Setting Up Pre-Engineered SACOM Systems for Optimal Performance

On site, remote commissioning of SACOM Systems is available at no additional cost.
For support please call USA (+1) (386) 418-2000 between the hours of 9 - 5 EST., Monday thru Friday.
Note: SACOM offers free pre-engineering so that the systems arrive at your job site ready to plug and play.

Open the Cartons: Confirm everything on the packing slip is enclosed.

1. **Set up the Docking Station:** SACOM transmitters are shipped with rechargeable batteries. Plug in the charging dock, put the batteries in the transmitters, then place the transmitters in the dock while you set up the rest of the system.

2. **Mount the Receivers in the Rack** and connect them to power. Confirm the displays light up.

3. **Pre-engineered Antenna Design:** If you provided SACOM with a floor plan, you will find a marked up version in the box (or, in your Email in-box) showing the antenna design along with the antennas and pre-made cables. Place the antennas according to the drawings.
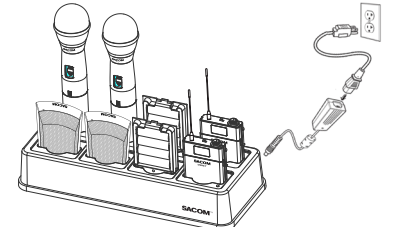
    A. **Your Own Design:** If you did not request an antenna design, place the antennas according to the enclosed Antenna Applications Guide or download it from www.SacomUSA.com > Downloads. *Improper antenna placement is the main cause of poor RF performance.*

    B. **Dipole Antennas:** Dipole antennas mounted to the rack equipment can easily be locked away in a closet/rack cabinet. This results in poor RF performance because there is no line of sight between the transmitter and receiver antenna. Therefore, remote antennas are preferred. See the Antenna Application Guide for details.
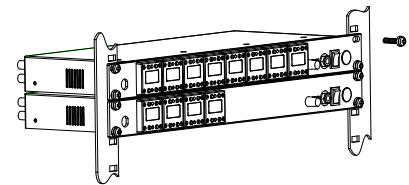
4. **Connect the Antennas:** The receiver that connects to the antennas should be set as the Antenna Master receiver. Master is the factory default. If your system daisy-chains antennas together, the downstream receivers should be set as Slaves. Terminators are used on the last system in the daisy-chain. Use SACOM Remote's Antenna Setup Wizard, which opens automatically the first time you connect. You can also find the wizard under the SETTINGS tab of the main page. If connecting Sacom active remote antennas, make sure the red LED lights up. If not, check the receiver's antenna phantom power setting using the Sacom Remote Control Software.

5. **Connect the analog outputs to the mixer:** The system is shipped with either XLR or Euro block connectors. The default output level is set to +4 dBu. Note that factory default for the front panel headphone jack is set for mixed line-level out. Use SACOM Remote>Settings>Headphone, to reset for headphones.
CAUTION! Turn off phantom power from the mixer. Phantom power distorts the audio quality of your microphones.

6. **System Test:** In most cases, the system is now ready to use. Confirm all channels pass audio perfectly.
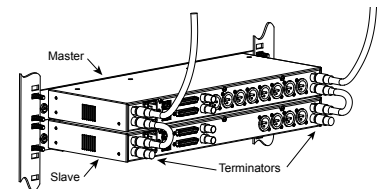
Modifications (FCC 15.21)
Changes or modifications to this equipment not expressly approved by Sabine, INC may void the user's authority to operate this equipment.

Applies to DS80-T:
Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada.
To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.
This radio transmitter (DS80-T) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.
Monopole antenna, 0dbi gain, 50 ohm impedance.
Le présent émetteur radio (DS80-T) a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal et l'impédance requise pour chaque type d'antenne. Les types d'antenne non inclus dans cette liste, ou dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

SACOM™

Using the SACOM remote software:

Editing Transmitter Parameters:
The easiest and most intuitive way to set the parameters of SACOM™ transmitters and receivers is with SACOM™ Remote software. Load SACOM™ Remote (from disk or download from www.SacomUSA.com) onto a computer running Windows XP or Windows 7 (32 or 64-bit) and connect to the receiver via USB or RS232. Then open SACOM™ Remote and select ONLINE.

