



Broadcast Devices, Inc.

SCA-200 Dual 67 KHz SCA Generator

Technical Reference Manual

Broadcast Devices, Inc.

Tel. (914) 737-5032

Website: <https://Broadcast-Devices.com>

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Regulatory and Safety Information

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Introduction and Description

The SCA-200 Dual 67 KHz SCA Generator is a next generation approach to SCA generators utilizing digital signal processing. The SCA-200 comprises of two totally independent 67 KHz SCA generators in one chassis. Each generator has two XLR balanced inputs which are selectable via the SCA-200 Windows application software. The unit features two independent outputs for each generator. All setup adjustments are made via the APP as there are no physical controls or switches on the front panel of the unit. Adjustment for input level, optional audio low pass filter, pre emphasis and output level are all accomplished via the SCA-200 APP.

I. Unpacking

Carefully inspect the unit after unpacking and make certain that no damage has occurred during shipping. If damage is noted, contact the shipper immediately and file a claim for damages. Each unit is carefully packed and carries full insurance against damage. Inspect the packing list and make sure that the contents of the package match those described on the packing list.

II. Installation and Connections

Select a space in suitable E.I.A. standard rack to locate the unit. Determine the local electrical power supply voltage. As supplied from the factory, your SCA-200 is setup for 100 – 240 V.A.C. 50 - 60 Hz. No external adjustment for local power standards is necessary if power available conforms to the above rating. The SCA-200 utilizes a switch mode power supply and automatically adjusts for local power entry. Make connections to the unit following good engineering practice. Supply power to the unit utilizing a three conductor grounded outlet. Do not lift the electrical ground to the unit at the power receptacle as this will result in a safety hazard. In the event of ground loops, lift the ground at the offending connection only. Make certain that the unit is afforded proper ventilation in the area of the top cover vent.

III. Features and Operation

The SCA-200 can accept up to two balanced nominal 0 dBm signals to each generator. There is provision to adjust audio level for each input by +/- 10 dB affording a wide range of input levels. There is a third position of the switcher which provide a 400 Hertz tone for test purposes.

IV. Initial Operating Set up

After mounting the unit in the rack and applying power connect a CAT5 cable from a laptop computer to the unit. The initial IP settings are as follows:

IP address: 192.168.1.200

Subnet mask: 255.255.255.0

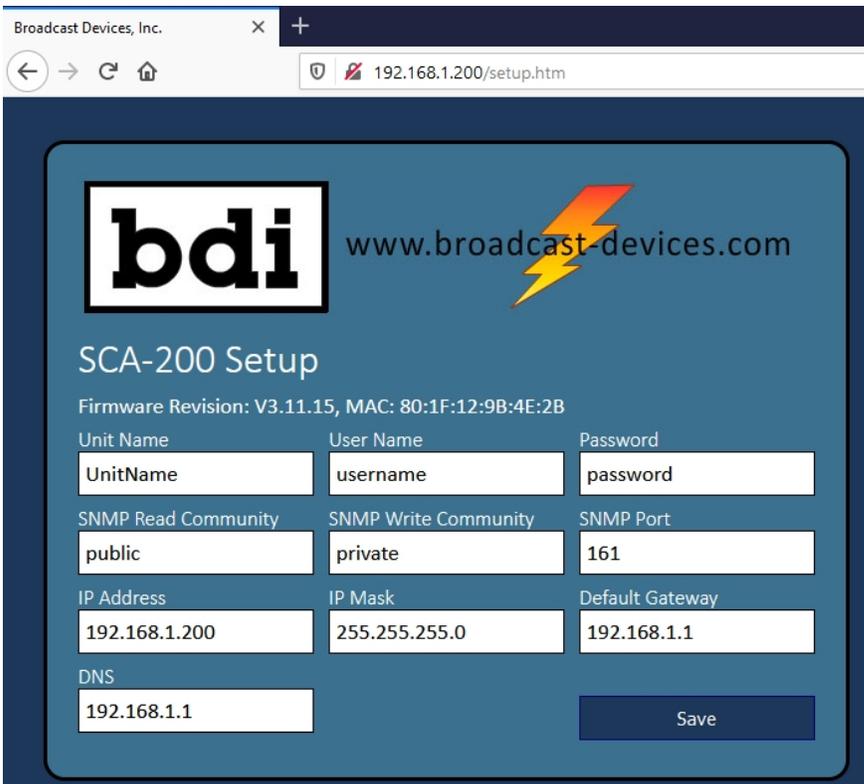
Default Gateway: 192.168.1.1

Username: username Password: password

Once you enter the default IP address this screen should appear:



Press Setup and the IP setup page will appear:



Make changes and hit save but make sure you record the settings before exiting this screen. It is a good idea to take as screen shot or record the username, password and IP address information here:

Username: _____

Password: _____

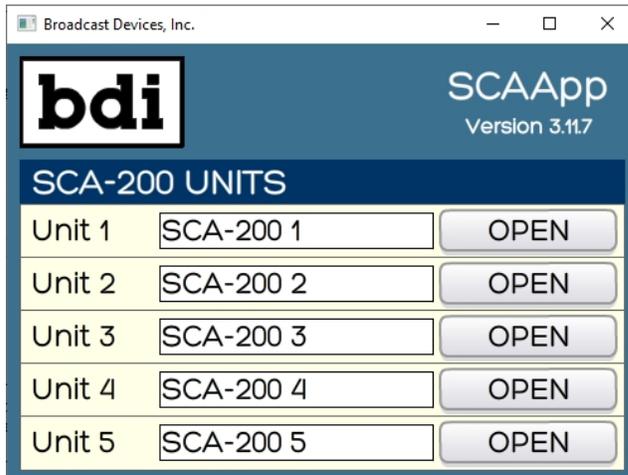
IP address: _____

SNMP Port: _____

In order for the setting to take effect the unit must be power cycled for at least 5 seconds.

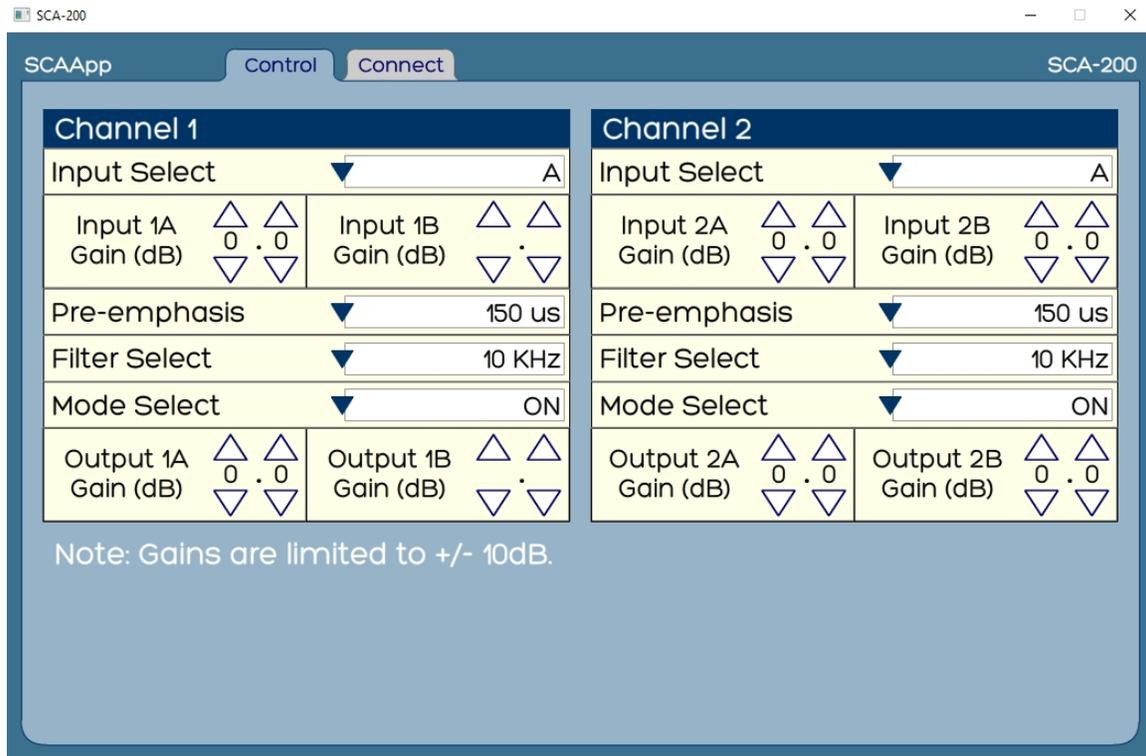
Once the unit is confirmed on the desired IP address load the SCA APP supplied on the accompanying CD ROM onto a computer. Once installed you can start the app by clicking on the EXE file. Send it your desktop for convenience.

