Sportsound® Rack
SSR-200

Operation Manual

DD2298630 *Rev 4 – 07 August 2015*

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DAKTRONICS

DD2298630
P1534
Rev 4 – 07 August 2015

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Table of Contents

Section 1: Introduction

This manual explains the operation of the Sportsound® Rack (SSR) 200. For additional information regarding the safety, installation, operation, or service of this system, refer to the telephone numbers listed in Section 6. This manual is not specific to a particular installation. Project-specific information takes precedence over any other general information found in this manual.

IMPORTANT SAFEGUARDS

- Read and understand all instructions before beginning the installation process.
- Do not drop the control equipment or allow it to get wet.
- Do not disassemble control equipment or electronic controls of the system; failure to follow this safeguard will make the warranty null and void.
- Always turn off and/or unplug the control equipment when it is not in use. This keeps equipment protected from power spikes and lightning.
- Never yank the power cord from the outlet. Grasp the plug and pull to disconnect.
- Do not let any power cord touch hot surfaces or hang over the edge of a table that would damage or cut the cord. Arrange the cord with care so that it will not be tripped over.
- Inspect control equipment for shipping damage such as rattles and dents, and verify that all equipment is included as itemized on the packing slip. Immediately report any problems to Daktronics; save all packing materials if exchange is necessary.
- Keep equipment covered when possible to protect from dust and debris.

1.1 Resources

Figure 1 illustrates a Daktronics drawing label. The drawing number is located in the lower-right corner of a drawing. This manual refers to drawings by listing the last set of digits and the letter preceding them. In the example, the drawing would be referred to as **Drawing D-1007804**. All references to drawing numbers, appendices, figures, or other manuals are presented in bold typeface. Any drawings referenced in a particular section are listed at the beginning of it as shown below:

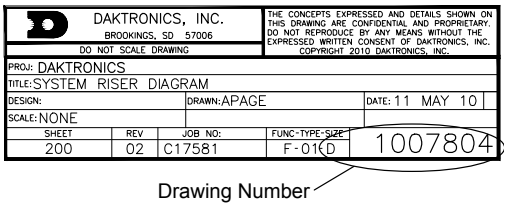


***Figure 1:** Drawing Label*

Reference Drawing:

System Riser Diagram ..... **Drawing D-1007804**

All drawings referenced in this manual are found in **Appendix A**.

Daktronics identifies manuals by the DD or ED number located on the cover page. For example, this manual would be referred to as **DD2298630**.

Daktronics has a searchable knowledgebase of common questions and troubleshooting tips: www.daktronics.com/support

Visit the Daktronics Support YouTube channel to learn how to properly operate Sportsound racks: www.youtube.com/DaktronicsSupport

1.2 Daktronics Nomenclature

Most display components have a white label that lists the part number (**Figure 2**). Part numbers will also appear on certain drawings. If a component is not found in the Replacement Parts List in **Section 5** use the label to order a replacement. **Section 6** describes the Daktronics Exchange Policy and the Repair & Return Program. Refer to these instructions if replacing or repairing any display component.

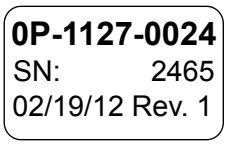


Figure 2: *Part Label*

Main Component Labels	
Part Type	***Part Number***
Individual circuit board	0P-XXXX-XXXX
Assembly; a collection of circuit boards	0A-XXXX-XXXX
Wire or cable	W-XXXX
Fuse	F-XXXX
Transformer	T-XXXX
Metal part	M-XXX
Fabricated metal assembly	0S-XXXXXX
Specially ordered part	PR-XXXXX-X

Accessory Labels	
Component	***Label***
Termination block for power or signal cable	TBXX
Grounding point	EXX
Power or signal jack	JXX
Power or signal plug for the opposite jack	PXX

Section 2: SSR-200 Components

2.1 Overview

Reference Drawing:

Schematic/Layout; Sportsound Rack 200 ..... **Drawing B-1190065**

Figure 3 displays the various announcer's rack components that are visible after removing the protective covers. Refer to **Drawing B-1190065** in **Appendix A** for rack component and connection locations as well as a detailed wiring schematic.

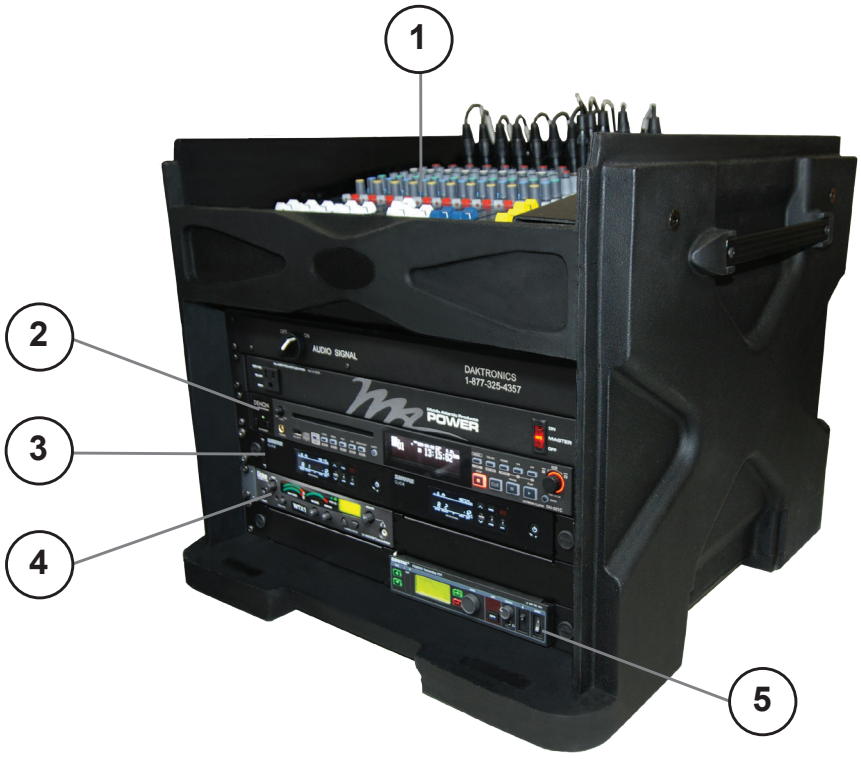


Figure 3: *SSR-200 Components (covers removed, optional equipment shown)*

#	Component	Reference	Supplementary Manual
1	Audio Mixer	**Section 3.2**	Soundcraft EFX EPM User Guide
2	Professional CD Player	N/A	DENON Professional CD/Media Player DN-501C Owner's Manual
3	Wireless Receiver System	**Section 3.3**	Shure® QLX-D® Wireless System User Guide
4	ADA Hearing Assist System (**Optional**)	**Section 3.6**	Listen® LT-800, LR-400 & LA-122 Users Manuals
5	Wireless Personal Stereo Monitor System (**Optional**)	**Section 3.5**	Shure® PSM®900 Personal Wireless Monitor System User Guide

All supplementary manuals are listed in **Appendix B**.

2.2 Standard Equipment

Audio Mixer

The Soundcraft EPM8 (**Figure 4**) features high accuracy and repeatable settings for EQ and gain controls. Mic preamps feature high-resolution adjustment over a wide gain range of 55dB, and provide +22dB headroom through the console. True professional 48-volt phantom power caters to condenser microphones of all types. Unique signal monitoring watches for overload in several channel strip locations and illuminates the LED more brightly as the signal approaches peak. Other features include:

- Eight mic/line inputs
- Two 1/4" stereo inputs
- RCA phono stereo playback inputs and record outputs
- 3-band EQ per channel
- 2-band EQ on stereo inputs
- TRS insert sockets and inserts on all mono inputs and mix output
- 10-segment LED output metering
- Headphone output

Figure 4: *Audio Mixer*

Professional CD/Media Player

Figure 5: *Professional CD Player*

The DN-501C (**Figure 5**) is a professional, rack-mount CD/Media Player with a combination of flexible file formats and comprehensive inputs and outputs. Other features include:

- Supports CD-DA/WAV/MP3/AAC/AIFF audio file formats
- USB mass storage device playback, including direct digital playback from iPod/iPhone
- Balanced analog and digital AES/EBU outputs (XLR)
- Unbalanced analog and digital coaxial outputs (RCA)
- ±16% Pitch Control
- IR, RS-232c (9-pin D-sub), and GPIO (25-pin D-sub) controllable

Announcer's Interface

The Daktronics Announcer's Interface (**Figure 6**) includes one (1) balanced MIC output, one (1) balanced AUX input, and headphone jacks; headphone volume control knob; and momentary or continuous microphone activation buttons. Microphone and headphones are provided.

