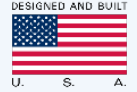


NEW PRODUCT**M5 Series ERCES Signal Booster / BDA**

BDA Panel, PSU Panel and Batteries are shown inside the BDA enclosure along with the optional, UL-Listed NEMA-4 Waterproof Fan Kit.

M5 Series is a modular product platform that offers DSP-based Channelized FCC **Class A or Class B** operation or a band-selective FCC class B operation with analog filters, covering all public safety frequency bands, from **VHF to UHF and 700/800MHz**. It is available as High Power (5W) or medium power (2.5W).

Multiple **Fiber-optic** (Fiber DAS) head-end and remotes as well as **Simplex** options are also available.

The M5 is a state-of-the-art product that incorporates the latest DSP FPGA, RF, and digital technologies. It is engineered for full compliance with the most recent **NFPA, IBC/IFC, and UL2524** specifications, meeting the requirements of diverse Authority Having Jurisdictions (**AHJs**) across the US.

PRODUCT HIGHLIGHTS:

- Supports all frequency bands, FCC Class A or B, Simplex, Fiber, or Passive DAS on the same product platform.
- High Reliability and Industry-Leading RF Performance even in the most challenging environments
- Industry-Leading Noise Figure and Patent-Pending Oscillation Suppression protects Public Safety Radio Systems
- NFPA, IBC/IFC, UL2524 Compliant
- The Single-enclosure, modular M5 solution is the Easiest to Install, Configure and Service
- Unmatched Flexibility, easy and economical future upgrades
- Economical solution, resulting in lowest 'installed cost.'
- Space Saving with the single-enclosure design
- Power Efficient with wide operating temperature range
- Multiple options for monitoring and configuration, Including remote IP / Ethernet Connectivity
- Designed and built in the USA by Radio Solutions, Inc. (RSI)
- Supported by Team RSI with 25+ Years of Industry Experience and over 3,000 systems deployed nationwide.
- Customers are supported by a large nationwide network of RSI-Certified Distributors and Systems Integrators

As **The First and only all-inclusive BDA**, the M5 comes with a **fully integrated battery backup, power supply, charger, supervisory and monitoring circuits**, all housed **inside a single enclosure**. The single-enclosure configuration simplifies the installation, improves overall system reliability, and reduces the wall space requirements by at least 50%.

The complete BDA / Signal Booster is integrated on a single, compact **BDA panel** that is easily field-installed inside the provided NEMA-4 UL Listed waterproof enclosure. The **Power Supply and Control Unit (PSCU)** is the second panel, which installs below the BDA panel. The same PSCU panel model is compatible with all M5 series BDA variants. A pair of integrated 75Ah batteries provide code-compliant battery backup. Additional batteries can be installed externally if required for longer backup times.

Field upgrades, such as frequency band changes, changes of FCC Class A or Class B mode of operation or the complete model changeovers are easily done with a simple panel swap. This is much easier than having to remove and replace the entire wall-mounted BDA enclosure. This also minimizes service downtime and shipping costs as the complete BDA or power supply can be replaced with a simple “plug-n-play” panel swap which just involves reconnecting a single cable jumper and a few panel screws, with no need for further tuning or adjustments.

State-of-the-art RF amplifiers along with our high-selectivity duplexer filters deliver reliable performance and **industry leading noise figure of as low as <2dB** to assure reliable performance and non-interference in even the most challenging RF environments.

The patent-pending advanced **Oscillation Suppression** circuit prevents oscillations that may interfere with public safety radio systems.

Noise suppression includes two options: The standard DSP Channelized (“per channel”) noise squelch, as well as our proprietary **FASTSQL** noise squelch which is designed for fast response time to ensure compatibility with P25 Phase 2 and other radio systems that require fast attack times.

Gain and power are adjustable for the entire frequency band through the control panel, as well as on per-channel basis on the M5 DSP models using the PC GUI software.

Out-of-band interference rejection, such as the strong adjacent band signals from **FirstNet** and other cellular networks ensures that the undesired signals as strong as -20dBm are sufficiently suppressed to prevent interference and AGC gain reduction in the passband.

Configuration and status monitoring is done through the built-in LCD / LED Control Panel as well as using the all-new Windows GUI Software for PC connection through either the **USB** or **Ethernet** ports.

The Dedicated Annunciator Panel is offered in two versions: the standard model with LED indications and the enhanced model with audible alert and “lamp test” keyed switch. Up to 5 panels can be connected using a 4-wire (2 twisted pairs) fire alarm cable. The panels are addressable, fully supervised, powered by the BDA and do not require an external power source.