Open The Channel Edit Window:
1) The [Click to Edit] function opens the edit window of the channel you wish to edit.
2) Select the functions you want to edit and enter the parameter. (*The various functions are described below.*) Click [OK] to save the changes and close the Channel Edit window.
3) You will notice that the [Needs to Sync] alert is lit. This indicates that one or more parameters are in queue in the receiver ready to be downloaded and implemented with the next transmitter Sync of the channel.

1)
Click to Edit the channel's parameters

2)
Select the new parameter values and click OK to save changes to the receiver.

3)
The "Need To Sync" alert is lit. Sync the transmitter to apply the selected parameters.

SACOM Remote provides the following functions:

1. **File:** Save a PDF image of the screen.
2. **Settings:**
   A. **Phantom Power:** Turn antenna phantom power <u>on</u> or off. Default = ON.
   B. **Redundancy:** Set adjacent pairs of receivers to redundancy mode. Default = OFF.
   C. **Headphone Mode:** Toggles the mixed output jack from headphone mode to a <u>balanced line output</u>. Default = Balanced line output.
3. **Ethernet Settings:** If using Ethernet, assign the proper IP address to the Sacom Receiver.
4. **RF Scan - RF Plot:** Shows the RF strength of each antenna in a SACOM system and shows if there is outside interference.
5. **Presets:** Save or load preset system parameters configurations. Default = As Ordered.
6. **GPIO:** Assign contact closure functions and setup for RS232 control. Default = RS232 - Output mutes.
7. **Security:** Password to prevent unauthorized changes: (Under construction). Default = none.
8. **Alerts:** Send alerts to authorized personal when preventive maintenance is required of if there is a fault. Default = none.
9. **Update System:** Checks to see if the system has the most current firmware and provides a wizard for updating the firmware.
10. **Help:**
    A. **Tutorials:** Setting parameters, Antenna Application Guide, etc.
    B. **About:** Shows vital statistics for each component of the system
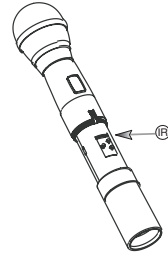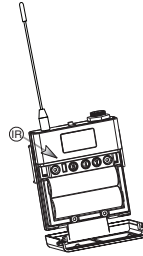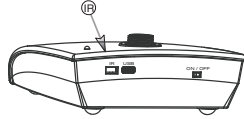
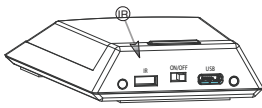### Default Transmitter Preamp Gain Settings:

Transmitter + Last 4 digits of serial Number	Default Transmitter Preamp Gain
BLT XXXX	10 dB
HH XXXX	H18 = 0dB / H10 = 10dB
PDM XXXX	10dB
BDM XXXX	20dB

Key:

BLT = Beltpack
HH = Handheld Mic
PDM = Podium Mic
BDM = Boundary Mic

## How to sync transmitters with the receiver:

1) Locate the IR (infrared) Sensor on the transmitter

2) Power on the transmitter.

3) Hold transmitter about 6 inches from the corresponding receiver module with the IR sensor aimed at the receiver module.

