

FEATURES

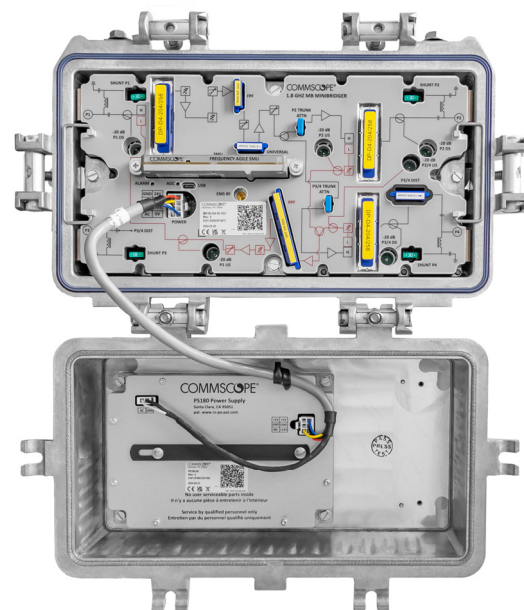
- Supports 1.8 GHz Downstream and up to 684 MHz Upstream operation for DOCSIS® 4.0 networks
- Electronic set-up and control for ease of activation and maintenance
- Modular RF Electronics package with field upgradable frequency split options
- Mechanically compatible with legacy 1 GHz and 1.2 GHz MiniBridger amplifier housings using a 1.8 GHz upgrade kit
- Expanded return path bandwidth with support up to 684 MHz
- Dual pilot, frequency agile AGC support via Signal Monitoring Unit (SMU) plug-in module. AGC mode will revert to gain hold mode in the event of pilot loss
- Equipped with two driven RF outputs; Port 3 or 4 can be enabled with optional Splitter or Directional Coupler plug-ins
- Able to support 1.2 GHz legacy networks

With the ever-growing demand for bandwidth, Cable Operators continue to look for strategies to meet their subscribers' needs. Extended Spectrum DOCSIS supports that demand. With a proven track-record of providing complete solutions for Cable Operators, CommScope is introducing its portfolio of new extended spectrum amplifiers, which includes the CommScope 1.8 GHz MB180 MiniBridger Amplifier.

With unparalleled expertise in HFC networks, CommScope has engineered its new amplifiers to provide the smoothest upgrade with minimal subscriber disruption throughout the entire process. Designed to maximize reuse of the existing network infrastructure, our new amplifiers enable operators to fully realize DOCSIS 4.0 bandwidth gains, while also optimizing solution costs and minimizing operational challenges. Underpinning our approach:

- Maintaining legacy services to provide service continuity through the upgrade
- Optimized for today's deployed networks for maximum infrastructure reuse and minimal upgrade costs
- Maximizing throughput gains for maximum upgrade longevity

Cable Operators can continue to evolve their HFC networks with this latest generation of STARLINE MiniBridger technology.



Electronic Setup and Control

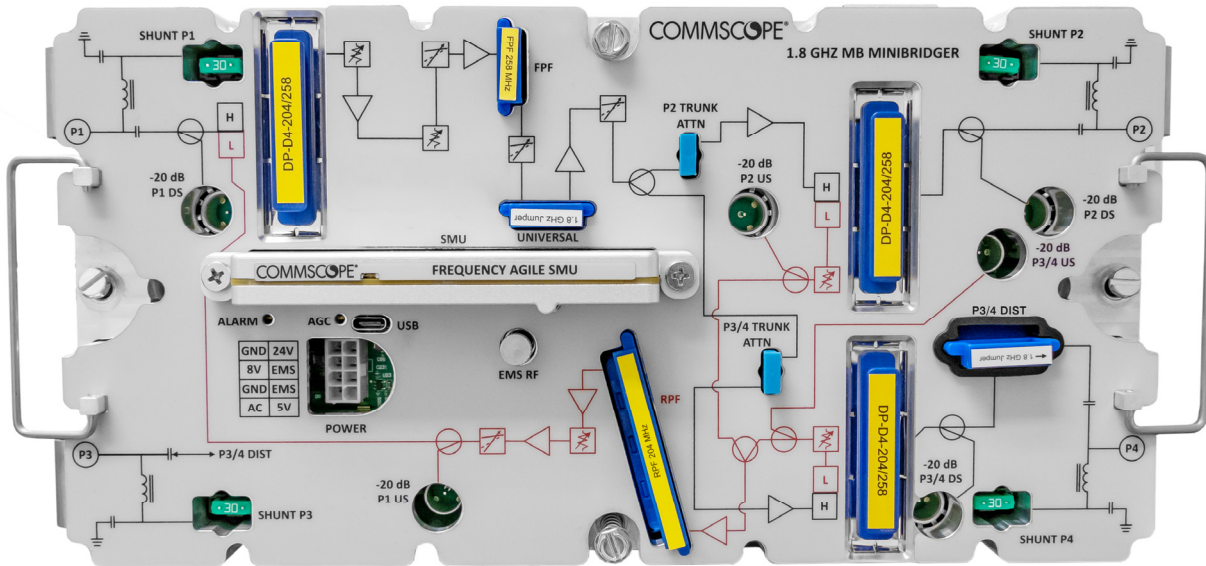
The MB180 amplifier employs next-generation technology that supports electronic setup and control—including the ability to set downstream and upstream attenuation, gain, and tilt electronically—for simplified setup and maintenance. The electronic setup option minimizes the need to keep a large inventory of attenuators and equalizers for technicians and installation partners during network deployment and the future maintenance of the plant.

