



Broadcast Devices, Inc.

SCA-100 Dual 67 KHz SCA Generator

Technical Reference Manual

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Introduction and Description

The SCA-100 Dual 67 KHz SCA Generator is a next generation approach to SCA generators utilizing digital signal processing. The SCA-100 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-100 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-100 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-100 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-100 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-100 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

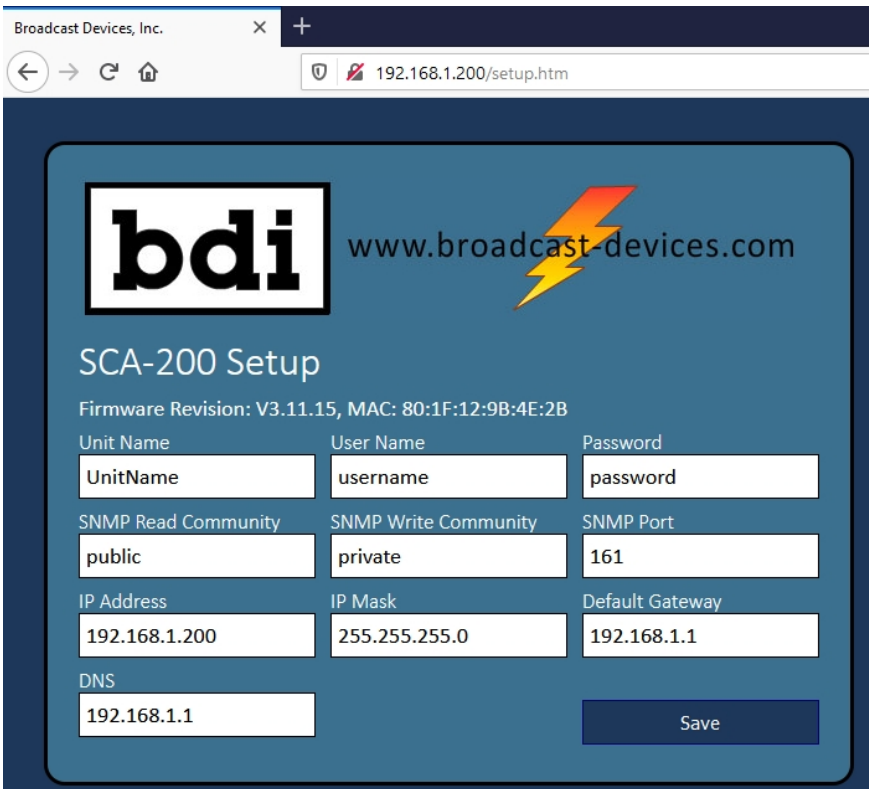
After mounting the unit in the rack and applying power connect a CAT5 cable from a laptop computer to the unit. The initial IP settings are as follows:

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: _____

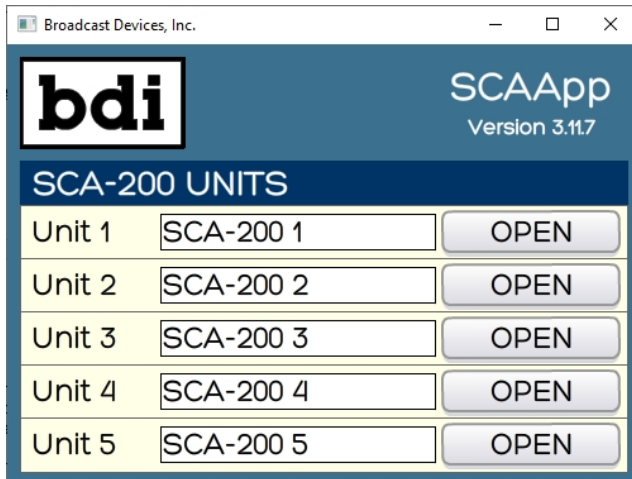
IP address: _____

SNMP Port: _____

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

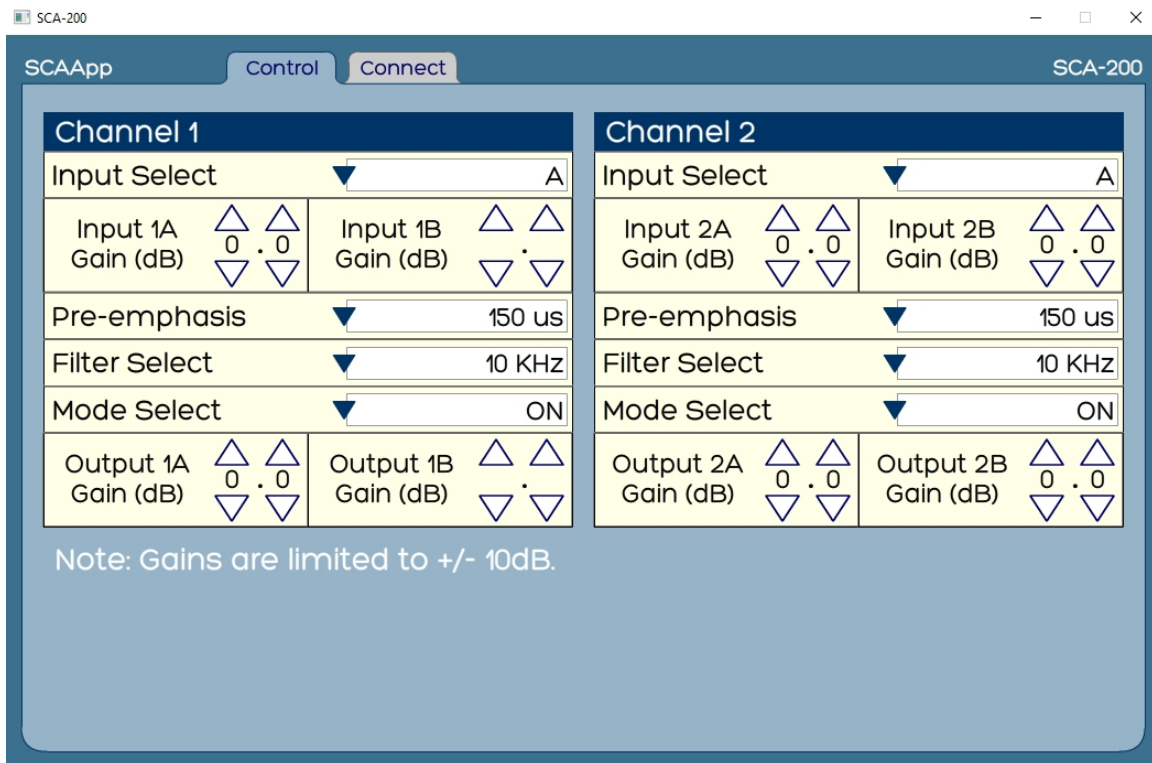
Once the unit is confirmed on the desired IP address load the SCA APP supplied on the accompanying CD ROM onto a computer. Once installed you can start the app by clicking on the EXE file. Send it your desktop for convenience.