Fire Alarm Monitoring Modules connect to the provided normally open relay output “dry contacts” with built-in EOL resistors. Monitoring Points: AC Power, BDA Trouble, Charger Trouble, Battery Low, Antenna Trouble, System Component Trouble, Oscillation Detected, and a programmable Auxiliary port that can be programmed for different functions, including the enclosure door / tamper alarm.

The Patented **waterproof NEMA-4, UL-Listed Type-4 Fan kit** is included as standard on 700/800 dual band models and offered as an add-on option to all other models. The fan kit provides ventilation and ensures reliable, code-compliant operation in even the most extreme environments that exceed 100 °F, **while still maintaining the enclosure waterproof NEMA-4 rating and UL Listing.**

Field Installation is greatly simplified: the 24” x 24” x 10” Enclosure mounts on a pair of vertical 1 5/8” strut channels. A pair of liquid tight flex conduit fittings are provided for the 120VAC circuit and for the Monitoring and Supervisory circuits. **Donor and DAS** jumper cable assembly is included along with the watertight enclosure fitting. Fused Battery Cable jumper is included, as well as the standard annunciator panel.

120V Power: Single 15A / 20A dedicated circuit is terminated inside the enclosure in the provided standard duplex outlet. The duplex outlet also provides an extra service plug that can be used for Spectrum Analyzer or other test equipment and tools.

Technical Specifications:

MODEL NUMBER:	SB150M5A-DSP SB150M5B-DSP	SB150M5B-ANA	SB400M5A-DSP SB400M5B-DSP	SB400M5B-ANA	SB700M5A-DSP SB700M5B-DSP	SB700M5B-ANA	SB800M5A-DSP SB800M5B-DSP	SB800M5B-ANA	SB7800M5A-DSP SB7800M5B-DSP	SB7800M5B-ANA
Frequency Range (MHz)	DL: 150-170 UL: 150-170	DL: 150-170 UL: 150-170	DL: 406.1-512 UL: 402-512	DL: 406.1-512 UL: 402-512	DL: 769-775 UL: 799-805	DL: 769-775 UL: 799-805	DL: 851-869 UL: 806-824	DL: 851-869 UL: 806-824	UL1: 799-805 UL2: 806-824 DL1: 769-775 DL2: 851-869	UL1: 799-805 UL2: 806-824 DL1: 769-775 DL2: 851-869
Amplifier Composite RF Output Power dBm (W), Typ.+0.5 / -1dB (High Power Versions)	DL: 35dBm (3.2W) UL: 35dBm (3.2W)	DL: 35dBm (3.2W) UL: 35dBm (3.2W)	DL: 37dBm (5W) UL: 37dBm (5W)	DL: 37dBm (5W) UL: 37dBm (5W)	DL: 37dBm (5W) UL: 37dBm (5W)	DL: 37dBm (5W) UL: 37dBm (5W)	DL: 37dBm (5W) UL: 37dBm (5W)	DL: 37dBm (5W) UL: 37dBm (5W)	DL: 40dBm (10W) UL: 37dBm (5W)	DL: 40dBm (10W) UL: 37dBm (5W)
Duplexer Insertion Loss dB (typ.)	2.5-6 dB	2.5-6 dB	2.5-6 dB	2.5-6 dB	2.5-6 dB	<2.5dB	<2.5dB	<2.5dB	<2.1dB	<2.1dB
Gain and Power Ripple within the rated Passband dB (typ.)	<3dB	<3dB	<3dB	<3dB	<3dB	<3dB	<3dB	<3dB	<3dB	<3dB
Selectable Channel Bandwidth for Each Channel (kHz)	A: 12.5, 25KHz B: 12.5, 25, 150, 250, 500 KHz	Band Selective	A: 12.5, 25KHz B: 12.5, 25, 150, 250, 500 KHz	Band Selective	A: 12.5, 25KHz B: 12.5, 25, 150, 250, 500 KHz	Band Selective	A: 12.5, 25KHz B: 12.5, 25, 150, 250, 500 KHz	Band Selective	A: 12.5, 25KHz B: 12.5, 25, 150, 250, 500 KHz	Band Selective
Channel Capacity (Downlink + Uplink)	32 + 32	Specify Sub-Band	32 + 32	Specify Sub-Band	32 + 32	Full Band	32 + 32	Full Band	64 + 64	700 and 800 Bands
Selectable Channel Filter Latency / Group Delay / Selectivity Per Channel (usec.)	12, 20, 48	12, 20, 48	12, 20, 48	12, 20, 48	12, 20, 48	12, 20, 48	12, 20, 48	12, 20, 48	12, 20, 48	12, 20, 48
Maximum System Gain (typ.) dB	85	85	85	85	92	92	92	92	92	92
Gain Adjustment Attenuation Range in 1dB Steps (dB)	0-40	0-40	0-40	0-40	0-40	0-40	0-40	0-40	0-40	0-40
Power Adjustment Limiter Range 1dB Steps(dB)	0-15	0-15	0-15	0-15	0-15	0-15	0-15	0-15	0-15	0-15
Intermodulation	<-15dBm	<-15dBm	<-15dBm	<-15dBm	<-15dBm	<-15dBm	<-15dBm	<-15dBm	<-15dBm	<-15dBm
Amplifier Noise Figure (typ)	<2.5dB	<3dB	<4.5dB	<4dB	<4.5dB	<4dB	<4.5dB	<4dB	<4.5dB	<4dB
Maximum RF Power Input for Rated IM	-20dBm	-20dBm	-20dBm	-20dBm	-20dBm	-20dBm	-20dBm	-20dBm	-20dBm	-20dBm
Absolute Maximum Input Power	0dBm	0dBm	0dBm	0dBm	0dBm	0dBm	0dBm	0dBm	0dBm	0dBm
Impedance Ω	50	50	50	50	50	50	50	50	50	50
RF Connector Type	N-Female	N-Female	N-Female	N-Female	N-Female	N-Female	N-Female	N-Female	N-Female	N-Female
Supply Voltage VAC / Battery VDC	120VAC / 27.6V DC	120VAC / 27.6V DC	120VAC / 27.6V DC	120VAC / 27.6V DC	120VAC / 27.6V DC	120VAC / 27.6V DC	120VAC / 27.6V DC	120VAC / 27.6V DC	120VAC / 27.6V DC	120VAC / 27.6V DC
AC Power Consumption (BDA Only / BDA and Charger under max load)	<120W / <260W	<110W / <250W	<120W / <260W	<110W / <250W	<120W / <260W	<110W / <250W	<120W / <260W	<110W / <250W	<190W / <330W	<170W / <310W
Operating Temperature °F (°C)	-22 to +140 (-30 to +60)	-22 to +140 (-30 to +60)	-22 to +140 (-30 to +60)	-22 to +140 (-30 to +60)	-22 to +140 (-30 to +60)	-22 to +140 (-30 to +60)	-22 to +140 (-30 to +60)	-22 to +140 (-30 to +60)	-22 to +140 (-30 to +60)	-22 to +140 (-30 to +60)
Recommended Environment Temperature °F (°C)	-14 to +86 (-10 to +30)	-14 to +86 (-10 to +30)	-14 to +86 (-10 to +30)	-14 to +86 (-10 to +30)	-14 to +86 (-10 to +30)	-14 to +86 (-10 to +30)	-14 to +86 (-10 to +30)	-14 to +86 (-10 to +30)	-14 to +86 (-10 to +30)	-14 to +86 (-10 to +30)
Enclosure Environmental Rating	NEMA-4 (Type-4)	NEMA-4 (Type-4)	NEMA-4 (Type-4)	NEMA-4 (Type-4)	NEMA-4 (Type-4)	NEMA-4 (Type-4)	NEMA-4 (Type-4)	NEMA-4 (Type-4)	NEMA-4 (Type-4)	NEMA-4 (Type-4)
Dimensions (WxDxH)	24"x24" x10"	24"x24" x10"	24"x24" x10"	24"x24" x10"	24"x24" x10"	24"x24" x10"	24"x24" x10"	24"x24" x10"	24"x24" x10"	24"x24" x10"
Weight (With Duplexers, w/o batteries) Typ. (lbs)	<90	<90	<90	<90	<90	<90	<90	<90	<95	<95

FCC IDs: 2AHVPSB400M5ADSP, 2AHVPSB400M5BANA, 2AHVPSB400M5BDSP, 2AHVPSB7800M5BDSP, 2AHVPSB7800M5BANA, 2AHVPSB7800M5ADSP, 2AHVPSB800M5BDSP, 2AHVPSB800M5BANA, 2AHVPSB800M5ADSP, 2AHVPSB700M5BDSP, 2AHVPSB700M5BANA, 2AHVPSB700M5ADSP, 2AHVPSB150M5ADSP*, 2AHVPSB150M5BANA*, 2AHVPSB150M5BDSP*

FCC WARNING: These are **NOT CONSUMER** devices. They are designed for installation by **FCC LICENSEES** and **QUALIFIED INSTALLERS**. You **MUST** have an **FCC frequency LICENSE** or express consent of an FCC frequency Licensee to operate this device. You **MUST** register Class B signal boosters (as defined in 47 CFR 90.219) online at www.fcc.gov/signal-boosters/registration. **Unauthorized use may result in significant forfeiture penalties, including penalties in excess of \$100,000 for each continuing violation.**

Changes or modifications not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment.

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