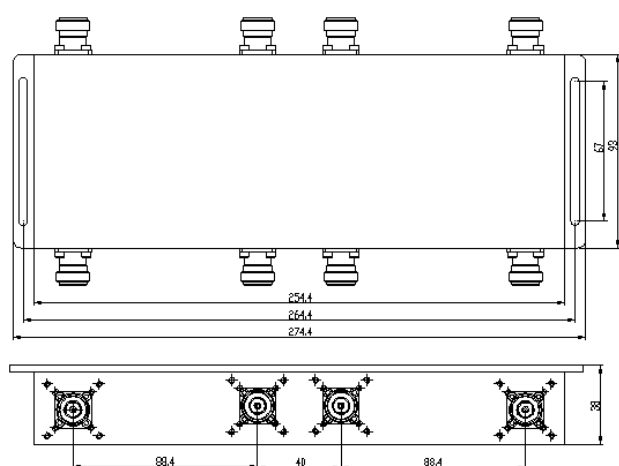


SPECIFICATION OF Blackhawk 700-2700MHz 4x4 Port Hybrid Combiner N/F

Directional, phase-managed combining network used in professional RF deployments.

Model	ACC-BH-00017
Frequency Range	700-2700 MHz
Coupling	6.1±1.0 dB
VSWR	≤1.25
Insertion loss	≤0.5 dB
Isolation	≥23 dB
Intermodulation	-153dBc@2X43dBm
Power handling	150W Every Input
Impedance	50Ω
Connector	N-Female
Application	Indoor / Outdoor
Temperature Range (°C)	-30~+85
Waterproof	IP65/RoHS



Product Drawing

The Powertec ACC-BH-00017 4×4 Hybrid Combiner is a wideband (700–2700 MHz), low-PIM, IP65-rated RF combining matrix designed to merge up to four radio or BTS outputs and evenly distribute their combined signals across four antenna or DAS feed lines.

Using internal hybrid couplers, it maintains isolation, phase balance, and low return loss while supporting high-power operation up to 150W per port. Each of the four N-Female inputs is split across all four outputs, allowing multi-band, multi-carrier, or multi-operator signals to be delivered uniformly to multiple antennas, making it ideal for LTE/5G macro sites, DAS deployments, and neutral-host systems requiring stable, low-intermodulation RF combining.

The ACC-BH-00017 takes up to four radio signals and splits each one evenly to four antennas. Every antenna receives the combined output of all radios. This is ideal for LTE/5G, DAS, and multi-carrier sites where uniform coverage is required.

Wiring the ACC-BH-00017 (4x4 Hybrid Combiner)

01 Identify All Ports

Understanding the port layout prevents wiring mistakes.

Locate the four INPUT ports (usually labelled IN1–IN4)

Locate the four OUTPUT ports (OUT1–OUT4)

Confirm all connectors are N-Female

Check the label for frequency range (700–2700 MHz) and power rating (150 W)

02 Connect Radios to Inputs

Most Important: Each radio/BTS sector feeds one input of the hybrid combiner.

Use low-PIM coax jumpers from each radio/BTS RF port to IN1–IN4

Keep cable lengths similar to maintain phase consistency

Tighten N-male connectors to manufacturer torque spec

If using fewer than four radios, terminate unused inputs with 50 Ω low-PIM loads

03 Connect Antennas to Outputs

Each output feeds one antenna or DAS branch.

Connect OUT1–OUT4 to your antennas or DAS runs

All four outputs carry the combined signal from all inputs

Use high-quality, low-PIM coax

Weatherproof outdoor connectors even though the unit is IP65

04 Verify RF Distribution

Hybrid combiners evenly distribute all input signals to all outputs.

Confirm each antenna receives equal power from all radios

Check isolation between radios using your site test equipment

Ensure VSWR is within acceptable limits after installation

05 Ground and Mount the Unit

Safety: Proper grounding protects radios and prevents PIM issues.

Mount the combiner on a stable, grounded bracket

Bond the chassis to site earth using approved grounding straps

Keep cables strain-relieved to avoid connector stress

06 Final RF Tests

Testing ensures the combiner is functioning as intended.

Perform a sweep test across 700–2700 MHz

Check PIM performance under load

Validate coverage from all antennas

Log results for site acceptance

Wiring the ACC-BH-00017 (4x4 Hybrid Combiner)

01 Identify All Ports

Understanding the port layout prevents wiring mistakes.

Locate the four INPUT ports (usually labelled IN1–IN4)

Locate the four OUTPUT ports (OUT1–OUT4)

Confirm all connectors are N-Female

Check the label for frequency range (700–2700 MHz) and power rating (150 W)

02 Connect Radios to Inputs

Most Important: Each radio/BTS sector feeds one input of the hybrid combiner.

Use low-PIM coax jumpers from each radio/BTS RF port to IN1–IN4

Keep cable lengths similar to maintain phase consistency

Tighten N-male connectors to manufacturer torque spec

If using fewer than four radios, terminate unused inputs with 50 Ω low-PIM loads

03 Connect Antennas to Outputs

Each output feeds one antenna or DAS branch.

Connect OUT1–OUT4 to your antennas or DAS runs

All four outputs carry the combined signal from all inputs

Use high-quality, low-PIM coax

Weatherproof outdoor connectors even though the unit is IP65

04 Verify RF Distribution

Hybrid combiners evenly distribute all input signals to all outputs.

Confirm each antenna receives equal power from all radios

Check isolation between radios using your site test equipment

Ensure VSWR is within acceptable limits after installation

05 Ground and Mount the Unit

Safety: Proper grounding protects radios and prevents PIM issues.

Mount the combiner on a stable, grounded bracket

Bond the chassis to site earth using approved grounding straps

Keep cables strain-relieved to avoid connector stress

06 Final RF Tests

Testing ensures the combiner is functioning as intended.

Perform a sweep test across 700–2700 MHz

Check PIM performance under load

Validate coverage from all antennas

Log results for site acceptance