



# AirLine

SYNTH

AG300 GUITAR TRANSMITTER  
AND AR300 RECEIVER

ÉMETTEUR AG300 POUR GUITARE ET RÉCEPTEUR AR300

**Owners Manual**

WIRELESS GUITAR SYSTEM

**SAMSON®**

## WARNING

TO PREVENT FIRE OR SHOCK HAZARD. DO NOT USE THIS PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

TO PREVENT FIRE OR SHOCK HAZARD. DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

TO PREVENT ELECTRICAL SHOCK, MATCH WIDE BLADE PLUG TO WIDE SLOT AND FULLY INSERT.



This lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

## CAUTION


**RISK OF ELECTRIC SHOCK  
DO NOT OPEN**

Warning: To reduce the risk of electric shock, do not remove cover (or back). No user-serviceable parts inside. For service, refer to qualified service personnel.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

## IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
  2. Keep these instructions.
  3. Heed all warnings.
  4. Follow all instructions.
  5. Do not use this apparatus near water.
  6. Clean only with dry cloth.
  7. Do not block any ventilation openings. Install in accordance with the manufacturer’s instructions.
  8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
  9. Do not defeat the safety purpose of the polarized or grounding type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
  10. Protect the power cord from being walked on or pinched particularly at the plugs, convenience receptacles, and at the point where they exit from the apparatus.
  11. Only use attachments/accessories specified by the manufacturer.
  12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- 
13. Unplug the apparatus during lightening, sort or when unused for long periods of time. Refer all servicing to qualified personnel. Service is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
  14. This appliance shall not be exposed to dripping or splashing water and that no object filled with liquid such as vases shall be placed on the apparatus.
  15. Caution-to prevent electrical shock, match wide blade plug wide slot fully insert.
  16. Please keep a good ventilation environment around the entire unit.

**ATTENTION:** Pour éviter tout risque d'électrocution ou d'incendie, ne pas exposer cet appareil à la pluie ou à l'humidité. Pour éviter tout risque d'électrocution, ne pas ôter le couvercle ou le dos du boîtier. Cet appareil ne contient aucune pièce remplaçable par l'utilisateur. Confiez toutes les réparations à un personnel qualifié. Le signe avec un éclair dans un triangle prévient l'utilisateur de la présence d'une tension dangereuse et non isolée dans l'appareil. Cette tension constitue un risque d'électrocution. Le signe avec un point d'exclamation dans un triangle prévient l'utilisateur d'instructions importantes relatives à l'utilisation et à la maintenance du produit.

### **Consignes de sécurité importantes**

1. Veuillez lire toutes les instructions avant d'utiliser l'appareil.
2. Conserver ces instructions pour toute lecture ultérieure.
3. Lisez avec attention toutes les consignes de sécurité.
4. Suivez les instructions du fabricant.
5. Ne pas utiliser cet appareil près d'une source liquide ou dans un lieu humide.
6. Nettoyez l'appareil uniquement avec un tissu humide.
7. Veillez à ne pas obstruer les fentes prévues pour la ventilation de l'appareil. Installez l'appareil selon les instructions du fabricant.
8. Ne pas installer près d'une source de chaleur (radiateurs, etc.) ou de tout équipement susceptible de générer de la chaleur (amplificateurs de puissance par exemple).
9. Ne pas retirer la terre du cordon secteur ou de la prise murale. Les fiches canadiennes avec polarisation (avec une lame plus large) ne doivent pas être modifiées. Si votre prise murale ne correspond pas au modèle fourni, consultez votre électricien.
10. Protégez le cordon secteur contre tous les dommages possibles (pincement, tension, torsion,, etc.). Veillez à ce que le cordon secteur soit libre, en particulier à sa sortie du boîtier.
11. Déconnectez l'appareil du secteur en présence d'orage ou lors de périodes d'inutilisation prolongées.
12. Consultez un service de réparation qualifié pour tout dysfonctionnement (dommage sur le cordon secteur, baisse de performances, exposition à la pluie, projection liquide dans l'appareil, introduction d'un objet dans le boîtier, etc.).