Figure 6: *Announcer's Interface Kit*

Laptop Interface

This portable, durable balanced audio converter allows connection of a laptop or mp3/music player into pro-level mixers (**Figure 7**). Other features include:

- 1/8" (3.5 mm) male input
- Balanced XLR male output
- Adjustable output volume control
- Black powder-coated aluminum chassis

Figure 7: *Laptop Interface*

Wireless Microphone System

The Shure® QLX-D® is a professional UHF wireless microphone system. Dual receivers in the audio rack allow operation of two wireless transmitters simultaneously (**Figure 8**). Over 60 compatible channels per frequency band and up to 17 compatible systems per 6 MHz TV channel are available. Automatic Frequency Selection technology detects the clearest frequencies in the area. Other features include:

- Lockable settings
- Battery power gauges
- Effective Range: 328' (100 m) under optimal conditions
- Audio Frequency Response: 20Hz to 20kHz, ±2dB
- Total Harmonic Distortion: <0.1%
- RF Sensitivity: -97 dBm at 10-5 BER

Figure 8: *Wireless Microphone & Bodypack Transmitter w/ Mute Switch*

2.3 Optional Equipment

ADA Hearing Assist System

The Listen® LT-800 Stationary Transmitter in the audio rack allows individuals to experience every word at an event. This system is designed to broadcast the audio signal throughout the facility. It is capable of transmitting to multiple receiver types and its adjustable receivers allow each user to have full volume control.

The Listen LT-400 Portable FM Receiver (**Figure 9**) provides users with the choice of 57 channels, a complete antenna, and accessory options ideal for a wide range of applications. The receivers are digitally tuned so transmission will not drift, assurance that when you select a channel it stays on the channel.

Figure 9: *Portable FM Receiver*

Wireless Personal Stereo Monitor System

The Shure® PSM®900 Wireless in-ear monitor system is used for on-field/on-stage talent. The system includes a transmitter in the audio rack and a receiver (**Figure 10**) worn by the performer that allows for personal adjustment of mix and volume and compensates for delay from the sound system.

Sound travels at 1120' (341 m) per second. This produces a noticeable delay as one moves away from the speaker. Even experienced performers have trouble adjusting to this delay. A wireless in-ear monitor system provides a real-time signal to the talent and blocks the sound delay from their ears.

> **Note:** If more receivers are required and the transmitter is already installed, additional receiver packs and headphones are available to purchase.

Figure 10: *PSM Receiver*

High Gain Antenna Kit

The Shure® PA805 (**Figure 11**) is a directional antenna for increased range and reduced interference. The "gain" of this antenna enables it to receive signals from a greater distance than at typical "whip" type antenna. The antenna allows for increased performance of wireless microphones with 6 db of gain. The directional antennas may be located up to 50' (15.2 m) away from the announcer's rack.

Figure 11: *Directional Antenna*

Single-Muff Headset

The professional single-muff headset (**Figure 12**) may be used in place of the standard announcer's interface wired microphone and headphones. Other features include:

- Ambient noise attenuation
- Neodymium magnet system for high reproduction precision
- Soft, circumaural ear pads
- Cardioid condenser microphone

Figure 12: *Single-Muff Headset*

Self-Powered Monitor Speaker

The Yamaha MSP3 monitor speaker (**Figure 13**) features a compact bass reflex cabinet, with a 3.94" (100 mm) two-way cone speaker and a 0.87" (22 mm) dome speaker. Other features include:

- Three inputs: one ¼" phone, one RCA, one XLR
- Tone control (High/Low)

Figure 13: *Self-Powered Speaker*

USB Audio Interface

The Radial® Engineering USB-Pro™ (**Figure 14**) provides an interface from laptop computers to balanced outputs. Other features include:

- 24-bit, 96 kHz quality audio
- Two balanced XLR outputs (left and right)
- 3.5mm TRS headphone output
- Ground lift and mono-sum switches

Figure 14: *USB Audio Interface*

2.4 Signal Cables

Cable specifications are as follows:

- 5' (1.5 m) XLR cable for auxiliary audio input (part # W-1627)
- 15' (4.6 m) XLR cable between announcer's interface and rack (part # W-2074)
- 25' (7.6 m) XLR cable from rack to fiber box or wall plate (part # W-1560)

Notes:

- Keep unbalanced cable lengths under 6' (1.8 m) to prevent unwanted noise from being picked up. Use appropriate converters, such as the LTIBLOX Laptop Interface, to convert to balanced cables (**Figure 15**) for longer cable runs if necessary.
- Run audio cables away from power cables to prevent noise.
- Audio cables must be kept separate from current loop (scoreboard control) signal cables.

Figure 15: *Balanced/Unbalanced Cable Comparisons*

Section 3: Setup & Operation

3.1 Setup

Before Beginning: Place the rack on a flat, sturdy surface. Remove the cover pieces by twisting the knobs away from each other, and set them aside. Accessories are located in a separate case. Refer to the steps below and **Figure 17**.

1. Announcer's Interface setup is described below. For more information, refer also to the quick guide (**DD3083838**) shipped with the device.

    a. Connect the 2' (610 mm) XLR cable between the microphone and the **MIC 1 INPUT** jack.
    b. Connect headphones to the 1/4" or 1/8" jack.
    c. Connect the provided 12 VAC wallpack transformer to the power input jack, and then plug the other end into a standard 120 VAC outlet. Use the tab above the power jack as a strain relief for the power cord.

2. Connect the 15' (4.6 m) XLR cable from **MIC 1** & **AUX 1** on the announcer's interface to **MIC 1** & **AUX 1** on the rear of the rack.

3. Connect the 25' (7.6 m) XLR cable between the **AUDIO OUT** jack on the rear of the rack and the **SYSTEM AUDIO** jack on the bottom of the fiber box. If there is no fiber box, the cable will typically connect to a wall plate junction box instead.

4. Connect one end of the 5' (1.5 m) XLR cable to the LTIBLOX Laptop Interface and the other end to an open **MIC** input on the mixer. The 3.5 mm plug may be connected to the headphone jack of a laptop or MP3 player.

5. Locate the 3-prong power cord and plug into a standard 120 VAC outlet. Ensure the fiber box (if included) also has power.

