Composite), dBm | +29 |
| Nominal Impedance, Ohms | 50 |
| VSWR | 1.5:1 |
| AC Power Input, Volts | 117 to 260 |
| Temperature Range, °F (°C) | -4 to 131 (-20 to +55) |
| Input / Output Connectors | N Female |
| Mechanical Specifications | |
| Enclosure | NEMA 4 Painted Steel |
| Dimensions, in H, W, D | 24 x 16 x 11.5 (Large Enclosure); 14 x 8 x 7 (Attached Small Enclosure) |
| Weight, lbs (Kg) (Approximate) | 100 (45) |



BDA-40-SERIES

Designed and engineered to meet the fire protection codes (NFPA and IFC standards), our Bi-Directional Amplifier (BDA) features advanced Alarm, Monitoring & Control capabilities ensuring continuous availability of mission-critical services. Certified: FCC and IC.

- Available in 700, 800 and 900 MHz Public Safety bands
- Ideal for indoor applications in commercial and government buildings, parking garages, mining facilities, subway stations and tunnels
- Rack mounted or in NEMA 4/4x waterproof, stainless steel enclosures
- Low noise figure, wide dynamic range
- Visual alarms and remote failure monitoring with Graphical User Interface

| Electrical Specifications | BDA 764806 | BDA 806870 | BDA 896941 |
|---|----------------------------|----------------------------|----------------------------|
| Frequency Range, MHz | DL: 764-776 UL: 794-806 | DL: 851-869 UL: 806-824 | DL: 935-941 UL: 896-901 |
| Passband Ripple, dB | +/- 1.5 | +/- 1.5 | +/- 1.5 |
| Automatic Gain Control (AGC), dB | 30 | 30 | 30 |
| Maximum Gain, dB | +80 | +80 | +80 |
| Manual Gain Control (MGC), dB | 0-31 in 1 dB Steps | 0-31 in 1 dB Steps | 0-31 in 1 dB Steps |
| Noise Figure, dB | 2.5 Typical | 2.5 Typical | 2.5 Typical |
| Delay, Max., μ s | 1 | 1 | 1 |
| Max. Output Power, dBm | DL: +31.5 UL: +31.5 | DL: +31.5 UL: +31.5 | DL: +31.5 UL: +31.5 |
| VSWR | 1.5:1 | 1.5:1 | 1.5:1 |
| Input Voltage, Volts | AC: 115-220 DC: 24-27 | AC: 115-220 DC: 24-27 | AC: 115-220 DC: 24-27 |
| Temperature Range, $^{\circ}$ C | -30 to +60 | -30 to +60 | -30 to +60 |
| Humidity, % | 95 | 95 | 95 |
| Connectors | N Female | N Female | N Female |
| LNA bypass Function Implementation, dBm | -20 @ Input Power | -20 @ Input Power | -20 @ Input Power |
| Alarms | AGC, S/D, Power | AGC, S/D, Power | AGC, S/D, Power |
| Mechanical Specifications | BDA 764806 | BDA 806870 | BDA 896941 |
| Enclosure | NEMA 4 Painted Steel | NEMA 4 Painted Steel | NEMA 4 Painted Steel |
| Dimensions, in. H, W, D | 17.5 x 11 x 9 | 17.5 x 11 x 9 | 17.5 x 11 x 9 |
| Weight, lbs | 33.5 | 33.5 | 33.5 |

* See next page (p.219) for certification numbers

BI-DIRECTIONAL AMPLIFIER (BDA)

764-941 MHz

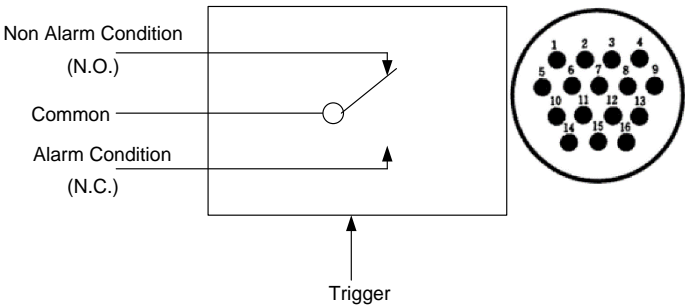
| Certification Numbers | BDA 764806 | BDA 806870 | BDA 896941 |
|-----------------------|-----------------|-----------------|-----------------|
| FCC ID | WDM-BDA764806 | WDM-BDA806870 | WDM-BDA896941 |
| IC | 7755A-BDA764806 | 7755A-BDA806870 | 7755A-BDA896941 |