**ACHTUNG:** Um die Gefahr eines Brandes oder Stromschlags zu verringern, sollten Sie dieses Gerät weder Regen noch Feuchtigkeit aussetzen. Um die Gefahr eines Stromschlags zu verringern, sollten Sie weder Deckel noch Rückwand des Geräts entfernen. Im Innern befinden sich keine Teile, die vom Anwender gewartet werden können. Überlassen Sie die Wartung qualifiziertem Fachpersonal. Der Blitz mit Pfeilspitze im gleichseitigen Dreieck soll den Anwender vor nichtisolierter "gefährlicher Spannung" im Geräteinnern warnen. Diese Spannung kann so hoch sein, dass die Gefahr eines Stromschlags besteht. Das Ausrufezeichen im gleichseitigen Dreieck soll den Anwender auf wichtige Bedienungs- und Wartungsanleitungen aufmerksam machen, die im mitgelieferten Informationsmaterial näher beschrieben werden.

### **Wichtige Sicherheitsvorkehrungen**

1. Lesen Sie alle Anleitungen, bevor Sie das Gerät in Betrieb nehmen.
2. Bewahren Sie diese Anleitungen für den späteren Gebrauch gut auf.
3. Bitte treffen Sie alle beschriebenen Sicherheitsvorkehrungen.
4. Befolgen Sie die Anleitungen des Herstellers.
5. Benutzen Sie das Gerät nicht in der Nähe von Wasser oder Feuchtigkeit.
6. Verwenden Sie zur Reinigung des Geräts nur ein feuchtes Tuch.
7. Blockieren Sie keine Belüftungsöffnungen. Nehmen Sie den Einbau des Geräts nur entsprechend den Anweisungen des Herstellers vor.
8. Bauen Sie das Gerät nicht in der Nähe von Wärmequellen wie Heizkörpern, Wärmeclappen, Öfen oder anderen Geräten (inklusive Verstärkern) ein, die Hitze erzeugen.
9. Setzen Sie die Sicherheitsfunktion des polarisierten oder geerdeten Steckers nicht außer Kraft. Ein polarisierter Stecker hat zwei flache, unterschiedlich breite Pole. Ein geerdeter Stecker hat zwei flache Pole und einen dritten Erdungsstift. Der breitere Pol oder der dritte Stift dient Ihrer Sicherheit. Wenn der vorhandene Stecker nicht in Ihre Steckdose passt, lassen Sie die veraltete Steckdose von einem Elektriker ersetzen.
10. Schützen Sie das Netzkabel dahingehend, dass niemand darüber laufen und es nicht geknickt werden kann. Achten Sie hierbei besonders auf Netzstecker, Mehrfachsteckdosen und den Kabelanschluss am Gerät.
11. Ziehen Sie den Netzstecker des Geräts bei Gewittern oder längeren Betriebspausen aus der Steckdose.
12. Überlassen Sie die Wartung qualifiziertem Fachpersonal. Eine Wartung ist notwendig, wenn das Gerät auf irgendeine Weise, beispielsweise am Kabel oder Netzstecker beschädigt wurde, oder wenn Flüssigkeiten oder Objekte in das Gerät gelangt sind, es Regen oder Feuchtigkeit ausgesetzt war, nicht mehr wie gewohnt betrieben werden kann oder fallen gelassen wurde.

**PRECAUCION:** Para reducir el riesgo de incendios o descargas, no permita que este aparato quede expuesto a la lluvia o la humedad. Para reducir el riesgo de descarga eléctrica, nunca quite la tapa ni el chasis. Dentro del aparato no hay piezas susceptibles de ser reparadas por el usuario. Dirija cualquier reparación al servicio técnico oficial. El símbolo del relámpago dentro del triángulo equilátero pretende advertir al usuario de la presencia de "voltajes peligrosos" no aislados dentro de la carcasa del producto, que pueden ser de la magnitud suficiente como para constituir un riesgo de descarga eléctrica a las personas. El símbolo de exclamación dentro del triángulo equilátero quiere advertirle de la existencia de importantes instrucciones de manejo y mantenimiento (reparaciones) en los documentos que se adjuntan con este aparato.