6. Turn on the power strip.

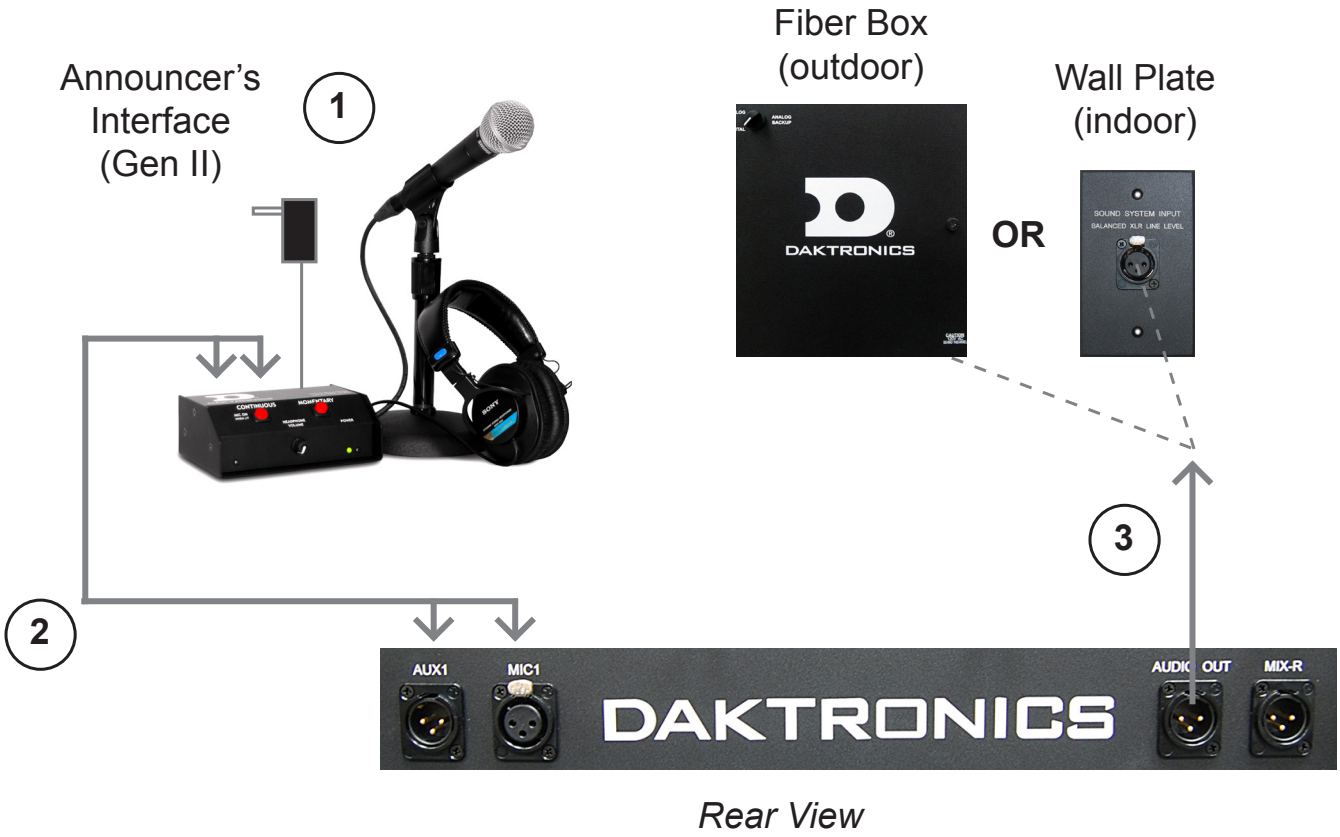
7. Switch the **AUDIO SIGNAL** to **ON**.

Follow the above steps in reverse order to power down the system. Place all accessories in the storage case.

Note: Ensure all antennas are perpendicular to the rack and angled outward at ~45°. Alternately, coaxial cable from the high gain antenna kit may be connected into the **WRX A** and **WRX B** jacks on the rear of the rack. The antennas should be located within 50' (15.2 m) of the rack, using desktop stands or mounted to the ceiling. Refer to the **Shure® Model PA805 Directional Antenna User Guide** for more information.

The optional Hearing Assist System universal antenna kit (**Figure 16**) may be located up to 10' (3 m) away from the rack, mounted to the ceiling or a wall. Ensure there is enough room to fully extend the antennas and that the coaxial cable is plugged into the **WTX2** jack on the rear of the rack. Refer to the **LA-122 Universal Antenna Kit User's Manual** for more information.

Figure 16: *ADA Universal Antenna Kit*



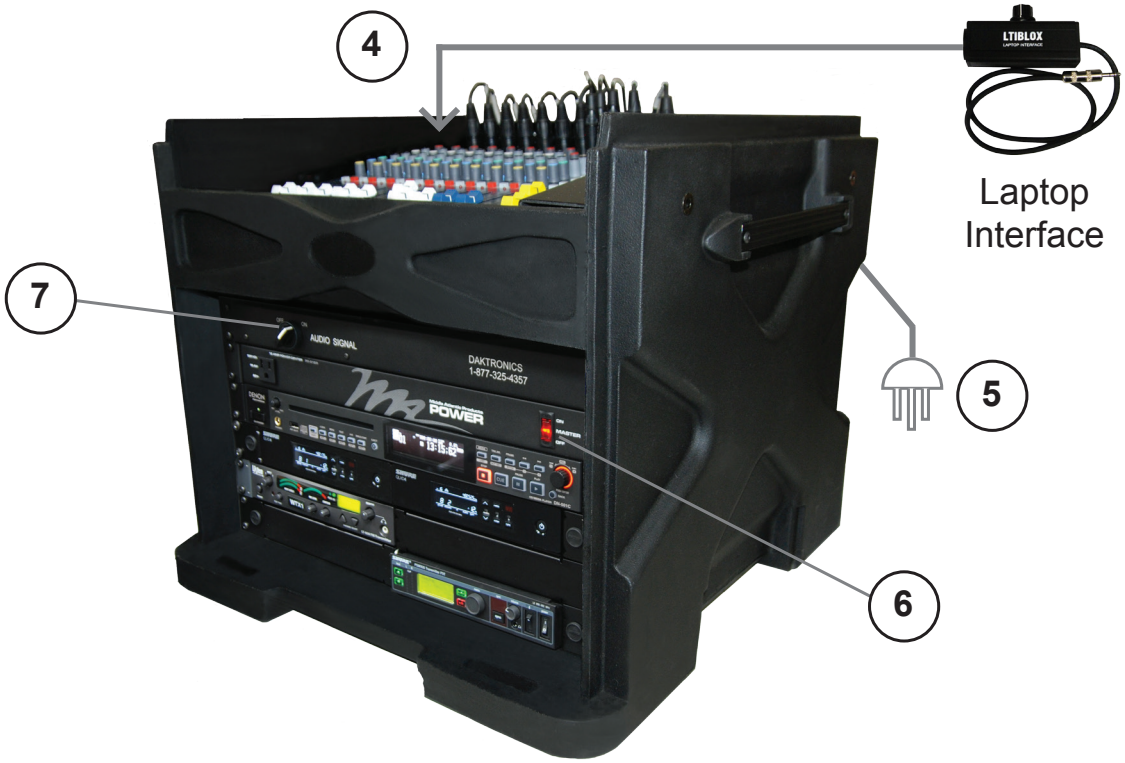


Figure 17: *Rack Setup w/ Announcer's Interface (Gen II)*

3.2 Mixer Operation

Refer to **Figure 18** for an overview of the mixer components and controls.

Figure 18: *Mixer Layout*

1	Inputs	**5**	Outputs
2	Trim/Gain Knob	**6**	Phantom Power
3	PFL & Mute Buttons	**7**	VU Meter
4	Channel Sliders/Faders	**8**	Master Sliders/Faders

Basic instructions are described below. For more information about mixer operation, refer to the **Soundcraft EFX EPM User Guide**.

- Ensure all source equipment is turned on and operational (refer to appropriate pages).

- For each input channel (source) in use, verify the following adjustments (**Figure 19**):
  – INSERT jack has nothing plugged into it
  – GAIN knob is set to an appropriate level
  – PAN knob is set to the center position
  – MUTE button is not depressed

Figure 19: *Channel Adjustments*

- Depress the **PFL** button to listen to each input channel without interrupting the main mix.

  With an input source playing or while speaking into the microphone, adjust the gain knob and channel fader until the output meter shows **0 dB** (**Figure 20**). Release the **PFL** button, and repeat this step for all other channels in use.

  Note: The **PEAK** LED indicates that the signal is close to distorting (clipping).

- Slowly bring up the channel and master volume faders until the output meter displays **0 dB** or adequate volume is achieved. Red LEDs indicate clipping. Also ensure the **2 TRACK MONITOR** button is not depressed.

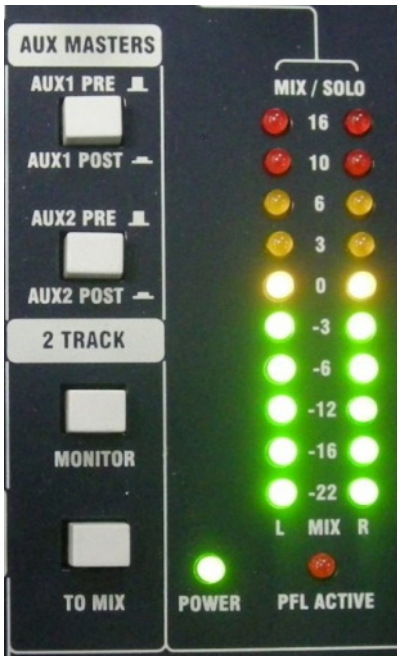


Figure 20: *Output Meter*

REMEMBER: Bad input = bad output. No adjustment on the mixer can make a poor source sound better. For best results, be sure to use high-quality audio files from your MP3 player or laptop, and set the device to near full volume.