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

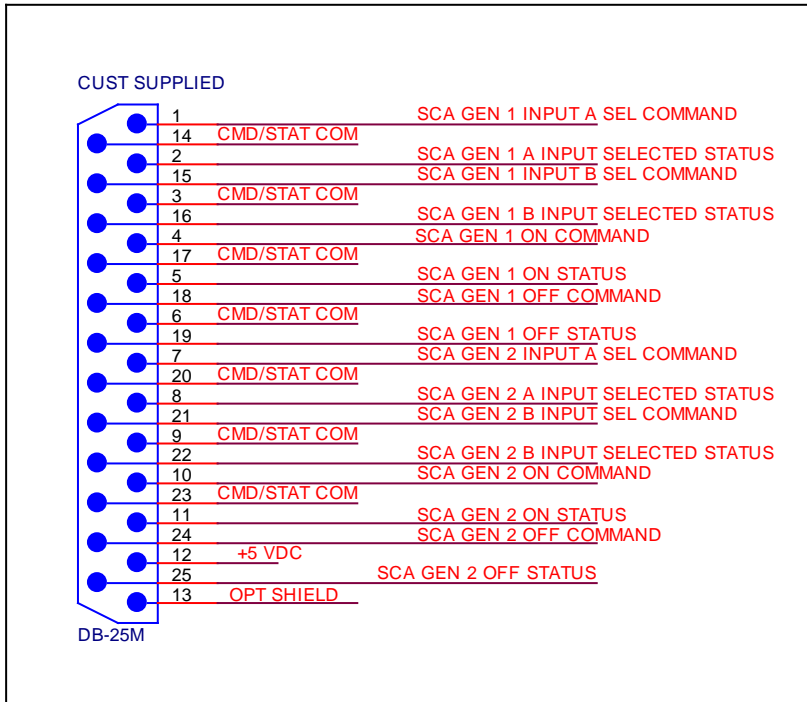
Enter the IP address and port assignment if other than what is shown. Make certain that the port is forwarded on the router that the unit is connected to or you will not be able to access the unit from an outside connection. Make the changes and click on CONNECT.

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-100 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

Digital Inputs:	Four – XLR or BNC, model dependent
Analog Inputs:	Four- balanced stereo + 4 dBm nominal level
Digital Outputs:	Two – XLR or BNC, model dependent
Analog Output:	Balanced L/R XLR + 4 dBm 600 Ohms – Rear Panel
Headphone out:	600 Ohm unbalanced - Front Panel
Sample Rate Range:	8 – 192 KHz, Auto Detect and Lock
D/A Converter Resolution:	Up to 24 bits
Remote Control:	Momentary ground closure selects channels RS-232/485 Serial
Remote Status:	Channel Select Open Collector Output
Remote Control Connectors:	DB25 – GPIO, DB9F – RS232/485
Front Panel Controls:	11 - Momentary Push buttons - Switcher Selection, Error Reset, Volume Up/Down
Front Panel Indicators:	Sample Rate, Lock Loss, Error Flags, Channel Status
Power Requirements:	100 - 240 V.A.C. @ 0.25A; 50 – 60 Hz.
Operating Environment:	0 – 60 Degrees Celsius Non Condensing Atmosphere
Physical:	19"W X 8"D X 1.75"H Mounted via Standard E.I.A. 19" rack one rack unit occupied. Weight: 8 LBS

FCC Certification Statement:

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.

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VI. Warranty

Broadcast Devices, Inc. products are warranted against failure due to faulty materials or workmanship for a period of one year from the date of shipment from Broadcast Devices, Inc. dock. 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 affixed to the outside of the container a return authorization number obtained from the factory. The above warranty is void if the unit has been modified by the user outside of any recommendations from the factory or if the unit has been abused or operated outside of its electrical or environmental specifications. If customer conducted field tests suggest that the unit may be faulty, whether or not the unit is in warranty, a full report of the difficulty should be sent to Broadcast Devices, Inc. factory. The factory may suggest further tests or authorize return for factory evaluation. Please email: customer.service@broadcast-devices.com

Units sent to the factory should be well packed and shipped to Broadcast Devices, Inc. – Check www.broadcast-devices.com for current shipping address. Remember to affix the R.A. number to the outside of the carton. Any packages received without such R.A. 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, which are found falling outside of the standard warranty. Units returned for in-warranty repairs, which 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 replacement part, 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.

Broadcast Devices, Inc. is not responsible for any other manufacturer's warranty on original equipment. Nor are we responsible for any failure, damage, or loss of property that may occur due to the installation or operation of our equipment outside of recommended specifications.

Broadcast Devices, Inc. reserves the right to change materials, specifications, and features from time to time. www.broadcast-devices.com

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