#### **Instrucciones importantes de seguridad**

1. Lea todo este manual de instrucciones antes de comenzar a usar la unidad.
2. Conserve estas instrucciones para cualquier consulta en el futuro.
3. Cumpla con todo lo indicado en las precauciones de seguridad.
4. Observe y siga todas las instrucciones del fabricante.
5. Nunca utilice este aparato cerca del agua o en lugares húmedos.
6. Limpie este aparato solo con un trapo suave y ligeramente humedecido.
7. No bloquee ninguna de las aberturas de ventilación. Instale este aparato de acuerdo a las instrucciones del fabricante.
8. No instale este aparato cerca de fuentes de calor como radiadores, calentadores, hornos u otros aparatos (incluyendo amplificadores) que produzcan calor.
9. No anule el sistema de seguridad del enchufe de tipo polarizado o con toma de tierra. Un enchufe polarizado tiene dos bornes, uno más ancho que el otro. Uno con toma de tierra tiene dos bornes normales y un tercero para la conexión a tierra. El borne ancho o el tercero se incluyen como medida de seguridad. Cuando el enchufe no encaje en su salida de corriente, llame a un electricista para que le cambie su salida anticuada.
10. Evite que el cable de corriente quede en una posición en la que pueda ser pisado o aplastado, especialmente en los enchufes, receptáculos y en el punto en el que salen de la unidad.
11. Desconecte de la corriente este aparato durante las tormentas eléctricas o cuando no lo vaya a usar durante un periodo de tiempo largo.
12. Dirija cualquier posible reparación solo al servicio técnico oficial. Deberá hacer que su aparato sea reparado cuando esté dañado de alguna forma, como si el cable de corriente o el enchufe están dañados, o si se han derramado líquidos o se ha introducido algún objeto dentro de la unidad, si esta ha quedado expuesta a la lluvia o la humedad, si no funciona normalmente o si ha caído al suelo.

**ATTENZIONE:** per ridurre il rischio di incendio o di scariche elettriche, non esponete questo apparecchio a pioggia o umidità. Per ridurre il pericolo di scariche elettriche evitate di rimuoverne il coperchio o il pannello posteriore. Non esistono all'interno dell'apparecchio parti la cui regolazione è a cura dell'utente. Per eventuale assistenza, fate riferimento esclusivamente a personale qualificato. Il fulmine con la punta a freccia all'interno di un triangolo equilatero avvisa l'utente della presenza di "tensioni pericolose" non isolate all'interno dell'apparecchio, tali da costituire un possibile rischio di scariche elettriche dannose per le persone. Il punto esclamativo all'interno di un triangolo equilatero avvisa l'utente della presenza di importanti istruzioni di manutenzione (assistenza) nella documentazione che accompagna il prodotto.