Note: Ensure the mixer is outputting **PHANTOM POWER** (**Figure 21**) when using a first generation Announcer's Console (**Figure 22**) or when balanced condenser microphones are plugged into the mixer inputs.

Figure 21: *Phantom Power*

Figure 22: *1st Gen Announcer's Interface*

3.3 Wireless Mic System Operation

Basic instructions are described below. For more information about wireless mic system operation, refer to the **Shure® QLX-D® Wireless System User Guide**.

> **Note:** For systems built prior to November 2014, refer to the **Shure® ULX® Wireless System User Guide** for setup and operation instructions.

Wireless Receiver

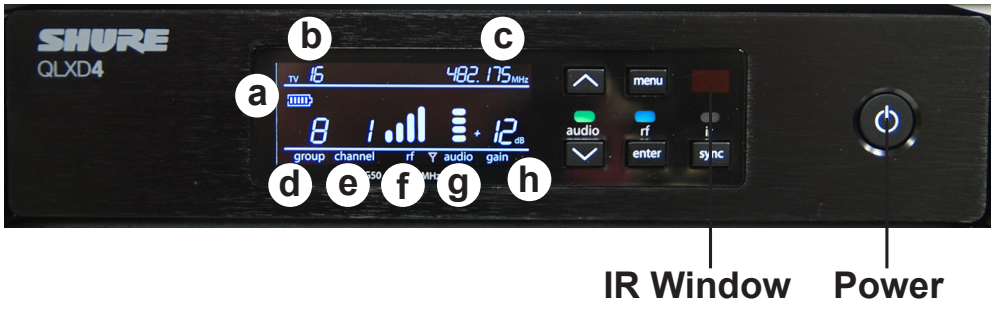


Figure 23: *Wireless Receiver LCD & Controls*

The unit displays the following information (**Figure 23**):

a. Transmitter Battery Life
b. TV Channel
c. Frequency
d. Group Number
e. Channel Number
f. RF Signal Strength
g. Transmitted Audio Level
h. Gain Level

Single Receiver

1. ***Ensure all transmitters are powered off.*** Press the power button to turn on the receiver if it is not already on.
2. Press **menu** until "scan" displays on the LCD.
3. Press **enter** to start frequency scan. When scan is complete, Group and Channel will display on the LCD.

Network Receivers

1. ***Ensure all transmitters are powered off.*** Turn on all receivers and wait one minute to allow time to connect to the network.
2. Press **menu** on one receiver until group number flashes.
3. Use the arrow buttons to select a group to scan.
4. Press **enter**, wait for channel, and then press enter again
5. Press **menu** until "network scan" displays on the LCD.
6. Press **enter** twice to deploy channels to other receivers.

Note: Perform a scan on all of the wireless units ***just minutes*** before the game! If a scan is performed too far ahead of time, frequencies set up by the media later on may interfere with previously configured wireless microphone settings.

Wireless Mic & Bodypack Operation

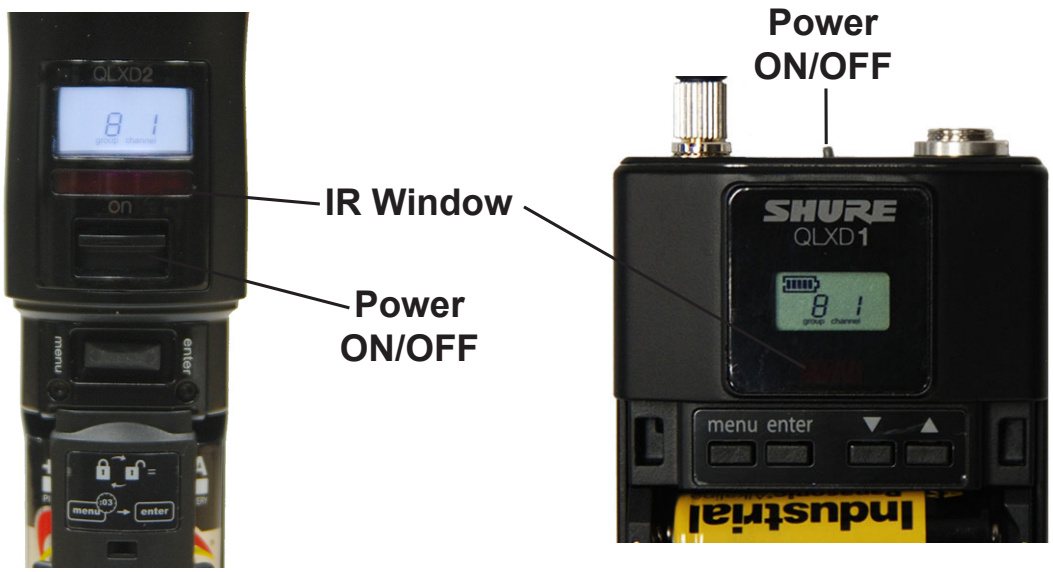


Figure 24: *Wireless Mic & Bodypack Controls*

1. Open the battery cover. Insert new or fully-charged AA batteries prior to each use, and always have spares on hand.

2. Power on the transmitter device (**Figure 24**).

3. Hold the transmitter device up close to one receiver in the rack, ensuring the infrared (IR) windows are aligned.

4. Press **sync** on the receiver; "good" will display if sync was successful.

5. Repeat steps 1-4 to pair another transmitter device with an additional receiver (if present).

   Note: Plug the referee mute switch into the jack on top of the bodypack unit and plug headphones/ lapel mic into the referee mute switch.

Verify Reception: With a transmitter and the receiver both turned on and having matching GROUP and Channel numbers, the RF meter on the receiver should be indicating signal. Speak into the microphone and the TX AUDIO meter should indicate signal presence.

Additional Tips:

- Perform a group and channel scan to obtain the best available channel for microphones.
- Check that battery levels are adequate to prevent wireless equipment from powering off during use.
- Program one microphone per receiver; multiple microphones on the same channel will cause interference and microphones will drop out.
- Always use quality batteries to prevent battery leaks that can corrode and shorten the life of the equipment.

3.4 Microphone Best Practices

- Keep handheld microphones 4-6 inches (102-152 mm) from the mouth (about the width of a hand).

  "P-pops" are loud sounds created by the release of breath when saying letters like "p" or "b". To avoid P-pops, keep handheld microphones below the mouth, angled toward the nose at a 45° angle. Do not point the front of the microphone straight at the mouth.

- Position headset microphones as close to the mouth as comfortable.

- The referee bodypack kit includes both headset and lapel microphones. In general it is recommended to use the headset mic for best results. If the lapel mic is desired, clip it onto a lapel, as close to the center of the chest as possible.

- The softer or louder the speaker's voice, move the microphone closer or further away, respectively.

- Never hit or intentionally blow into a microphone as it could quite easily be damaged.

3.5 Personal Monitor System Operation (Optional)

Basic instructions are described below and shown in **Figure 25**. For more information, refer to the **Shure® PSM®900 Personal Wireless Monitor System User Guide**.

1. Flip the transmitter **POWER** switch to ON if it is not already on; ensure the RF switch to the left of it is OFF at this time.

2. Power on the handheld receiver using the volume knob.

3. Attach the antenna and earphones to the top of the handheld receiver.

4. Flip open the battery cover to expose the control buttons. Press **SCAN** and the display will show "SYNC NOW".

   Note: Insert new or fully-charged batteries prior to each use, and always have spares on hand.

5. Hold the bodypack up to the transmitter with the sync IR windows facing each other, and press the **SYNC** button on the transmitter. The display will show "SYNC SUCCESS" when finished.

6. Flip the transmitter RF switch to ON. The blue LED on the receiver should illuminate to indicate that it is detecting the transmitter.