4) Simultaneously press the two buttons on the bottom of the corresponding receiver module to start sending the IR signal. "SYNCING" shows on the receiver OLED when the IR signal starts. "SYNC OK" shows when the sync is successful. Repeat the procedure if the receiver display shows "SYNC FAILED". It is not necessary to press any buttons on the transmitter during the procedure. Note: You may get a "Sync Failed" message if the receiver antennas are not in the same room as the receiver. In this case verify that either the transmitter display shows "Sync Good" OR the green LED on the transmitter flashes. Also make sure to dock each transmitter after syncing to avoid 2 transmitters being synced to the same receiver frequency.
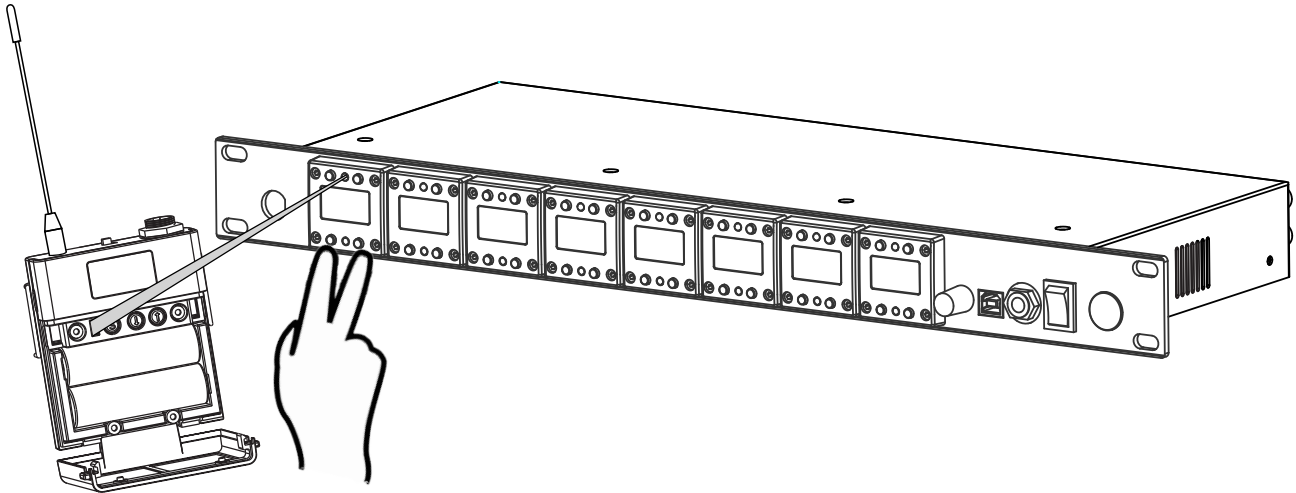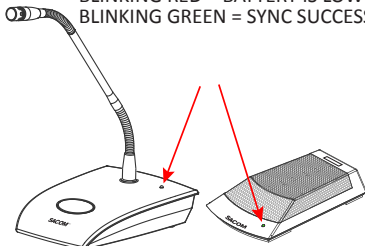
NOTE: The transmitter and receiver are assigned a new, random AES 256-bit encryption key every time they are synced.
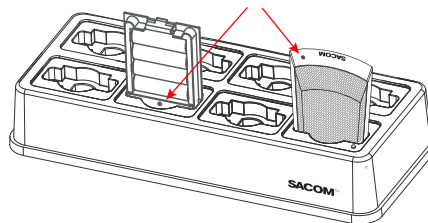
How to read the LED:

1. The Gooseneck or Boundary Mic is in use:

RED = AUDIO MUTE
GREEN = AUDIO PASSES
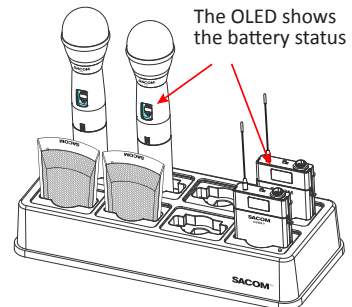BLINKING RED = BATTERY IS LOW
BLINKING GREEN = SYNC SUCCESSFUL

2. The Gooseneck Battery Cassette and Boundary Mic are in the docking station:

RED = CHARGING
OFF/OR GREEN = FINISHED CHARGING
BLINKING RED = CHARGING ERROR (*RE-SEAT THE TRANSMITTER AND CHECK THE BATTERIES*)

3. When the Hand-held Mic and the Belt-pack are in the Docking Station:

The OLED shows the battery status

NOTE: All transmitters placed in the charging dock will "RF MUTE".