#### **Importanti Istruzioni di Sicurezza**

1. Prima di usare l'apparecchio, vi preghiamo di leggerne per intero le istruzioni.
2. Conservate tali istruzioni per una eventuale consultazione futura.
3. Vi preghiamo di rispettare tutte le istruzioni di sicurezza.
4. Seguite tutte le istruzioni del costruttore.
5. Non usate questo apparecchio vicino ad acqua o umidità.
6. Pulite l'apparecchio esclusivamente con un panno asciutto.
7. Evitate di ostruire una qualsiasi delle aperture di ventilazione. Posizionatelo seguendo le istruzioni del costruttore.
8. Non posizionatelo vicino a sorgenti di calore come radiatori, scambiatori di calore, forni o altri apparecchi (amplificatori compresi) in grado di generare calore.
9. Non disattivate la protezione di sicurezza costituita dalla spina polarizzata o dotata di collegamento a terra. Una spina polarizzata è dotata di due spinotti, uno più piccolo ed uno più grande. Una spina dotata di collegamento a terra è dotata di due spinotti più un terzo spinotto di collegamento a terra. Questo terzo spinotto, eventualmente anche più grande, viene fornito per la vostra sicurezza. Se la spina fornita in dotazione non si adatta alla vostra presa, consultate un elettricista per la sostituzione della presa obsoleta.
10. Proteggete il cavo di alimentazione in modo che non sia possibile camminarci sopra né piegarlo, con particolare attenzione alle prese, ai punti di collegamento e al punto in cui esce dall'apparecchio.
11. Staccate l'apparecchio dalla alimentazione in caso di temporali o tempeste o se non lo usate per un lungo periodo.
12. Per l'assistenza, fate riferimento esclusivamente a personale qualificato. È necessaria l'assistenza se l'apparecchio ha subito un qualsiasi tipo di danno, come danni al cavo o alla spina di alimentazione, nel caso in cui sia stato versato del liquido o siano caduti oggetti al suo interno, sia stato esposto a pioggia o umidità, non funzioni correttamente o sia stato fatto cadere.

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# Introduction

Welcome to Samson AirLine Synth—the next generation of wireless systems! Wireless microphone and instrument systems were originally developed to eliminate cables, providing unparalleled freedom of movement. AirLine Synth takes this concept to a new level with transmitters so small, lightweight and aerodynamic, they are nearly invisible, providing a completely “hassle-free” user experience. To create the world’s smallest frequency agile wireless transmitters, we developed new proprietary technology. Featuring miniaturized circuitry and the ability to operate on a single AA battery (with 10 hours typical battery life), these transmitters also provide significantly improved wireless reception and sound quality. What’s more, the AR300 receiver developed especially for the AirLine Synth guitar system provides over 300 channels with automatic Channel Scan to help you find the clearest frequency to operate on. Once the AR300 finds the clearest channel, it’s easy to set the AG300 transmitter to the matching channel using the IR SET feature. The convenient, all metal half-rack chassis design features a large backlit LCD display and includes a rackmount kit to install into a standard 19-inch equipment rack. The Samson AirLine Synth UHF guitar system is designed to replace the cable between your electric guitar or bass and your onstage amplifier or PA mixer, freeing you to roam the stage or even visit the audience in the middle of your performance! It operates in the UHF frequency range and contains an AR300 “half-rack” receiver and the AG300 plug-in micro-transmitter designed to fit the recessed style jack in Fender Stratocaster™-type guitars, or convertible, to fit all other standard end-mount guitar jacks.

In this manual, you’ll find a detailed description of the features of your AirLine Synth system, as well as a guided tour through all components, step-by-step instructions for setting up and using your system and full specifications. If your AirLine Synth system was purchased in the United States, you’ll also find a warranty card enclosed—don’t forget to fill it out and mail it! This will enable you to receive online technical support and will allow us to send you updated information about this and other Samson products in the future. If your AirLine Synth system was purchased outside of the U. S., contact your local distributor for warranty details. Also, be sure to check out our website (<http://www.samsontech.com>) for complete information about our full product line.

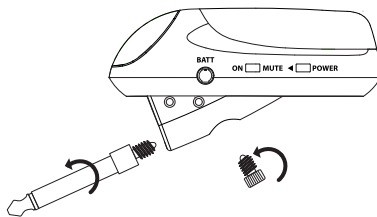
**SPECIAL NOTE for U.S. purchasers:** Should your AirLine Synth system ever require servicing, a **Return Authorization number (RA)** is necessary. Without this number, the unit will not be accepted. If your AirLine Synth system was purchased in the United States, please call Samson at 1-800-372-6766 for a Return Authorization number prior to shipping your system. If possible, return the unit in its original carton and packing materials. If your AirLine Synth system was purchased outside of the U. S., contact your local distributor for information.