Figure 25: *Optional Personal Stereo Monitor System*

3.6 Hearing Assist System Operation (Optional)

Basic instructions are described below and shown in **Figure 26**. For more information, refer to the **Listen® LT-800 Stationary Transmitter**, **Listen® LR-400 FM Receiver**, and **Listen® LA-122 Universal Antenna Kit Users Manuals**.

1. Press **POWER** to turn on the transmitter if it is not already on.
2. Use the **CHANNEL SELECT** buttons to select a channel.
3. Plug the earphones into the jack on top of the handheld receiver.
4. Rotate the volume dial counterclockwise to power on the handheld receiver.
5. Flip open the battery cover to expose the control buttons. Use the **CHANNEL SELECT** buttons to select the same channel that was set on the transmitter, or press **SEEK** to locate the active channel.

   Note: Insert new or fully-charged batteries prior to each use, and always have spares on hand.
6. Repeat steps 3-5 for any additional receivers.

Figure 26: *Optional Hearing Assist System*

Section 4: Maintenance & Troubleshooting

4.1 Maintenance

- Unplug rack (and fiber box, if included) from power during periods of non-use.
- Store equipment in a clean dry place free from moisture, debris, and extreme temperatures.
- Keep announcers rack and equipment covered from dust and debris when not in use.
- Clean equipment annually or as needed using electronic equipment duster and a dry cloth.

4.2 Troubleshooting

This section lists potential problems with the system, indicates possible causes, and suggests corrective action. This list does not include every possible problem, but it does represent some of the more common situations that may occur. If individual components fail to work, refer to troubleshooting sections in the manufacturers' manuals. If the problem persists, please contact Daktronics for assistance.

Symptom/Condition	Possible Cause	Potential Solution
No power lights illuminated on rack equipment	Rack power strip switch is in the OFF position	Flip the rack power strip switch to the ON position
	Rack is plugged into dead wall receptacle	Verify the rack is plugged into live wall receptacle
No audio exiting the rack	SOUND SYSTEM switch is in the OFF position	Flip switch to the ON position
	No audio present at mixer	Verify audio source is outputting signal to mixer and gain knobs are set to an appropriate level (mixer signal indicator lights should be illuminated)
Announcer's interface microphone signal does not appear at mixer	Announcer's interface does not have power	Verify the interface is plugged into live wall outlet
	Announcer's interface is not plugged into appropriate inputs on the back of the rack	Plug announcer's interface into **AUX1** and **MIC1** on the back of the rack
	Improper mixer slider settings for **MIC 1**	Adjust mixer slider settings
	The announcer's interface "push-to-talk" button is not being pressed	Hold the **MOMENTARY** button while speaking into the microphone
Announcer only hears self through headphones	Switch on the announcer's interface is set to **MIC ONLY**	Switch to **AUX IN**
Announcer hears nothing through headphones	Announcer's interface is not plugged into appropriate inputs on the back of the rack	Plug announcer's interface into **AUX1** and **MIC1** on the back of the rack
	AUX1 settings are improperly set on mixer	Check **MIC1** and **AUX1** mixer settings
	Announcer's interface **HEADPHONE VOLUME** is turned down	Turn **HEADPHONE VOLUME** knob to an appropriate level
Announcer's mic muting circuit does not work	No phantom power from mixer	Turn on phantom power from mixer (**Section 3.2**)

Symptom/Condition	Possible Cause	Potential Solution
For Wireless		
No signal present at mixer from wireless microphones	The battery is not installed properly in the transmitter	Reinstall the battery properly
	The battery is not providing full power	Charge or replace battery
	The transmitter is not switched to the ON position	Switch the transmitter to the ON position
	The transmitter and receiver are set to different channels	Set to same channel
Interference on wireless equipment	Competing RF equipment within frequency band	**1.** Scan for clearest group/channel on microphone receiver. **2.** Switch wireless receiver and transmitter to an available clear channel. (**Section 3.3**)
Low audio signal from wireless device	Improper gain adjustment on mixer input	Set proper mixer input gain levels
	Improper gain adjustment on transmitter output	Set proper transmitter output gain levels (refer to **Shure® Wireless System User Guide**)

Section 5: Replacement Parts

5.1 SSR-200 Components

Part Description	Part Number
Announcer's Interface	**0A-1534-0093**
Announcer's Interface; Push-to-Talk	A-3698
Desk Microphone Stand	A-1954
Headphones, ¼" Phone	A-1962
Dynamic Vocal Microphone	A-2790
Wallpack Transformer, 12VAC; 6' Cord	T-1118
2' XLR Cable	W-1917
15' Cable, Announcer Box to Mixer	W-2074
Referee Headset Microphone	**A-1972**
DENON DN-501C CD Player	**A-2262**
Soundcraft EPM8 Audio Mixer	**A-2464**
Middle Atlantic PD-91R; 9 Outlet Power Strip	**A-2740**
LTIBLOX Laptop Interface	**A-2755**
Referee Mute Switch	**A-3122**
Referee Lapel Microphone	**A-3589**
Wireless Receiver For Band G50	**A-3590**
Wireless Receiver For Band H50	**A-3591**
Wireless Receiver For Band J50	**A-3592**
Wireless Handheld For Band G50	**A-3593**
Wireless Handheld For Band H50	**A-3594**
Wireless Handheld For Band J50	**A-3595**
Wireless Bodypack For Band G50	**A-3596**
Wireless Bodypack For Band H50	**A-3597**
Wireless Bodypack For Band J50	**A-3598**
Wireless Accessories	
Passive Antenna Combiner	A-3121
Black Cloth Pouch for Bodypack	A-3123
Cable, 25' XLR M to F	**W-1560**
Cable, 5' XLR M to F	**W-1627**

5.2 Optional Components

Part Description	Part Number
High Gain Antenna Kit	**0A-1340-0325 (2)** **0A-1340-0326 (1)**
Desk Microphone Stand	A-1954
Microphone Stand, Flange Mount	A-2888
13" Gooseneck	A-2889
Passive Directional Antenna, 470-952 MHz	A-3124
50' Coaxial Antenna Cable w/ BNC	W-2476
Listen ADA Hearing Assist Transmitter/Receiver Kit	**A-2016**
In Ear Speaker (4 included in kit)	A-1908
FM Receiver (4 included in kit)	A-2050
Yamaha Self-Powered Monitor Speaker	**A-2206**
Cable, 10' 1/4" TRS	W-1340
Cable, 12' XLR M to F	W-1750

Part Description	Part Number
Single Muff Microphone Headset	**A-2382**
USB Audio Interface	**A-2493**
Shure PSM900 Personal Monitor System; Band L6 – 656-692 MHz	**A-2719**
Transmitter	A-2720
Bodypack Receiver	A-2721
Shure PSM900 Personal Monitor System; Band K1 – 596-632 MHz	**A-2722**
Transmitter	A-2723
Bodypack Receiver	A-2724

Section 6: Daktronics Exchange and Repair & Return Programs

6.1 Exchange Program

The Daktronics Exchange Program is a service for quickly replacing key components in need of repair. If a component fails, Daktronics sends a replacement part to the customer who, in turn, returns the failed component to Daktronics. This decreases equipment downtime. Customers who follow the program guidelines explained below will receive this service.

Before Contacting Daktronics

Identify these important numbers:

Model Number: _____
Job/Contract Number: _____
Date Manufactured/Installed: _____
Daktronics Customer ID Number: _____

To participate in the Exchange Program, follow these steps:

1. **Call Daktronics Customer Service.**

Market Description	Customer Service Number
Schools (primary through community/junior colleges), religious organizations, municipal clubs and community centers	877-605-1115
Universities and professional sporting events, live events for auditoriums and arenas	866-343-6018

2. **When the new exchange part is received, mail the old part to Daktronics.**
   If the replacement part fixes the problem, send in the problem part which is being replaced.

   a. Package the old part in the same shipping materials in which the replacement part arrived.
   b. Fill out and attach the enclosed UPS shipping document.
   c. Ship the part to Daktronics.

3. **The defective or unused parts must be returned to Daktronics within 5 weeks of initial order shipment.**

   If any part is not returned within five (5) weeks, a non-refundable invoice will be presented to the customer for the costs of replenishing the exchange parts inventory with a new part.

