Cerberus PRO® Intelligent Voice Communication

100W Booster Amplifier and Components

Models EBA2001-U1 I EBA2001-R1 (Kits)
EBA2004-A1 (Main Board)

Architect and Engineer Specifications

- ☐ Booster Amplifier provides additional 100 Watts of amplification for Cerberus PRO Intelligent Voice Communication (IVC) systems and FireFinder® XLSV panels
- ☐ Main board (Model EBA2004-A1) consists of two (2) 50 Watt amplifiers – configurable to either 25V or 70V output power
  - Four (4) 'Class B' or two (2) 'Class A' when configured as 100W total amplification, or two (2) 'Class B' or one (1) 'Class A' – configurable as (1) 50W main and one (1) 50W backup amplifier
- ☐ Enclosure, used for housing the main board (Model EBA2004-A1), 170W power supply (Model FP2011-U1) and battery set, is available in red or black
- ☐ Supports high-level and low-level audio
  - One (1) Audio Transformer Kit, Model FHA2054-U1, is required for the calibration and amplification of low-level audio
- ☐ Contains In / Out speaker connections
- ☐ General / AC / ground-fault trouble relays
- ☐ Diagnostic light-emitting diodes (LEDs)
- ☐ Ground-fault detection
- ☐ Integrated battery charger
- ☐ Supports up to 33Ah batteries
- ☐ UL864 10th Edition, ULC-S527 Listed
- ☐ FM, CSFM, NYCFD and OSHPD Approved

Product Overview

Functioning as a voice-amplification extender on Siemens – Fire Safety voice panels, the Booster Amplifier (in conjunction with its related components) provides additional amplification to speaker circuits used on Cerberus PRO Intelligent Voice Communication (IVC) systems, as well as FireFinder® XLSV – both in bulk and distributed configurations.

The booster amplifier can be ordered in two (2) types of kits, Model EBA2001-U1 / R1, each consisting of four (4) main parts:

- One (1) **black** or **red** booster-amp enclosure (Model PAB-ENCL / PAB-ENCL-R)
- One (1) main board (Model EBA2004-A1)
- One (1) Booster Amplifier Adapter Plate (Model BAAP)
- One (1) 170W power supply (Model FP2011-U1)

100W Booster Amplifier and Components

When used with Siemens High-Fidelity speaker notification appliances, Model EBA2004-A1 meets the requirement for low-frequency (520 Hz) signal tone, per UL464 / ULC-S525, as described in the section, Determination of Low-Frequency Signal Format – Standard Audible Signal Appliance:

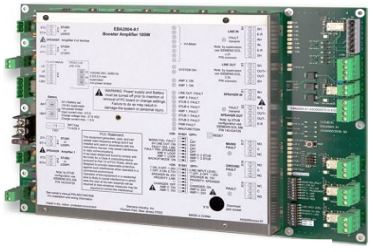
Suitable for Sleeping Areas as Required By NFPA 72 Chapter 18.4.5 (2013 Edition).

The booster amplifier and its components are UL864, UL1711, UL2572 and ULC-S527 Listed. Additionally, Model EBA2001-U1 / R1 is FM, CSFM (#7300-0067:0274), NYCFD (#6192) and OSHPD (#OSP-0420-10) Approved.

Product Components

Booster Amplifier Main Board

Model EBA2004-A1 is the main board for the booster amplifier for Cerberus PRO Intelligent Voice Communication (IVC) systems. Functioning as the primary component in voice-system amplification, the main board is used to provide additional 100W amplification to speaker circuits on either a 252-point (Model FV2025) or 504-point (Model FV2050) voice panels – as well as with FireFinder® XLSV panels.



Model EBA2004-A1
Main Board

Model EBA2004-A1 is comprised of one (1) integrated battery charger and two (2) 50 Watt amplifiers on a single PC board – configurable to either 25V or 70V of output power. The amplifiers are set as either 100W of total amplification, or as a 50W main / 50W back-up configuration.

Product Components (cont.)

Booster Amplifier Main Board (cont.)

The main board supports two (2) `Class A' or four (4) `Class B' speaker circuits – when configured as 100W amplification. Each 50W amplifier supports one (1) `Class A' or two (2) `Class B' speaker circuits – when configured as 50W main / 50W back-up. Model EBA2004-A1 also provides In / Out speaker connections and auxiliary contact (AC) power.
Ground-fault, AC failure, and general faults relays – as well as diagnostic LEDs are other features of Model EBA2004-A1. The booster amplifier main board is configured by the use of DIP switches.

Booster Amplifier Power Supply

Model FP2011-U1 – used for supplying main power to a Cerberus PRO Fire Safety 252 / 504-point addressable system – also supplies main power to a booster amplifier main board, Model EBA2004-A1.

Comprised of up to 170 Watts, Model FP2011-U1 provides primary, filtered and regulated power. Model FP2011-U1 is rated 6.5 Amps at 24VDC, nominal.

The 170-Watt power supply incorporates a 4.0A, non-resettable slow-blow fuse on the primary input, and includes a built-in AC-line filter for surge and noise suppression. Model FP2011-U1 mounts from the inside (at the top) of a Model PAB-ENCL / -R enclosure, and there are no serviceable parts to be maintained.

Model FP2011-U1

Booster Amplifier Enclosure

Available in either red or black, the Booster Amp Enclosure (Model PAB-ENCL / -R) houses one (1) booster-amp main board (Model EBA2004-A1); one (1) 170W power supply (Model FP2011-U1), and one (1) battery set of up to 18Ah inside the enclosure. The BAAP (booster amplifier adapter plate) is required to mount the booster in the PAB enclosure.