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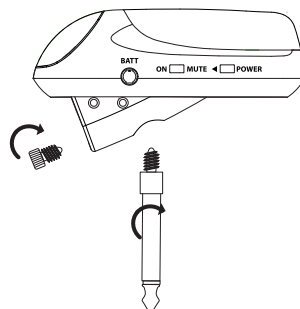
# QuickStart

If you've had some prior experience using wireless systems, these QuickStart instructions will get you up and running with your AirLine Synth UHF guitar system in a matter of minutes! Detailed instructions for setting up and using your AirLine Synth system can be found on page 15 of this manual, and the "Guided Tour" sections on pages 4 - 11 provide full descriptions of all AirLine component controls and displays.

1. Unpack the AR300 receiver and AG300 transmitter and configure the AG300 for Fender Strat™ or flat jack style guitars. If you need to change the phone plug configuration, simply remove the thumbscrew, unscrew the plug and reinstall the two components while swapping their positions.



2. Physically place the AR300 receiver on your amp or in front of you. Extend its antennas vertically and spread the tips horizontally outwards.



3. Set the power switch on your AG300 transmitter to the "off" position (away from the arrow) and place a fresh AA battery in it. Then turn the transmitter back on momentarily; its LED will flash once and then go off if the battery is sufficiently strong. Once battery strength is verified, turn the transmitter off again, then put it aside for now.
4. Connect the included AC power supply to the rear of the AR300 and then to an available wall socket. Turn the AR300 on momentarily to confirm that the unit has power. Then turn the AR300 power off.
5. Turn your amplifier or mixer off and make the physical cable connection between an audio input and the AR300 output jack.
6. Turn the Level knob on the AR300 completely counterclockwise, then turn its power on.



- Now to set the channel, press and hold the DATA control until the display reads CH SCAN. Next, the AR300 will automatically find the clearest channel and you will see it in the Channel number of the display just before the IR SET will begin.

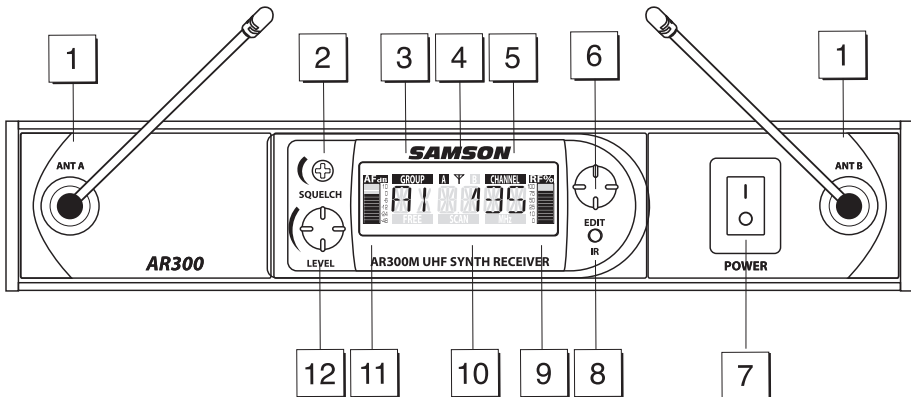


- Once you see the IR SET flashing in the LCD display, hold the transmitter, with the control switches facing you, approximately 6 inches away from the receiver and turn the AG300 power switch on. The AR300 will transmit the channel number to AG300 over infrared light and you will see the corresponding absolute channel number in the transmitter LCD.



- Turn on the connected amplifier or mixer but keep its volume all the way down. Set the output level of your instrument to maximum and begin playing at a normal performance level while observing the AF Meter. If the AF Meter reads above "0" (indicating a Peak condition) even with the AR300 Level control fully counterclockwise, engage the 15 dB pad on the transmitter. If not, slowly adjust the GAIN inside the AG300 to the point where the AF Meter occasionally reads "0" during the very loudest passages, then back it off just slightly. Finally, raise the level of your connected amplifier and/or mixer until the desired volume is reached.
- Do a walkaround through the intended area of coverage while observing the receiver's RF Meter; it should continue to read about "75%", indicating sufficient RF reception in all areas of coverage. If not, reposition the AR300 or its antennas as necessary.
- If you hear any spurious noise from the receiver output when the transmitter is turned off, use the supplied plastic screwdriver to adjust the AR300 Squelch control, slowly turning it clockwise to the point at which the noise disappears.