Four Dry Contact Alarms:

| Donor Antenna Alarm | AC Current Alarm | DC Current Alarm | RF System Alarm |
|---|---|--|---|
| <ul style="list-style-type: none">- Antenna disconnected- Antenna open circuit | <ul style="list-style-type: none">- AC Power failure (Can run on DC source) | <ul style="list-style-type: none">- DC Power failure | <ul style="list-style-type: none">- Shutdown of RF System:<ul style="list-style-type: none">- Overheating- Power over limit- VGA malfunction- Other failures |

Relay Shown in Non-Alarm Condition.

A kit of the connector with labeled wires is supplied with the unit.



| Pin | Description | Pin | Description |
|-----|-----------------------------|-----|----------------------------|
| 1 | NC DC Relay | 9 | NO RF System Failure Relay |
| 2 | COM DC Relay | 10 | NC AC Relay |
| 3 | NO DC Relay | 11 | COM AC Relay |
| 4 | | 12 | NO AC Relay |
| 5 | | 13 | |
| 6 | | 14 | NC Antenna Relay |
| 7 | NC RF System Failure Relay | 15 | COM Antenna Relay |
| 8 | COM RF System Failure Relay | 16 | NO Antenna Relay |

Monitoring and Control via Built-in via RS-232 Connector (USB Optional)

| Monitor | Alarm | Control |
|---|---|--|
| <ul style="list-style-type: none">- TX/RX System Gain- TX/RX Attenuation- TX Input Power- TX/RX Output Power- DC Voltage/Current- System Temperature | <ul style="list-style-type: none">- TX Input Over Power- TX/RX Output Over Power- AGC Range Alarm- TX/RX Shutdown- PSU Alarm- Over Temperature | <ul style="list-style-type: none">- HPA On/Off- Gain- AGC On/Off- Shutdown On/Off- MCU Reset- Alarm Limit |

RF BDA GUI

2015.11.04 10:48:50

COMPROD
Creating RF Solutions

COM1

Release

MENU

Status & Control

Environment

Download

Alarm History

Maintenance

Repeater Reset

EXIT

Inside Temp
29.3 °C

Monitoring

| Classification | DL | UL |
|------------------------------|-------|------|
| Input Power (dBm) | -43.5 | |
| Output Power (dBm) | 28.4 | 23.8 |
| Gain (dB) | 63.5 | 80.0 |
| AGC(User) Atten (dB) | 16.5 | 0.0 |
| AGC Level (dBm) | 30 | 28 |
| AGC Window (dB) | 2 | 2 |
| Balance Enable / Offset (dB) | OFF | 4 |
| ASD Level (dBm) | 33 | 33 |
| ASD Time (min) / Count | 0 | 3 |
| AGC Enable | ON | ON |
| ASD Enable | ON | ON |
| HPA OFF Case | | |
| HPA Enable | ON | ON |
| Over TEMP' Enable | OFF | |
| Over TEMP' Level(°C) | 60 | |

Alarm

- DL Over Input
- DL Over Power
- DL AGC Range
- DL Shutdown
- UL Over Power
- UL AGC Range
- UL Shutdown
- PSU Fail
- Over Temp
- Door

System

DC Voltage (V) 28.00

Current (A) 1.07

Info

Maker COMPROD Model BDA RF 1Watt HW Ver 1.0 SW Ver 1.0

FW Build : 15.09.11

Visual Alarms and Remote
Failure Monitoring with
Graphical User Interface

BATTERY BACKUP SYSTEM

P600-1-24-20

We can supply a Battery backup system that is compatible with our VHF/UHF/700/800 and 900 MHz BDA's. This Battery backup is part of a complete solution for NFPA compliance.