   Daktronics reserves the right to refuse parts that have been damaged due to acts of nature or causes other than normal wear and tear.

6.2 Repair & Return Program

For items not subject to exchange, Daktronics offers a Repair & Return Program. To send a part for repair, follow these steps:

1. **Call or fax Daktronics Customer Service.**
   Refer to the appropriate market phone number in the chart on the previous page.
   Fax: 605-697-4444

2. **Receive a case number before shipping.**
   This expedites repair of the part.

3. **Package and pad the item carefully to prevent damage during shipment.**
   Electronic components, such as as printed circuit boards, should be placed in an antistatic bag before boxing. Daktronics does not recommend using packing peanuts when shipping.

4. **Enclose:**
   - name
   - address
   - phone number
   - the case number
   - a clear description of symptoms

Shipping Address

Daktronics Customer Service
[Case #]
201 Daktronics Drive, Dock E
Brookings, SD 57006

6.3 Daktronics Warranty & Limitation of Liability

The Daktronics Warranty & Limitation of Liability is located in **Appendix C**. The Warranty is independent of Extended Service agreements and is the authority in matters of service, repair, and display operation.

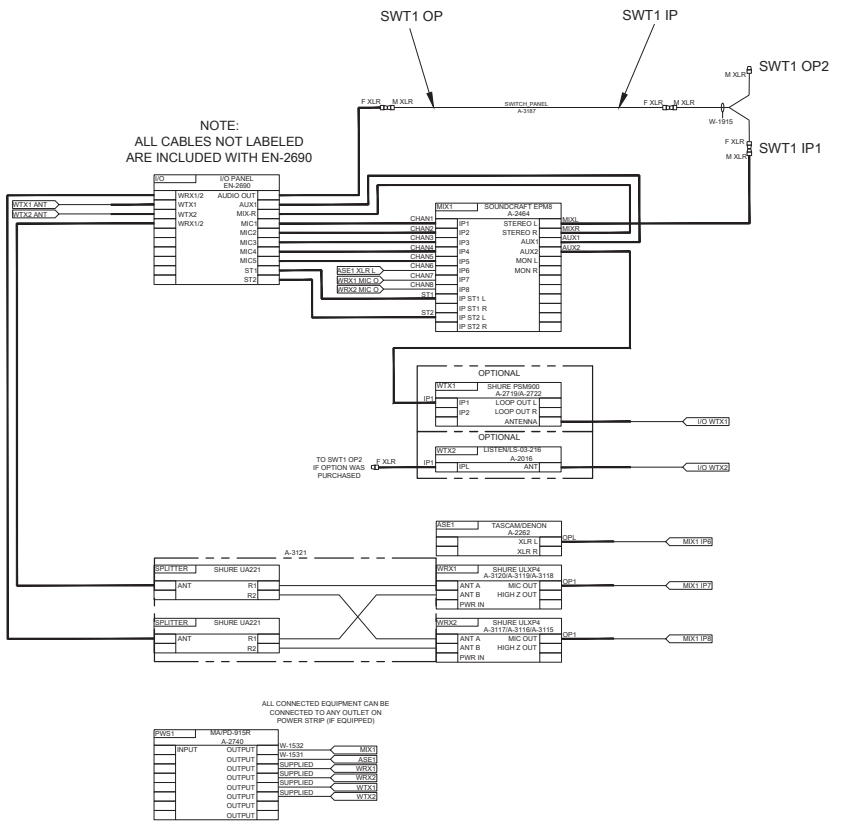
Appendix A: Reference Drawings

Refer to Section 1.1 for information regarding how to read the drawing number.

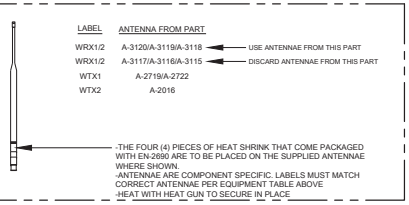
These drawings are listed in alphanumeric order. Any contract-specific drawings take precedence over the general drawings.

Drawing Title	*Drawing Number*
Schematic/Layout; Sportsound Rack 200 *(prior to November 2014)*	**B-1098285**
Schematic/Layout; Sportsound Rack 200	**B-1190065**

SCHEMATIC VIEW



ANTENNA HEAT SHRINK NOTE

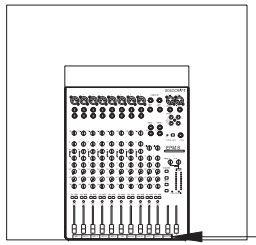


LABEL	ANTENNA FROM PART	
WRX1/2	A-3120/A-3119/A-3118	USE ANTENNAE FROM THIS PART
WRX1/2	A-3117/A-3116/A-3115	DISCARD ANTENNAE FROM THIS PART
WTX1	A-2719/A-2722	
WTX2	A-2016	

-THE FOUR (4) PIECES OF HEAT SHRINK THAT COME PACKAGED WITH EN-2690 ARE TO BE PLACED ON THE SUPPLIED ANTENNAE WHERE SHOWN.
-ANTENNAE ARE COMPONENT SPECIFIC. LABELS MUST MATCH CORRECT ANTENNAE PER EQUIPMENT TABLE ABOVE
-HEAT WITH HEAT GUN TO SECURE IN PLACE

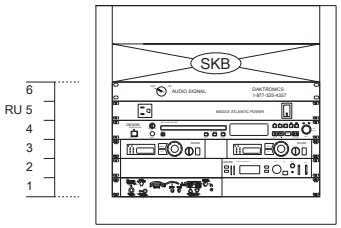
LAYOUT VIEW

TOP VIEW

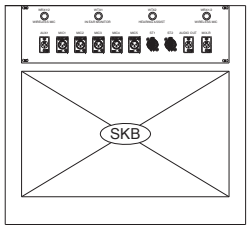


LL-2745 LABEL STRIP

FRONT VIEW



REAR VIEW



(RACK SHOWN WITH ALL OPTIONS)

RACK PANEL IDENTIFICATION CHART (1R.U.=1.75 INCHES)			
COMPONENT	DESCRIPTION	MANUFACTURE'S #	R.U. HEIGHT
TOP VIEW			
-	MIXER MOUNTING BRACKET	EN-2567	8
MIX1	SOUNDCRAFT EPM8	A-2464	8
FRONT VIEW			
-	SOUND SYSTEM SIGNAL SWITCH PANEL	A-3187	1
PWS1	MIDDLE ATLANTIC PD-915R	A-2740	1
ASE1	CD PLAYER - DENON OR TASCAM	A-2262	1
WRX1	SHURE ULXP4 PRO DIVERSITY RECEIVER	A-3120/A-3119/A-3118	1/2
WRX2	SHURE ULXP4 PRO DIVERSITY RECEIVER	A-3117/A-3116/A-3115	1/2
WTX1	SHURE IN EAR MONITOR PSM900	A-2719/A-2722	1
WTX2	LISTEN HEARING ASSIST	A-2016	1
REAR VIEW			
-	I/O PANEL	EN-2690	3

ITEMS DENOTED WITH *XXX#* ARE OPTIONAL ITEMS
AND MAY NOT BE IN YOUR SYSTEM

0A-1534-0063	SSR-200-1H-1B-J1
0A-1534-0064	SSR-200-1H-1B-G3
0A-1534-0066	SSR-200-1H-1B-ADA-IEM-J1
0A-1534-0067	SSR-200-1H-1B-ADA-IEM-G3
0A-1534-0068	SSR-200-NW
0A-1534-0072	SSR-200-1H-J1
0A-1534-0073	SSR-200-1H-G3