# Guided Tour - AR300 Receiver / Front Panel



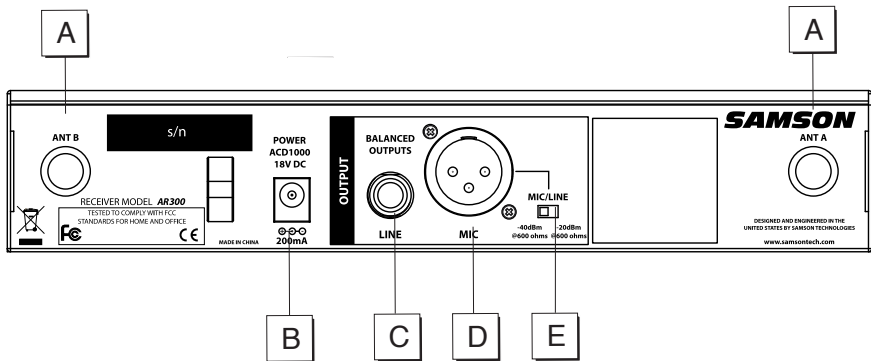
- 1: Antennas (A and B)** - The antenna mountings allow full rotation for optimum placement. In normal operation, both Antenna A (the antenna on the left) and Antenna B (the antenna on the right) should be placed in a vertical position. Both antennas can be folded inward for convenience when transporting the AR300. See the "Setting Up and Using the AirLine Synth System" section on page 15 in this manual for information about antenna installation and positioning.
- 2: Squelch** – This control determines the maximum range of the AR300 before audio signal dropout. Although it can be adjusted using the supplied plastic screwdriver, it should normally be left at its factory setting. See the "Setting Up and Using the AirLine Synth System" section on page 15 in this manual for more information.
- 3: Group Channel** - This display shows the current Group and Group Channel number. A letter indicates Groups A through F and the Group Channel number are indicated by 1 through 9 plus 0 for 10.
- 4: Antenna indicators** – In order to maximize reception and distance, the AR300 implements true diversity receiver technology with dual RF strips. The A and B antenna icon shows which of the receiver's two RF strips is active.
- 5: Absolute Channel** – This display shows the exact channel number from the 319-channel plan.

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# Guided Tour - AR300 Receiver / Front Panel

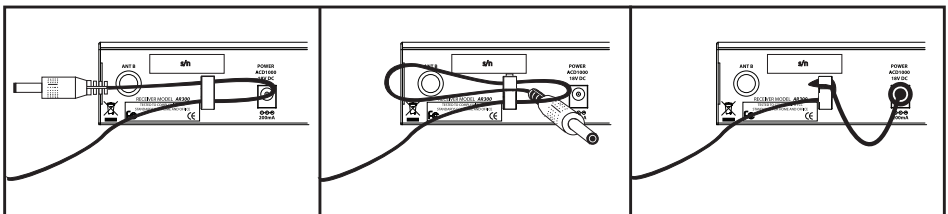
- 6: EDIT Control** – This rotary encoder control knob/switch is used to control and set several menu functions and parameters displayed in the LCD display and it is also used to preform the automatic Channel Scan.
- 7: Power Switch** - Use this to turn the AR300 power on and off. When the receiver is on, the LCD backlight is lit.
- 8: IR Transmitter** – During “IR SET” an Infrared light is used to set the transmitter channel.
- 9: RF Meter** – 10-segment bar meter used to display the level of the radio frequency reception.
- 10: LCD Display** – The 47mm x 17mm backlit display show information for Frequency, Channel, Group, Absolute Channel, Antenna, AF, RF, Scan, and IR Set.
- 11: AF Meter** - 10-segment bar meter used to display the amount of the audio input level.
- 12: Level control** - This knob sets the level of the audio signal being output through both balanced output connectors on the rear panel (see C and D on page 12 in this manual). Reference level is obtained when the knob is turned fully clockwise (to its “10” setting).