Once the APP starts you will see the following screen:



It is possible to have up to 5 SCA generators collocated or at other sites under management from the same APP. You can give each unit a name by entering it in the space allowed.

Click OPEN on the desired generator presumably Unit 1 if you are only setting up one generator chassis. The screen below will appear:



You will need to click on the Connect tab in order to set the IP address set up previously on the browser interface screen.

SNMP	
IP Address	192.168.1.200
Port	161
Read Community	public
Write Community	private

CONNECT

Unit Information	
Model	SCA-200
Unit Name	UnitName
F/W Version	V3.11.15
Serial Number	-1

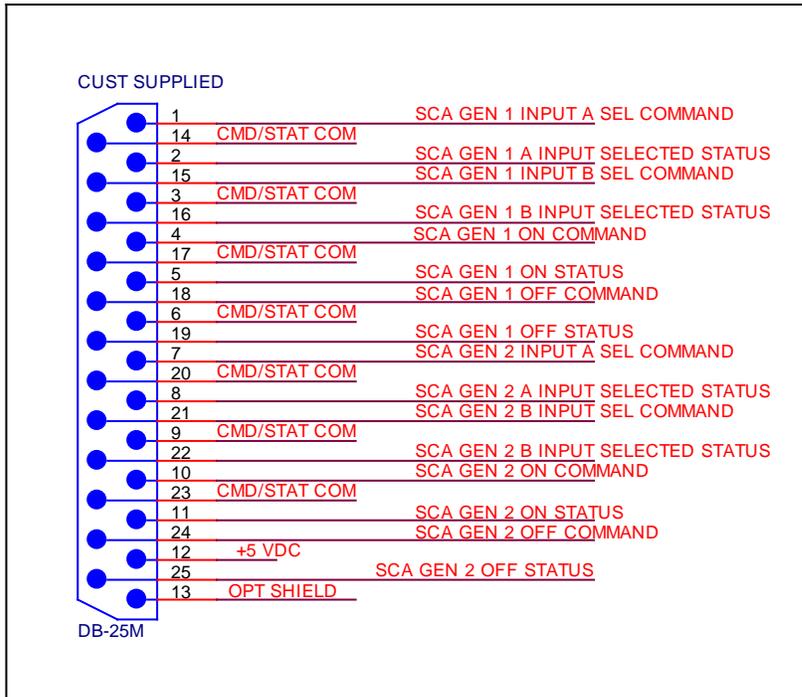
Enter the IP address and port assignment if other than what is shown. Make certain that the port is forwarded on the router that the unit is connected to or you will not be able to access the unit from an outside connection. Make the changes and click on CONNECT.

You can go back to the Control screen and finish the setup. It is advisable to monitor the output of the generator with a means of looking at the base band spectrum or a suitable SCA monitor while performing these adjustments.

