# Intelligent Audio Amplifiers

## SIGA-AA30, SIGA-AA50

## Overview

SIGA amplifiers are high efficiency switch mode audio amplifiers available in 30 and 50 watt sizes. Amplifiers have two input channels supporting dual channel or single channel audio applications. Amplifier project application flexibility is enhanced by provision for input levels at 1Vrms or 25Vrms. This allows SIGA amplifiers to obtain their input from a line level signal or the output of another 25Vrms amplifier. This feature provides great application flexibility helping meet project requirements. Input channel selection is made through system software programming transmitted to the amplifier via a Signature data circuit. This reduces wiring interconnect requirements by reducing the number of control modules needed.

Each amplifier has provision for connecting back up amplification. Amplifiers can be backed up one-to-one or multiple amplifiers can have one shared back up amplifier. In addition to back up amplifiers each SIGA amplifier has an on board 1kHz tone generator that can activate in the event of input failure or if no back up amplifier is available.

## Engineering Specification

System remote amplifiers must communicate their status directly to the main control panel. External monitoring is not acceptable. Each amplifier must support dual channel audio. Amplifiers must support input signals at line a built in back up 1kHz tone generator that automatically activates with loss of input signal. Each amplifier must have provision for a back up amplifier. It must be possible to default to back up tone or standby amplifier in the event of the loss of input signals.
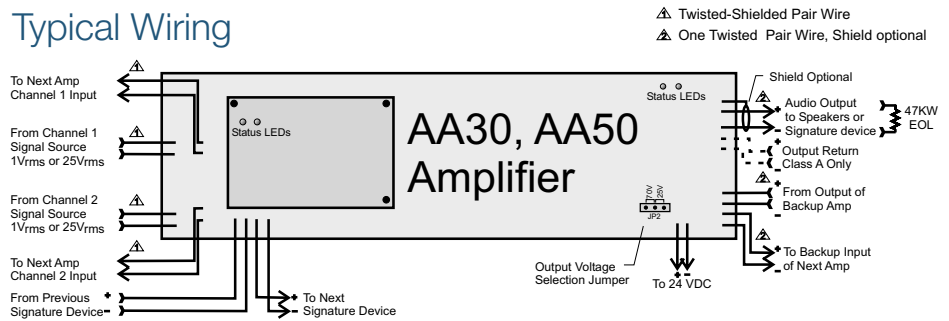
## Standard Features

- Remote or Local mounting

- Two channel input

- Connects to signature data circuit. Allows switching between two channels without additional control modules. Eliminates the need for additional amplifier monitoring.

- Output selectable as 25Vrms or 70Vrms

- Dual input level allows the use of a 1Volt or 25Volt input signal.

- Back up amplifier connection

- Back up 1kHz tone generator

## Application

Signature amplifiers are ideally suited for distributed audio applications and small centrally banked applications. The audio output is configurable as 25Vrms or 70Vrms in Class B or Class A wiring configurations. Speakers can connect directly to the output of the amplifier or the amplifier output can run as a audio riser to signature modules where speaker zone selection is made. Each amplifier has a built in 1kHz tone generator and provision for a back up amplifier. Should an amplifier lose its input signal the output will switch to a back up amplifier. If there is no back up amplifier or the output from the back up is unavailable the output will receive the internal 1kHz tone as the evacuation signal. On board status LEDs provide quick visual indication of amplifier status including, Power Amp. Enabled, Backup Mode, Amplifier Active, and Normal Communications.

## Typical Wiring

⚠ Twisted-Shielded Pair Wire
⚠ One Twisted Pair Wire, Shield optional

To Next Amp Channel 1 Input
From Channel 1 Signal Source 1Vrms or 25Vrms
From Channel 2 Signal Source 1Vrms or 25Vrms
To Next Amp Channel 2 Input
From Previous Signature Device

To Next Signature Device

Status LEDs

**AA30, AA50 Amplifier**

Status LEDs

Output Voltage Selection Jumper

To 24 VDC

JP2

Shield Optional
Audio Output to Speakers or Signature device
Output Return Class A Only
From Output of Backup Amp
To Backup Input of Next Amp

47KW EOL

## Specifications

| Catalog Number | SIGA-AA30 | SIGA-AA50 |
|---|---|---|
| Current:   Standby | 2 mA at 24 V | 2 mA at 24 V |
|                Active | 1.55 A at 24 V load | 2.8 A at 24 V full load |
| Output | 30 watts @ 25 VRMS or 70 VRMS | 50 watts @ 25 VRMS or 70 VRMS |
| Voltage | 24 VDC | |
| Ground fault impedance | 0.1 Ω or less | |
| Frequency response | ULC: 400 Hz to 4 kHz at –3 dB. ULI: 800 Hz to 2.8 kHz. | |
| Harmonic distortion | < 5% | |
| Input | | |
|   Channel 1 dual input | 1 VRMS or 25 VRMS maximum | |
|   Channel 2 dual input | 1 VRMS or 25 VRMS maximum | |
| Configuration | Class B (Style Y) or Class A (Style Z) | |
| EOL resistor | 47 kΩ | |
| Compatible enclosures | 2-WB3(R), 2-WB7(R), RACCR, APS6A, APS10A. | |
| Compatible power sources | System power, BPS6A/10A, APS6A/10A; SIGA-APS (for retrofit only), | |
| Signature Data Circuit | | |
|   Addresses | 2 module addresses | |
|   Emulation | Signature series CC2 module | |
| Maximum wire size | 12 to 18 AWG (0.75 to 2.5 mm²) | |
| Backup tone | 1 kHz | |
| Operating environment | Temperature: 32 to 120°F (0 to 49°C). Humidity: 0 to 93%, N.C. | |

## Ordering Information

| Catalog Number | Description | Ship Wt. lb. (kg) |
|---|---|---|
| SIGA-AA30 | 30 Watt Intelligent Audio Amplifier | 2 (.9) |
| SIGA-AA50 | 50 Watt Intelligent Audio Amplifier | 2 (.9) |
| **Wallboxes** | | |
| 2-WB3 | EST2 Long Surface Wallbox (order 2-WB3D door separately) - Gray finish. For Semi-Flush mounting order Trim Kit. See note 1 | 38 (17.3) |
| 2-WB7 | EST2 Double Wide Surface Wallbox  (order 2-WB7D door separately) - Gray finish. For Semi-Flush mounting  order Trim Kit. See note 1 | 75 (34) |
| APS6A | 6.5 Amp Auxiliary Power Supply with space for up to two amplifiers. | 26 (11.8) |
| APS10A | 10 Amp Auxiliary Power Supply with space for up to two amplifiers. | 26 (11.8) |
| RACCR | Remote Audio Closet Cabinet (order door separately). Red Finish | 32 (14.5) |
| **Trim Kits** | | |
| 2-LFK | Long Semi-Flush Trim Kit  for 2-WB3 wallbox. See note 1 | 4 (1.8) |
| 2-DFK | Double Wide Semi-Flush Trim Kit  for 2-WB7 box. See note 1 | 5 (2.3) |
| *Note 1: Standard finish is gray, red versions are available by adding suffix R  to the catalog number e.g. 2-WB3R* | | |
| **Related Equipment** | | |
| SIGA-APS | 6.4 Amp Power Supply | 2 (.9) |