REV	DATE:		BY:
01	27 AUG 12	REPLACED SWITCH PANEL 0A-1534-0040 WITH A-3187	KCS

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BROOKINGS, SD 57006
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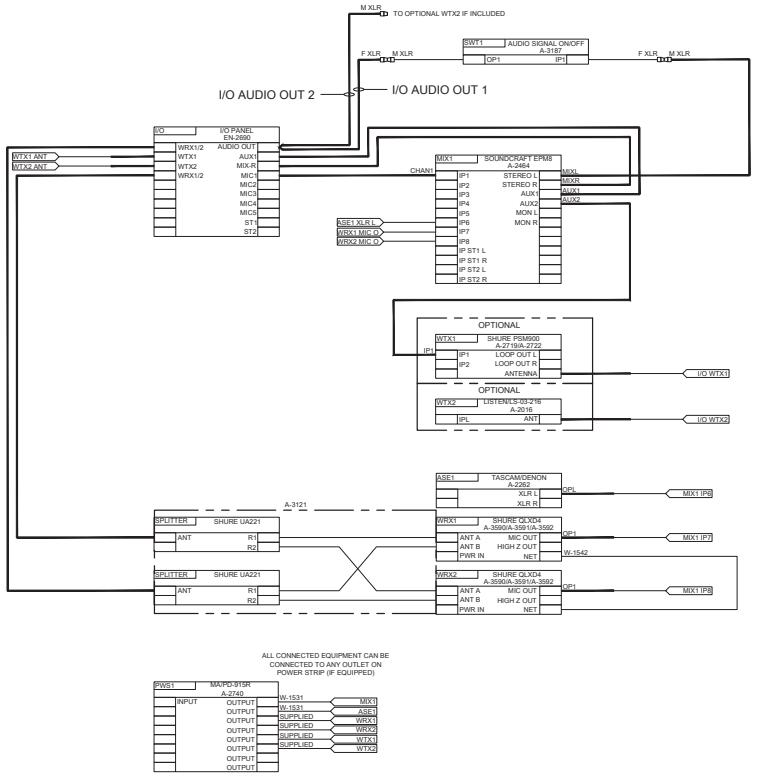
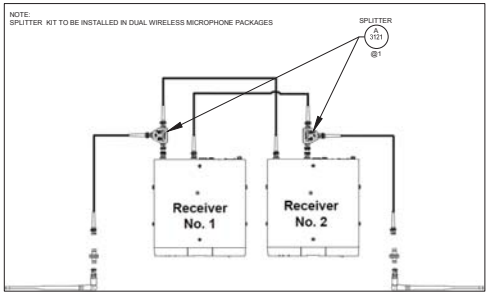
PROJ: SPORTSOUND AUDIO SYSTEMS
TITLE: SCHEMATIC/LAYOUT; SPORTSOUND RACK 200
DESIGN: CBRANDT | DRAWN: CBRANDT | DATE: 17 MAY 12
SCALE: NONE

SHEET	REV	JOB NO:	FUNC - TYPE - SIZE	
	01	P1534	R - 03 - B	1098285

SCHEMATIC VIEW



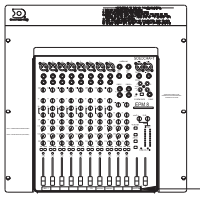


ANTENNA HEAT SHRINK NOTE

LABEL	ANTENNA FROM PART
WRX1/2	A-3590/A-3591/A-3592
WRX1/2	A-3590/A-3591/A-3592
WTX1	A-2719/A-2722
WTX2	A-2016

-THE FOUR (4) PIECES OF HEAT SHRINK THAT COME PACKAGED WITH EN-2690 ARE TO BE PLACED ON THE SUPPLIED ANTENNAE WHERE SHOWN.
-ANTENNAE ARE COMPONENT SPECIFIC. LABELS MUST MATCH CORRECT ANTENNAE PER EQUIPMENT TABLE ABOVE
-HEAT WITH HEAT GUN TO SECURE IN PLACE

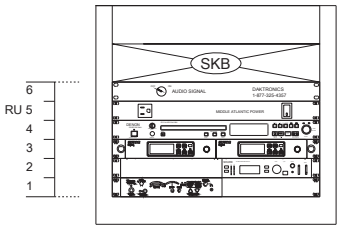
LAYOUT VIEW



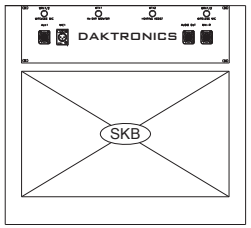
LL-2745 LABEL STRIP

PLACE LOOSE LABELS INCLUDED WITH LL-2745 IN A BAG AND ATTACH TO TOP OF MIXER TO BE SENT TO SITE.

TOP VIEW



FRONT VIEW



REAR VIEW

(RACK SHOWN WITH ALL OPTIONS)

RACK PANEL IDENTIFICATION CHART (1R.U.=1.75 INCHES)			
COMPONENT	DESCRIPTION	MANUFACTURE'S #	R.U. HEIGHT
TOP VIEW			
-	MIXER MOUNTING BRACKET	EN-2567	8
MIX1	SOUNDCRAFT EPM8	A-2464	8
FRONT VIEW			
-	SOUND SYSTEM SIGNAL SWITCH PANEL	A-3187	1
PWS1	MIDDLE ATLANTIC PD-915R	A-2740	1
ASE1	CD PLAYER - DENON OR TASCAM	A-2262	1
WRX1	SHURE QLXD DIGITAL WIRELESS RECEIVER	A-3590/A-3591/A-3592	1/2
WRX2	SHURE QLXD DIGITAL WIRELESS RECEIVER	A-3590/A-3591/A-3592	1/2
WTX1	SHURE IN EAR MONITOR PSM900	A-2719/A-2722	1
WTX2	LISTEN HEARING ASSIST	A-2016	1
REAR VIEW			
-	I/O PANEL	EN-2690	3

ITEMS DENOTED WITH *XXX#* ARE OPTIONAL ITEMS
AND MAY NOT BE IN YOUR SYSTEM

0A-1534-0083	SSR-200-1H-1B-J50
0A-1534-0084	SSR-200-1H-1B-H50
0A-1534-0085	SSR-200-1H-1B-G50
0A-1534-0086	SSR-200-1H-1B-ADA-IEM-J50
0A-1534-0087	SSR-200-1H-1B-ADA-IEM-H50
0A-1534-0088	SSR-200-1H-1B-ADA-IEM-G50
0A-1534-0089	SSR-200-1H-J50
0A-1534-0090	SSR-200-1H-H50
0A-1534-0091	SSR-200-1H-G50
0A-1534-0068	SSR-200-NW

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PROJ: SPORTSOUND AUDIO SYSTEMS
TITLE: SCHEMATIC/LAYOUT; SPORTSOUND RACK 200
DESIGN: CBRANDT | DRAWN: KSCHNABEL | DATE: 08 SEP 14
SCALE: NONE

SHEET	REV	JOB NO:	FUNC-TYPE-SIZE	
	00	P1756	R - 03 - B	1190065

Appendix B: Supplementary Manuals

Manuals for all standard and optional components are shipped along with the audio system.

- **If any product manuals are missing, lost, or damaged, visit the manufacturer's website or perform a web search for the component model number.**

- **When viewing a digital copy of this manual (available at www.daktronics.com/manuals), click on the appropriate manufacturer link below to view a component's manual. If the link is broken, visit the manufacturer's website or perform a web search for the component model number.**

Component	Model Number	Manufacturer / Manual
Audio Mixer	EPM8	Soundcraft www.soundcraft.com
Professional CD Player	DN-501C	Denon www.denon.com
Wireless Receiver System	QLX-D	Shure www.shure.com
	ULX *(prior to November 2014)*	Shure www.shure.com
Directional Antenna	PA805	Shure www.shure.com
Wireless Personal Stereo Monitor System	PSM900	Shure www.shure.com
Stationary FM Transmitter	LT-800	Listen www.listentech.com
Portable FM Receiver	LR-400	Listen www.listentech.com
Universal Antenna Kit	LA-122	Listen www.listentech.com
USB Audio Interface	USB-Pro	Radial Engineering www.radialeng.com

Appendix C: Daktronics Warranty and Limitation of Liability

DAKTRONICS WARRANTY & LIMITATION OF LIABILITY

This Warranty and Limitation of Liability (the "Warranty") sets forth the warranty provided by Daktronics with respect to the Equipment. By accepting delivery of the Equipment, Purchaser agrees to be bound by and accept these terms and conditions. Unless otherwise defined herein, all terms within the Warranty shall have the same meaning and definition as provided elsewhere in the Agreement.