1. Select input
2. Set input gain. The unit is setup for 0 dBm with the adjustment at "0" default. A coarse gain change in one dB increments and a fine adjust of 0.1 dB increments can be made by using the UP/DOWN arrows. It is advisable to feed an audio signal in that is processed with at least some form of peak limiter to limit modulation of the generator. The SCA-200 does no dynamic processing of the audio feeding it. This must be done ahead of the unit.
3. Set pre emphasis as desired. Off, 50, 75, 150 or 225uS
4. An optional audio low pass filter setting can be made to Off, 5 or 10 KHz
5. Mode select to On, Off or Auto. Auto places the unit in a mode whereby a lack of audio signal at nominal level will mute the generator output after 10 seconds.
6. Set output gain which is the injection level for the exciter that the unit will feed. Again a +/- 10 dB in 1 dB increments and fine adjust in 0.1 dB increments can be performed.

Remote Control – Parallel/GPIO DB25F Connection Table 2.

Command input pins require a momentary closure to common. Status connections open collector outputs which require a 5 VDC pull up which is provided on pin 12.



V. **Specifications**

Input:	2 – XLR balanced 600 Ohm – for each generator
Output:	2 – BNC 50 Ohm adjustable – for each generator
Sub Carrier Frequency:	67 KHz +/- 0.5% over environmental temperature range
Frequency Response:	+/- 0.25 dB from 50 Hz to 10 KHz – 5 KHz low pass filter switchable
Pre Emphasis:	50, 75, 150 or 225 uS switchable – each generator
Total Harmonic Distortion:	Less than 0.5% over audio passband
Remote Control:	Parallel GPIO, Ethernet SNMPv2, RS232/485 BDI Stack Graphical User Interface supplied for setup and operation
Power Requirements:	100-240VAC 50-60 Hertz @ 0.5 Ampere
Environmental:	0-50 degrees C. non condensing atmosphere
Mechanical:	19"W X 10"D X 1.75"H standard EIA rack enclosure
Shipping Weight/Dimensions	15 lbs, 22"W X 14"D X 7"H

VI. Warranty

Broadcast Devices, Inc. Limited Product Warranty

Broadcast Devices, Inc. ("BDI") products are warranted against failure due to faulty materials or workmanship for a period of one (1) year from the date of shipment to the ultimate user. The warranty covers repair or replacement of defective parts at the factory, provided the unit has been returned prepaid by the user. All shipments to the factory shall have a Returned Material Authorization (RMA) number affixed to the outside of the container, obtained from the factory. The above warranty is void if the unit has been modified by the user outside any factory recommendations or if the unit has been abused or operated outside its electrical or environmental specifications. If customer conducted field tests suggest that the unit may be faulty, whether the unit is in warranty, a full report of the difficulty should be sent to the Broadcast Devices, Inc. factory. The factory may suggest further tests or authorize a return for factory evaluation.

Units sent to the factory should be well-packed and shipped to Broadcast Devices, Inc. The current shipping address can be found by visiting our main web page: www.broadcast-devices.com. Remember to affix the RMA number to the outside of the carton. Any packages received without such an RMA number will be refused. Note: Freight collect shipments will also be refused. When the unit has been received, inspected, and tested, the customer will receive a report of the findings along with a quotation for recommended repairs that fall outside the standard warranty. Units returned for in-warranty repairs that are found not to be defective will be subject to an evaluation and handling charge. In-warranty units will be repaired at no charge and returned via prepaid freight.

Out-of-warranty units needing repair require a purchase order and will be invoiced for parts, labor, and shipping charges.

When ordering a replacement part, contact any authorized reseller of Broadcast Devices, Inc. Always specify A) Part Description, and Quantity; B) Date of Purchase, Where Purchased; C) Any Special Shipping Instructions. Always specify a street address, as shipping companies cannot deliver to a postal box.

BDI is not responsible for any other manufacturer's warranty on original equipment. Nor are we responsible for any failure, damage, or loss of property resulting from the installation or operation of our equipment outside the recommended specifications.

Broadcast Devices, Inc. reserves the right to change materials, specifications, and features at any time.

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Broadcast Devices, Inc.

Westchester Industrial Complex
3199 Albany Post Road, Suite 122
Buchanan, New York 10511 USA

Phone: +1 (914) 737-5032

Email: customer.service@broadcast-devices.com

Web: <https://broadcast-devices.com>