

Applied Electronics Bravo Series Dimming System Model SA12/1200

> Setup and Operation Instructions

1.0 Scope

This document details the setup and operation requirements for Applied Electronics Bravo Series Dimming System. These Instructions are provided for the Model SA12/1200 rack mount dimmer unit.

2.0 General

Applied Electronics Bravo Series Dimming System consists of a 2 space rack mountable chassis with user interface on the front panel (see Figure 1). The SA12/1200 provides the capability to control and dim twelve 1200 watt outputs.

Dim levels for each system output may be controlled by either of the following methods:

- 1. Any DMX512-compatible lighting console.
- 2. Local control assumed from the front panel of the SA12/1200.

Internal temperatures are continuously monitored in each unit. If an over temperature condition is sensed, all outputs within that unit are turned off until the system is reset.

The SA12/1200 Bravo Series Dimmer is available with an assortment of output connections. Output types include: Edison, dual stagepin, multipin (Soco), terminal block and patch bay – insulted tip-jack (see figure 2). Each Dimmer is user defined at date of purchase.

The front panel of the SA12/1200 has a five digit, 7-segment display for system status, a valid DMX LED for control signal status and pushbutton controls for easy set-up of system parameters.

Each SA12/1200 is provided with a standard one-year warranty for parts and labor.



Figure 1 SA12/1200 (front view) 2



Multipin (Soco) Output

Γ		1	2	3	4	5	Output 6	Channels 7	8	9	10	11	12	
		\odot	\bigcirc	0	\bigcirc	0	\bigcirc	0	\bigcirc		\bigcirc	0	\bigcirc	
		\odot	\bigcirc	\odot	\bigcirc	0	\bigcirc	0	\bigcirc	O	\bigcirc	0	\bigcirc	
		\odot	\bigcirc	\odot	\bigcirc	0	\bigcirc	0	\bigcirc	O	\bigcirc	0	\bigcirc	()
L	 						-						-	

Patch Bay Insulated Tip-Jack Output

0	0	0	0	0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	0	0	0	0	

Stagepin Output



Terminal Block Output



Edison Output

Figure 2 SA12/1200 Rear Views

3.0 Specifications

- Input Voltage: 220VAC (120VAC x 2) or 208VAC (3-phase)
- Input Current: 120A per panel, supplied as 60A x 2 (for single phase sources) or 40A x 3 (for 3-phase sources)
- Dimming Outputs: 12 channels @ 2400W
- Weight: 36 lbs.
- Outside Dimensions: 3.47" high x 19" wide x 17.5" deep
- Operational Ambient Temperature: 32° to 104° F (0° to 40° C)

4.0 Chassis Mounting

Each SA12/1200 dimmer unit is intended to be mounted in a standard 19" rack enclosure. Note that all dimmers are inherently noisy devices, and care should be taken not to mount the panels in a location where audible noise could be a distraction.

For cooling considerations an exhaust fan for the SA12/1200 is located on the left side (looking at the front of the unit). The right side of the dimmer has an intake fan. When mounted in a rack enclosure insure proper venting of each unit is allowed by having 2" diameter min. vent holes in rack side panel adjacent to the exhaust vent of the SA12/1200.

*Allow 6" minimum clearance between racks if two or more racks are to be located side-by-side

Rear rack mounting rails are recommended for rear support of each dimmer unit. Rear mounting ears are available for the SA12/1200 which will allow the unit to be secured to the rear mounting rails.

5.0 System Wiring Details

The following sections detail control and power wiring requirements for the SA12/1200 Dimmer Unit.

5.1 Power Input Connections for the SA12/1200 Bravo Series Dimmer

The SA12/1200 Dimmer Unit may be configured for use with 3-phase or singlephase power sources. Your dimmer unit is normally shipped configured for three phase operation. In 3-phase mode, all blue wires marked with black and red tape should be connected to TB1 position 3 (second from right – from front of unit). In single-phase configuration, all blue wires with black marking tape should be connected to TB3 position 1 (with other existing black wires) and blue wires with red marking tape should be connected to TB1 position 2 (with other existing red wires). The resulting phase/channel assignments for each configuration are as follows:

Configuration	Channel Phase Assignment											
	1	2	3	4	5	6	7	8	9	10	11	12
3-Phase	А	В	С	Α	В	С	Α	В	С	А	В	С
Single Phase	А	В	В	Α	В	Α	Α	В	В	А	В	А

WARNING

VERIFY THAT NO INPUT POWER IS BEING PROVIDED TO THE CHASSIS PRIOR TO MAKING THE FOLLOWING CONNECTIONS.

System power input connections should be made in accordance with Figure 3 and as detailed below.



Ground Connection – Earth ground input should be connected to the .ground lug located next to the power input terminal block.

Neutral Connection – Power Neutral input should be connected to TB1 position 4.

Phase A Connection – Connect one phase of system power (hot) to TB1 position 1.

Phase B Connection – Connect a second phase of system power (hot) to TB1 position 2.

Phase C Connection – In 3-phase power systems, connect the third phase of system power (hot) to TB1 position 3. No connection required for single phase operation.