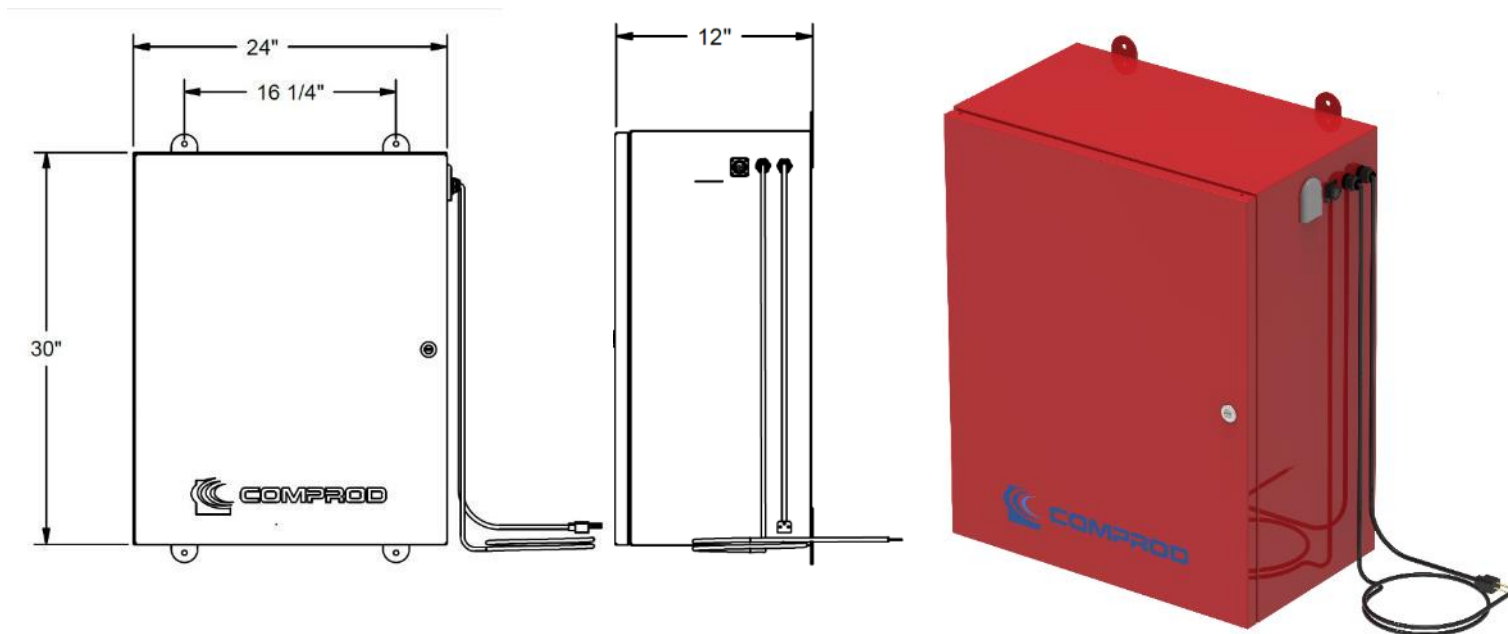
Features:

- Battery and charger/rectifier, up to 24-hour backup time.
- Universal input: 100-250V 1phase-60Hz
- Input protection: AC breaker (1 pole)
- Output: 27Vdc at 20 Amps with less than 100mV ripple
- Load protection: DC breaker (2 poles)
- Dry Contact Alarms for the following conditions:
 - High or Low DC volts
 - AC Power or Rectifier failure

Battery temperature compensation: to extend the battery life it reduces the charging voltage when temperature exceeds 25° C and increases it when the temperature is lower than 25° C.

Battery Type: VRLA type battery to provide 7.6Amps up to 24-hour backup time and down to 21Vdc end voltage at 25° C.

Cabinet Type: NEMA 4 wall mount: 30" H x 24" W x 12" D with Hydrogen venting in red fire alarm color.



Disclaimer: Actual backup time depends on the actual connected load, battery temperature and aging.

49-FF-YY-XX Series

We offer a full line of Hybrid and Directional Couplers. The full range of decoupling values allows balanced power division and distribution. These couplers are bidirectional and are well suited for two-way communications systems. A full line of Tri-Band models is available for distribution of VHF, UHF and 800 MHz via a single transmission line. Standard finish is gold Alodine.

- Low Insertion Loss
- High Isolation between ports
- Excellent VSWR
- Tri-Band and other models are available and customizable.