DAKTRONICS WILL ONLY BE OBLIGATED TO HONOR THE WARRANTY SET FORTH IN THESE TERMS AND CONDITIONS UPON RECEIPT OF FULL PAYMENT FOR THE EQUIPMENT.

1. **Warranty Coverage**

A. Daktronics warrants to the original end-user that the Equipment will be free from Defects (as defined below) in materials and workmanship for a period of one (1) year (the "Warranty Period"). The Warranty Period shall commence on the earlier of: (i) four weeks from the date that the Equipment leaves Daktronics' facility; or (ii) Substantial Completion as defined herein. The Warranty Period shall expire on the first anniversary of the commencement date.

"Substantial Completion" means the operational availability of the Equipment to the Purchaser in accordance with the Equipment's specifications, without regard to punch-list items, or other non-substantial items which do not affect the operation of the Equipment.

B. Daktronics' obligation under this Warranty is limited to, at Daktronics' option, replacing or repairing, any Equipment or part thereof that is found by Daktronics not to conform to the Equipment's specifications. Unless otherwise directed by Daktronics, any defective part or component shall be returned to Daktronics for repair or replacement. This Warranty does not include on-site labor charges to remove or install these components. Daktronics may, at its option, provide on-site warranty service. Daktronics shall have a reasonable period of time to make such replacements or repairs and all labor associated therewith shall be performed during regular working hours. Regular working hours are Monday through Friday between 8:00 a.m. and 5:00 p.m. at the location where labor is performed, excluding any holidays observed by either Purchaser or Daktronics.

C. Daktronics shall pay ground transportation charges for the return of any defective component of the Equipment. All such items shall be shipped by Purchaser DDP Daktronics; designated facility. If returned Equipment is repaired or replaced under the terms of this warranty, Daktronics will prepay ground transportation charges back to Purchaser and shall ship such items DDP Purchaser's designated facility; otherwise, Purchaser shall pay transportation charges to return the Equipment back to the Purchaser and such Equipment shall be shipped Ex Works Daktronics designated facility. All returns must be pre-approved by Daktronics before shipment. Daktronics shall not be obligated to pay freight for any unapproved return. Purchaser shall pay any upgraded or expedited transportation charges.

D. Any replacement parts or Equipment will be new or serviceably used, comparable in function and performance to the original part or Equipment, and warranted for the remainder of the Warranty Period. Purchasing additional parts or Equipment from the Seller does not extend the Warranty Period.

E. Defects shall be defined as follows. With regard to the Equipment (excepting LEDs), a "Defect" shall refer to a material variance from the design specifications that prohibit the Equipment from operating for its intended use. With respect to LEDs, "Defects" are defined as LED pixels that cease to emit light. The limited warranty provided by Daktronics does not impose any duty or liability upon Daktronics for partial LED pixel degradation nor does the limited warranty provide for the replacement or installation of communication methods including but not limited to, wire, fiber optic cable, conduit, trenching, or for the purpose of overcoming local site interference radio equipment substitutions.

EXCEPT AS OTHERWISE EXPRESSLY SET FORTH IN THIS WARRANTY, TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, DAKTRONICS DISCLAIMS ANY AND ALL OTHER PROMISES, REPRESENTATIONS AND WARRANTIES APPLICABLE TO THE EQUIPMENT AND REPLACES ALL OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, ACCURACTY OR QUALITY OF DATA. NO ORAL OR WRITTEN INFORMATION, OR ADVICE GIVEN BY THE COMPANY, ITS AGENTS OR EMPLOYEES, SHALL CREATE A WARRANTY OR IN ANY WAY INCREASE THE SCOPE OF THIS LIMITED WARRANTY.

THIS LIMITED WARRANTY IS NOT TRANSFERABLE.

2. Exclusion from Warranty Coverage

The limited warranty provided by Daktronics does not impose any duty or liability upon Daktronics for:

A. Any damage occurring, at any time, during shipment of Equipment unless otherwise provided for in the Agreement. When returning Equipment to Daktronics for repair or replacement, Purchaser assumes all risk of loss or damage, and agrees to use any shipping containers that might be provided by Daktronics and to ship the Equipment in the manner prescribed by Daktronics;

B. Any damage caused by the improper installation, adjustment, repair or service of the Equipment by anyone other than personnel of Daktronics or its authorized repair agents;

C. Damage caused by the failure to provide a continuously suitable environment, including, but not limited to: (i) neglect or misuse, (ii) a failure or sudden surge of electrical power, (iii) improper air conditioning, humidity control, or other environmental conditions outside of the Equipment's technical specifications such as extreme temperatures, corrosives and metallic pollutants, or (iv) any other cause other than ordinary use;

D. Damage caused by fire, flood, earthquake, water, wind, lightning or other natural disaster, strike, inability to obtain materials or utilities, war, terrorism, civil disturbance or any other cause beyond Daktronics' reasonable control;

DAKTRONICS

E. Failure to adjust, repair or replace any item of Equipment if it would be impractical for Daktronics personnel to do so because of connection of the Equipment by mechanical or electrical means to another device not supplied by Daktronics, or the existence of general environmental conditions at the site that pose a danger to Daktronics personnel;

F. Any statements made about the product by any salesperson, dealer, distributor or agent, unless such statements are in a written document signed by an officer of Daktronics. Such statements as are not included in a signed writing do not constitute warranties, shall not be relied upon by Purchaser and are not part of the contract of sale;

G. Any damage arising from the use of Daktronics products in any application other than the commercial and industrial applications for which they are intended, unless, upon request, such use is specifically approved in writing by Daktronics;

H. Any performance of preventive maintenance;

J. Third-party systems and other ancillary equipment including without limitation front-end video control systems, audio systems, video processors and players, HVAC equipment, batteries and LCD screens;

K. Incorporation of accessories, attachments, software or other devices not furnished by Daktronics; or

L. Paint or refinishing the Equipment or furnishing material for this purpose.

3. Limitation of Liability

Daktronics shall be under no obligation to furnish continued service under this Warranty if alterations are made to the Equipment without the prior written approval of Daktronics.

It is specifically agreed that the price of the Equipment is based upon the following limitation of liability. In no event shall Daktronics (including its subsidiaries, affiliates, officers, directors, employees, or agents) be liable for any special, consequential, incidental or exemplary damages arising out of or in any way connected with the Equipment or otherwise, including but not limited to damages for lost profits, cost of substitute or replacement equipment, down time, lost data, injury to property or any damages or sums paid by Purchaser to third parties, even if Daktronics has been advised of the possibility of such damages. The foregoing limitation of liability shall apply whether any claim is based upon principles of contract, tort or statutory duty, principles of indemnity or contribution, or otherwise.

In no event shall Daktronics be liable to Purchaser or any other party for loss, damage, or injury of any kind or nature arising out of or in connection with this Warranty in excess of the purchase price of the Equipment actually delivered to and paid for by the Purchaser. The Purchaser's remedy in any dispute under this Warranty shall be ultimately limited to the Purchase Price of the Equipment to the extent the Purchase Price has been paid.

4. Assignment of Rights

The Warranty contained herein extends only to the original end-user (which may be the Purchaser) of the Equipment and no attempt to extend the Warranty to any subsequent user-transferee of the Equipment shall be valid or enforceable without the express written consent of Daktronics.

5. Governing Law

The rights and obligations of the parties under this warranty shall not be governed by the provisions of the United Nations Convention on Contracts for the International Sales of Goods of 1980. Both parties consent to the application of the laws of the State of South Dakota to govern, interpret, and enforce all of Purchaser and Daktronics rights, duties, and obligations arising from, or relating in any manner to, the subject matter of this Warranty, without regard to conflict of law principles.

6. Availability of Extended Service Agreement

For Purchaser's protection, in addition to that afforded by the warranties set forth herein, Purchaser may purchase extended warranty services to cover the Equipment. The Extended Service Agreement, available from Daktronics, provides for electronic parts repair and/or on-site labor for an extended period from the date of expiration of this warranty. Alternatively, an Extended Service Agreement may be purchased in conjunction with this warranty for extended additional services. For further information, contact Daktronics Customer Service at 1-800-DAKTRONics (1-800-325-8766).

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