NOTE: Since the booster amplifier main board (Model EBA2004-A1) requires up to 33Ah of operating power, an additional back-up battery must be used and mounted in a Model PAB-ENCL /-R enclosure.

Model PAB-ENCL

Optional Accessories

Booster Amplifier Battery Fixing Bracket

For system installations in areas where Seismic certification is required, the booster amplifier battery-fixing bracket is optionally used to secure up to 12V / 18 Ah batteries in a Model PAB-ENCL series booster-amplifier enclosure.

Audio Transformer Kit

The Audio Transformer Kit (Model FHA2054-U1) is an optional component for the 100W Booster Amplifier used with FireFinder XLSV and Cerberus PRO IVC panels.

The kit, which serves as the low-level audio-input source to drive the Booster Amplifier, provides reliable ground isolation for low-level audio.

Each order of Model FHA2054-U1 is shipped with a shield isolation terminal block; a terminal block (for the wiring to the "low-level" input), as well as an isolating transformer module with a connector (for the low-level audio connection and the terminating resistor for supervision).

Model FHA2054-U1

Temperature and Humidity Range

The booster amplifier and its components are UL 864 10th Edition Listed for indoor dry locations within a temperature range of 120 +/-3°F (49 +/- 2°C) to 32 +/- 3°F (0 +/- 2°C) and a relative humidity of 93 +/- 2% at a temperature of 90 +/- 3°F (32 +/- 2°C).

Technical Data

Integrated Battery Charger	Voltage, nominal		24VDC
	Output current, max.		6.5A
	Charge voltage, max.		27.3VDC
	Charge current, max.		1.5A
Audio Line Input	Frequency range		®UL: 450 Hz (3 kHz) ULC: 375 Hz (7 kHz)
	Input level, max.		1.55 / 1.0 / 0.75 VRMS or OFF, selectable
	Impedance [Model EBA2004-A1]		60k Ω @ 1 kHz
	Impedance [Model FHA2054-U1]		10k Ω @ 1 kHz
170W Power Supply [Model FP2011-U1]	Input Characteristics:	AC Input:	2.0A @ 115 / 230 VAC (50/60 Hz)
		DC Output:	6.5A @ 26VDC
		Voltage:	26VDC
		Current Draw, max.	6.5 Amps.
Physical Properties	100W Booster Amplifier : [Model EBA2004-A1]	Dimensions: { W −x− H −x− D }	8.66" −x− 1.69" −x− 13.39" (22 cm. −x− 4.3 cm. −x− 34 cm.)
		Weight: (Approximate)	0.044 Lbs. (20g)
	Enclosure for the 100W Booster Amplifier: [Model PAB-ENCL/-R]	Dimensions: { W −x− H −x− D }	18.1" −x− 23.6" −x− 5.2" (46 cm. −x− 60 cm. −x− 13.2 cm.)
		Weight: (Approximate)	44 Lbs. (20 kg.)

Details for Ordering

MODEL OR TYPE	PART NUMBER	PRODUCT
EBA2001-U1	S54400-B140-A1	100W Booster Amplifier Kit, **Black** consists of the following : -one (1) main board (Model EBA2004-A1); - one (1) black enclosure (Model PAB-ENCL), - one (1) 170W power supply, (Model FP2011-U1)
EBA2001-R1	S54400-B141-A1	100W Booster Amplifier Kit, **Red** consists of the following : -one (1) main board (Model EBA2004-A1); -one (1) red enclosure (Model PAB-ENCL-R), -one (1) 170W power supply (Model FP2011-U1)
EBA2004-A1	S54400-B137-A1	100W Booster Amplifier
PAB-ENCL	S54339-A8-A1	100W Booster Amplifier Enclosure, Black
PAB-ENCL-R	S54339-A9-A1	100W Booster Amplifier Enclosure, **Red**
BAAP	S54339-A14-A1	Booster Amplifier Adapter Plate
FHA2044-U1	S54400-B167-A1	Battery Fixing Bracket
FHA2054-U1	S54400-B58-A1	Audio Transformer Kit
FP2011-U1	500-450222	170 Watt Power Supply

Notes: For more technical data for the Booster Amplifier, go to IOM A6V10407858.
For more technical data on the Model PAB-ENCL series enclosure, go to IOM A6V10437426.
For more technical data on the Model FHA2044-U1 fixing bracket, go to IOM A6V10437428.
For more technical data on the Model FHA2054-U1 audio transformer kit, go to IOM A6V10590197

Related Documentation

Data Sheet	Number
Cerberus PRO Intelligent Voice Communication (system overview)	9821
FireFinder® XLSV (system overview)	6340

NOTICE – The information contained in this data-sheet document is intended only as a summary, and is subject to change without notice.
The product(s) described here has/have a specific instruction sheet(s) that cover various technical, limitation and liability information.

Copies of install-type, instruction sheets – as well as the *General Product Warning and Limitations* document, which also contains important data, are provided with the product, and are available from the Manufacturer.

Data contained in the aforesaid type of documentation should be consulted with a fire-safety professional before specifying or using the product.

Any further questions or assistance concerning particular problems that might arise, relative to the proper functioning of the equipment, please contact the Manufacturer.

SIEMENS

Cerberus PRO®

Siemens Industry, Inc.
Smart Infrastructure - Building Products
2 Gatehall Drive • Parsippany, NJ 07054
Tel: (973) 593-2600

February - 2023
(Rev. 4)