Receiver:

FRONT PANNEL:

SACOM™ receiver main-frames hold either four or eight, independent, 24-bit digital audio receiver modules. There is a front-panel mixed audio output for headphones or direct recording. Each module shares the main-frame's two antennas for full-diversity. Up to eight receiver main-frames can be daisy-chained together into an antenna network that shares two antennas. This eliminates the need for external antenna distribution amps. Main-frames can be connected to form an Ethernet network that monitor and control the system via a computer. Main-frames also have USB and RS233 connections for serial monitor and control. AES/EBU digital audio output and word clock sync is optional.
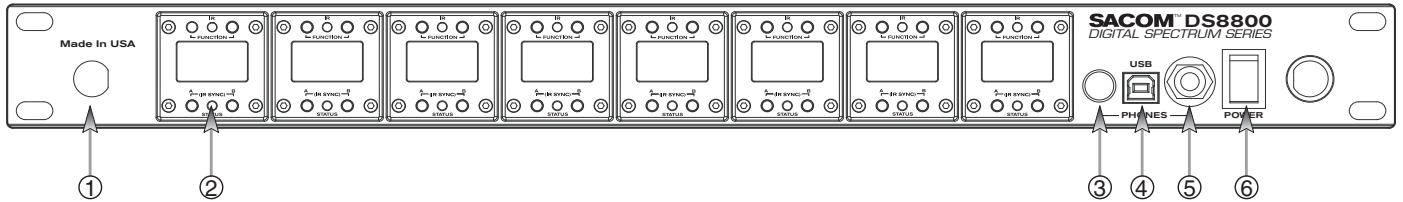
1. **Antenna Front Mounting Hole:** Use back-to-front TNC cables included.
2. **Receiver Module.** See details below
3. **Mixed audio volume control.**
4. **USB Port.** Connect to computer for SACOM™ Remote control. Run software to monitor/edit system parameters, scan for RF interference and download firmware upgrades.
5. **Mixed audio output,** 1/4" (*See headphone mode - Pg. 2*) phone jack for monitoring individual channels or mixed channels.
6. **Power Switch.**

RECEIVER MODULE:

MODULE:

Modules are designed for quick and easy field replacement for added redundancy.
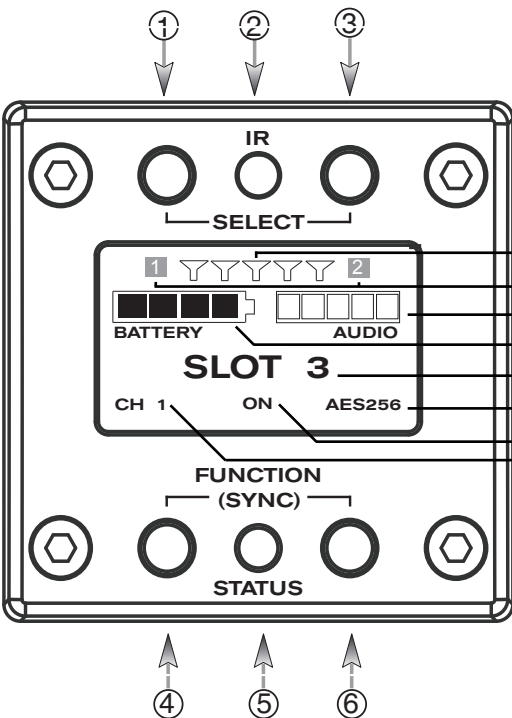
1. **Select Next Function:** Move the cursor to the next menu function on the display
(Under construction)
2. **IR Sync LED:** Sends IR information to SYNC the receiver and transmitter (SYNC pg3)
3. **Select Previous Function:** Move the cursor to the previous menu function
(Under construction)
4. **Soft Key Left:** Select the choice displayed in the bottom left of the display
4 & 6 pressed at the same time: Sends SYNC signal from receiver to transmitter (SYNC pg3)
5. **Status LED:**
   - Green --> The channel is ON and un-muted
   - Red --> The channel is OFF
   - Flashing Red --> Encryption key mismatch, Re-sync receiver with transmitter
   - Amber --> The receiver is muted or GPIO is triggered
6. **Soft Key Right:** Select the choice displayed in the bottom right of the display

RF BARS
ANTENNA DIVERISITY
AUDIO LEVEL
BATTERY LEVEL
CHANNEL NAME
ENCRYPTION
STATUS: (Colored text indicates status)
   ON = Green
   OFF = Red
   MUTE = Amber
   KEY = Flashing Red (*"KEY" = mismatched encryption key*)
FREQUENCY