For added system reliability, the MB180 utilizes a frequency agile Signal Monitoring Unit (SMU) that provides flexible, “on the fly” management of pilot control frequencies as required across today’s diverse set of operational networks. The SMU supports a dual-pilot gain hold feature in the event of pilot loss to eliminate the possibility of extreme level conditions and poor performance. Additionally, there is an AGC LED indicator to provide visual confirmation of the selected mode and pilot presence.

Frequency Split Upgrades

The MB180 employs pluggable, field-upgradable diplex filters and associated pluggable devices that are accessible through the RF module cover, providing operators with the flexibility to change band splits in the future without having to remove or disassemble the RF module while significantly reducing the complexity of a standard split upgrade procedure. This capability also minimizes down time when changing the frequency split of the plant.

The MB180 supports a flexible range of frequency split options to support DOCSIS 4.0 requirements. The amplifier supports a downstream frequency of up to 1794 MHz and an upstream frequency of up to 684 MHz, while also maintaining performance for legacy services currently deployed by operators. MB180 amplifiers have an available upstream gain of up to 32 dB to support increased span losses at higher upstream frequencies. The upstream also includes enhanced RF level stability control via an onboard AGC circuit for maximum level stability.



SPECIFICATIONS¹

General		Specification
Operating Temperature Range		-40° to +60°C (-40° to +140°F)
Housing Dimensions, L x W x D		15.35 x 9.6 x 6.75 inches 38.98 x 24.38 x 17.15 cm
Powering		Specification
AC Input Voltage Range, VAC		45–90
AC Input Current (typical) ²		1.3 A/46.0 W @ 45 V 0.9 A/45.0 W @ 90 V
AC Bypass Current, A		15
Downstream Parameter		Specification
Frequency Range, MHz ³		102–1794 258–1794 492–1794 606–1794 834–1794
Flatness, dB ^{4,7}		± 1.0
Operational Gain, dB ⁵		50
Internal Gain and Slope Adjustment		Electronic (Default Condition: 50 dB Gain @ 1794 MHz, 21.9 dB Tilt from 102–1794 MHz)
Noise Figure, dB ⁵		9 @ F _{min} , 11 @ F _{max} (typical)
Test Points, dB		20 ± 1.0
Return Loss, dB ^{7,8}		16 up to 1218 MHz; 14 1218–1794 MHz
Hum Modulation, dBc ⁹		>55, F _{minfwd} to 1600 MHz >50, 1601 MHz to 1794 MHz
Upstream Parameter		Specification
Frequency Range, MHz ³		10–85 10–204 10–396 10–492 10–684
Flatness, dB ^{7,10}		± 1.0
Operational Gain, dB ¹⁰		085 Split 27 204 Split 27 396 Split 29 492 Split 30 684 Split 32
Internal Gain and Slope Adjustment		Electronic
Noise Figure, dB ¹¹		11 (typical)
Test Points, dB		-20 ± 1.0
Return Loss, dB ⁷		16
Hum Modulation, dBc ⁹		>55, 10 MHz to F _{maxreturn} MHz

NOTES:

- Specifications are subject to change without notice.
- The typical AC input current does not include a remote monitoring transponder.
- Operating passband of station, determined by the diplex filters, Forward Path Filter, Return Path Filter, and equalization installed in the amplifier.
- Flatness is measured with respect to slope. Slope is calculated using best fit.
- Includes gain control back-off and minimum operational input attenuation and equalization loss.
- Specified at the housing cable entry facility with amplifier in default tilt/gain condition. Includes all input loss. Typical value may derate 0.5 dB over temperature (worst case).
- As shipped from the factory.
- Measured with a jumper in the Distribution accessory location. Return loss may derate to 12 dB at frequencies greater than 320 MHz after a frequency split upgrade.
- Typical performance at less than 12 Arms AC passing through the port under test. Greater than 12A Arms AC current passing through the port under test may degrade by up to 5 dB.
- Operational gain is specified for the station with minimum input and output attenuation and is inclusive of input losses.
- Specified at the housing cable entry facility with the amplifier in default gain/tilt condition. Includes all input loss. Typical value may derate 1 dB (worst case). 684 MHz upstream is 12 dB typical, 13 dB worst case.

Contact Customer Care for product information and sales:

- United States: 888-944-4357
- International: +1-215-323-2345

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Z1514847_MB180 1.8 GHz MiniBridger Amplifier_RevA