5.1 SA12/1200 Control I/O Connections

The SA12/1200 Bravo Series dimmer is controlled by industry standard (USITT), five pin DMX-512 control protocol. A standard five pin XLR connector is provided along with a DMX output (loop-thru) connector.

WARNING

VERIFY THAT NO INPUT POWER IS BEING PROVIDED TO THE CHASSIS PRIOR TO MAKING THE FOLLOWING CONNECTIONS.

DMX Input – Connect any DMX512-compatible lighting console to the sidemounted 5-pin XLR connector using a standard DMX cable.

5.3 Power Output Connections for SA12/1200 Bravo Series Dimmer

System power output connections should be made in accordance as detailed below.

Hot Connections – Depending on the output connection type purchased, Hot wires for each output channel should be connected to the corresponding position on the rear panel as specified below (see figure 2).

Stagepin Output:

Channel assignments for the dual stagepin dimmer runs from right to left (looking at the rear of the dimmer unit), i.e. channel one is the furthest stagepin to the right – channel twelve is the furthest stagepin to the left.

Edison Output:

One Edison output (twelve total) is provided per channel and the outputs are right to left with channel one the furthest Edison right - top, channel two Edison is directly underneath channel one and are consistently wired across right to left in the same manner.

Terminal Block Output:

The rear mounted terminal block provides a channel (hot) connection and a neutral connection for each channel output. Channel one is the terminal position to the furthest right and all other terminals are wired in sequence right to left.

Multipin (Soco) Output:

Two multipin (Soco) output connectors are provided each wired for six circuits apiece. There is one outputs provided per channel. The multipin connectors are wired to industry standard pin outs.

Patch Bay Insulated Tip-Jack Output:

The patch bay version of the SA12/1200 Bravo Series dimmer is wired left to right whereas channel one is the furthest column of jacks to the left and channel twelve is the furthest column of jacks to the right. Each output channel is labeled and color coded to correspond to phases being used. Three output jacks are provided per channel to allow for maximum flexibility. This dimmer is the base unit of the Omega Touring System.

More than one lighting fixture may be connected to each output channel, as long as each channel's load does not exceed 1200 watts.

6.0 System Setup

After all system control and power wiring are connected as detailed in section 5 above, turn all 12 output channel circuit breakers OFF, turn your DMX-512 lighting console OFF and energize the system.

The system front panel will display the base DMX address (address 001 is the default). Turn ON your DMX console and the **Valid DMX** LED should be illuminated.



Figure 4 Front Panel Controls

6.1 DMX Address Adjustment

The **DMX Address** pushbutton (see figure 4) allows you to set the base address of the SA12/1200. The base address is "physical" channel one on the dimmer unit. All other DMX channels are sequential up to channel twelve. To adjust the DMX base address, press the **DMX Address** pushbutton. The **Valid DMX** LED will extinguish, and the three 7-segment displays digits will flash. While flashing press the Up or Down arrow pushbutton as desired to achieve the starting address required. When the desired address is visible, press the **DMX Address** pushbutton again, the digits will stop flashing, the base DMX address is set and the **Valid DMX** indicator LED will illuminate. The dimmer is now ready for use. This setting is permanently stored in Flash memory so it will not be lost even when dimmer is powered off.

6.2 Dim/Switch Adjustment

The SA12/1200 Bravo Series dimmer allows you to adjust each channel independently for either normal dimmer mode or non-dimming "switch" mode (also called relay mode). To adjust the output mode of individual dimmer channels press the *Dim/Switch* pushbutton (see figure 4). The display will flash including the two digit channel number display. The *Valid DMX* LED will turn off (because you are in local control). To select which channel to change to Switch Mode, press the *Channel Select* pushbutton until the desired channel is displayed. The current setting for the selected channel will show "d" for dimmer mode or "S" for switch mode. Press the Up or Down arrow pushbutton as desired to achieve the desired setting for the channel. To change the setting for another channel repeat these steps until all channels are set to the desired function. When finished, press the Dim/Switch pushbutton again and the dimmer will return to DMX control. The digits will stop flashing, the *Valid DMX* LED will illuminate. These settings will be permanently store in Flash memory so it will not be lost even when the dimmer is powered off.

6.3 Level Adjust

The SA12/1200 Bravo Series Dimmer allows you to take control from DMX and set up a "static" scene from the front of the dimmer or manually test each channel independently without the use of a DMX controller. To manually take control of the output, press the *Level Adjust* pushbutton (see figure 4). The display will flash including the two digit channel number display. The *Valid DMX* LED will turn off (because you are in now in local control). The display will show channel 01 and the current level displayed will be 000. Press the *Channel Select* button again until the desired channel is shown. Press the Up or Down arrow keys to change the output level of the selected channel. The display will show the output in percentage value (0 – 100%). Repeat this process for as many channels as desired to set up a static scene. To change out of local control, press the *Level Adjust* pushbutton, the dimmer will return to DMX control. The digits will stop flashing and the Valid *DMX LED* will illuminate.