Please contact our Technical Support team for consultation at sales@comprodcom.com

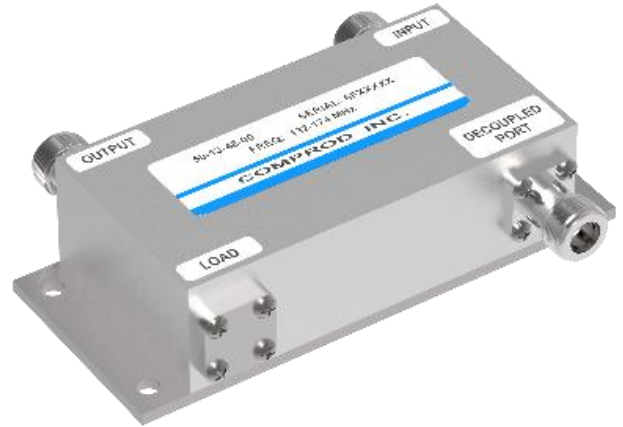
| Model with 5-Watt Load | Frequency Range | Decoupling (dB) | Insertion Loss (dB) | Power Split Ratio (%) |
|------------------------|-----------------|------------------|---------------------|-----------------------|
| 49-13-03-05 | 138-174MHz | -3.0, ± 0.7 | -3.0, ± 0.3 | 50 / 50 |
| 49-13-48-05 | 138-174MHz | -4.8, ± 0.7 | -1.8, ± 0.3 | 67 / 33 |
| 49-13-06-05 | 138-174MHz | -6.0, ± 1.0 | -1.2, ± 0.2 | 75 / 25 |
| 49-13-07-05 | 138-174MHz | -7.0, ± 1.0 | -1.0, ± 0.2 | 80 / 20 |
| 49-13-10-05 | 138-174MHz | -10.0, ± 1.0 | -0.5, ± 0.2 | 90 / 10 |
| 49-13-20-05 | 138-174MHz | -20.0, ± 1.0 | -0.3 max. | 99 / 1 |
| 49-38-03-05 | 380-512MHz | -3.0, ± 0.7 | -3.0, ± 0.3 | 50 / 50 |
| 49-38-48-05 | 380-512MHz | -4.8, ± 0.7 | -1.8, ± 0.3 | 67 / 33 |
| 49-38-06-05 | 380-512MHz | -6.0, ± 1.0 | -1.2, ± 0.2 | 75 / 25 |
| 49-38-07-05 | 380-512MHz | -7.0, ± 1.0 | -1.0, ± 0.2 | 80 / 20 |
| 49-38-10-05 | 380-512MHz | -10.0, ± 1.0 | -0.5, ± 0.2 | 90 / 10 |
| 49-38-15-05 | 380-512MHz | -15.0 | -0.2 max. | 97 / 3 |
| 49-38-20-05 | 380-512MHz | -20.0 | -0.2 max. | 99 / 1 |
| 49-38-30-05 | 380-512MHz | -30.0 | -0.2 max. | 99.9 / 0.1 |
| 49-74-03-05 | 760-960MHz | -3.0, ± 0.7 | -3.0, ± 0.3 | 50 / 50 |
| 49-74-48-05 | 760-960MHz | -4.8, ± 0.7 | -1.8, ± 0.3 | 67 / 33 |
| 49-74-06-05 | 760-960MHz | -6.0, ± 1.0 | -1.2, ± 0.2 | 75 / 25 |
| 49-74-07-05 | 760-960MHz | -7.0, ± 1.0 | -1.0, ± 0.2 | 80 / 20 |
| 49-74-10-05 | 760-960MHz | -10.0, ± 1.0 | -0.5, ± 0.2 | 90 / 10 |
| 49-74-15-05 | 760-960MHz | -15.0 | -0.2 max. | 97 / 3 |
| 49-74-20-05 | 760-960MHz | -20.0 | -0.2 max. | 99 / 1 |
| 49-74-30-05 | 760-960MHz | -30.0 | -0.2 max. | 99.9 / 0.1 |



50-FF-YY-XX Series

We offer a full line of compact couplers covering the frequency ranges from 138-174, 215-300, or 350-520 MHz. The full range of coupling values provides balanced power division and distribution. The 50-FF series uses a multilayer bonded PCB design resulting in a high performance compact design.

- Low insertion Loss, Excellent return Loss.
- Compact dimensions: 5.0x3.70x1.5 in.
- 3, 4.8, 6, 7, 10, 15, 20, 30 dB values.
- 200 Watts Maximum main line power.
- Integrated Mounting Bracket.



| With Integrated 5-Watt Load | Frequency Range | Coupling Nom. (dB) | Thru Line Loss (dB) | Power Split Ratio (%) |
|-----------------------------|-----------------|--------------------|---------------------|-----------------------|
| 50-13-03-05 | 138-174MHz | -3.0 | -3.0 ±0.3 | 50 / 50 |
| 50-13-48-05 | 138-174MHz | -4.8 | -1.8 ±0.2 | 67 / 33 |
| 50-13-06-05 | 138-174MHz | -6.0 | -1.2 ±0.2 | 75 / 25 |
| 50-13-07-05 | 138-174MHz | -7.0 | -1.0 ±0.2 | 80 / 20 |
| 50-13-10-05 | 138-174MHz | -10.0 | -0.5 ±0.2 | 90 / 10 |
| 50-13-15-05 | 138-174MHz | -15.0 | -0.14 ±0.2 | 97 / 3 |
| 50-13-20-05 | 138-174MHz | -20.0 | -0.04 ±0.2 | 99 / 1 |
| 50-13-30-05 | 138-174MHz | -30.0 | -0.04 ±0.2 | 99.9 / 0.1 |
| 50-21-03-05 | 215-300MHz | -3.0 | -3.0 ±0.3 | 50 / 50 |
| 50-21-48-05 | 215-300MHz | -4.8 | -1.8 ±0.2 | 67 / 33 |
| 50-21-06-05 | 215-300MHz | -6.0 | -1.2 ±0.2 | 75 / 25 |
| 50-21-07-05 | 215-300MHz | -7.0 | -1.0 ±0.2 | 80 / 20 |
| 50-21-10-05 | 215-300MHz | -10.0 | -0.5 ±0.2 | 90 / 10 |
| 50-21-15-05 | 215-300MHz | -15.0 | -0.14 ±0.2 | 97 / 3 |
| 50-21-20-05 | 215-300MHz | -20.0 | -0.04 ±0.2 | 99 / 1 |
| 50-21-30-05 | 215-300MHz | -30.0 | -0.04 ±0.2 | 99.9 / 0.1 |

50-FF-YY-XX Series

We offer a full line of compact couplers covering the frequency ranges from 138-174, 215-300, or 350-520 MHz. The full range of coupling values provides balanced power division and distribution. The 50-FF series uses a multilayer bonded PCB design resulting in a high performance compact design.

- Low insertion Loss, Excellent return Loss.
- Compact dimensions: 3.0x3.0x1.5 in.
- 3, 4.8, 6, 7, 10, 15, 20, 30 dB values.
- 200 Watts Maximum main line power.
- Integrated Mounting Bracket.



| With Integrated 5-Watt Load | Frequency Range | Coupling Nom. (dB) | Thru Line Loss (dB) | Power Split Ratio (%) |
|-----------------------------|-----------------|--------------------|---------------------|-----------------------|
| 50-35-03-05 | 350-520MHz | -3.0 | -3.0 ±0.3 | 50 / 50 |
| 50-35-48-05 | 350-520MHz | -4.8 | -1.8 ±0.2 | 67 / 33 |
| 50-35-06-05 | 350-520MHz | -6.0 | -1.2 ±0.2 | 75 / 25 |
| 50-35-07-05 | 350-520MHz | -7.0 | -1.0 ±0.2 | 80 / 20 |
| 50-35-10-05 | 350-520MHz | -10.0 | -0.5 ±0.2 | 90 / 10 |
| 50-35-15-05 | 350-520MHz | -15.0 | -0.14 ±0.2 | 97 / 3 |
| 50-35-20-05 | 350-520MHz | -20.0 | -0.04 ±0.2 | 99 / 1 |
| 50-35-30-05 | 350-520MHz | -30.0 | -0.04 ±0.2 | 99.9 / 0.1 |
| 50-74-03-05 | 740-960MHz | -3.0 | -3.0 ±0.3 | 50 / 50 |
| 50-74-48-05 | 740-960MHz | -4.8 | -1.8 ±0.2 | 67 / 33 |
| 50-74-06-05 | 740-960MHz | -6.0 | -1.2 ±0.2 | 75 / 25 |
| 50-74-07-05 | 740-960MHz | -7.0 | -1.0 ±0.2 | 80 / 20 |
| 50-74-10-05 | 740-960MHz | -10.0 | -0.5 ±0.2 | 90 / 10 |
| 50-74-15-05 | 740-960MHz | -15.0 | -0.14 ±0.2 | 97 / 3 |
| 50-74-20-05 | 740-960MHz | -20.0 | -0.04 ±0.2 | 99 / 1 |
| 50-74-30-05 | 740-960MHz | -30.0 | -0.04 ±0.2 | 99.9 / 0.1 |