# Guided Tour - AR300 Receiver / Rear Panel



**A: Antenna socket** - D hole knockout for mounting the antennas to the rear panel using the optional rear antenna kit.

**B: DC input** - Connect the supplied power adapter here, using the strain relief as shown in the illustration below. **WARNING: Do not** substitute any other kind of power adapter; doing so can cause severe damage to the AR300 and will void your warranty.



**C: 1/4-inch output\*** - Use this 1/4" jack when connecting the AR300 to your guitar amp or to line level equipment. The output connection can be either balanced or unbalanced. Wiring is as follows: tip hot, ring cold, sleeve ground.

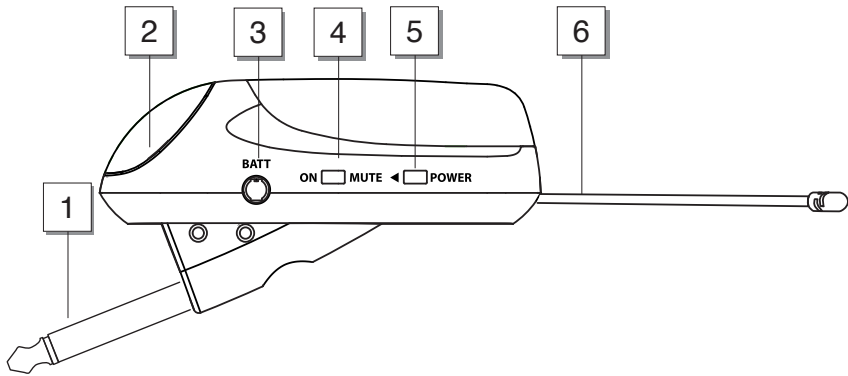
**D: XLR output\*** - Use this electronically balanced low impedance (600 Ohm) XLR jack when connecting the AR300 to professional (+4) audio equipment. Pin wiring is as follows: Pin 1 ground, Pin 2 high (hot), and Pin 3 low (cold).

**E: Audio Output Level switch** - Sets the audio output level attenuation of the XLR output to -20 dBm (line level) or -40 dBm (mic level). See "Setting Up and Using the AirLine Synth System" on page 15.

\* If required, both outputs can be used simultaneously.

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# Guided Tour - AG300 Transmitter



- 1: 1/4-inch Phone Plug** - Insert this standard 1/4" plug into your electric guitar or electric bass. Note that the angling of the plug can be configured for Fender Stratocaster™-type recessed jacks, and in a second position designed to be used with all other instruments that have end mount-jacks. If you need to change the phone plug configuration, simply remove the thumbscrew, unscrew the plug and reinstall the two components while swapping their positions.
- 2: LCD Display** – This three digit Liquid Crystal Display indicates the Absolute Channel number that the transmitter is set to.
- 3: Power / Battery LED** - This red LED flashes once when the AG300 is first turned indicating the transmitter has power. It will remain off as long as they battery is a good operating level. The LED lights steadily red when there are less than 2 hours of battery power remaining, indicating that the battery needs to be changed. In order to avoid compromising audio fidelity (or having the AG300 stop working completely), you should always replace the battery with a fresh one immediately whenever this LED lights red.
- 4: Mute switch** – This switch is used to temporarily turn off the audio output of the transmitter. Move this switch in the direction of "MUTE" to turn off the output and move the switch in the direction of "ON" to turn the output on.
- 5: Power switch** - Move this switch in the direction of the arrow to turn the AG300 power on; move it away from the arrow to turn the power off.
- 6: Antenna** - This permanently attached flexible antenna should be fully extended during normal operations. *See the "Setting Up and Using the AirLine Synth System"*

# Guided Tour - AG300 Transmitter

section on page 15 in this manual for more information about antenna positioning.

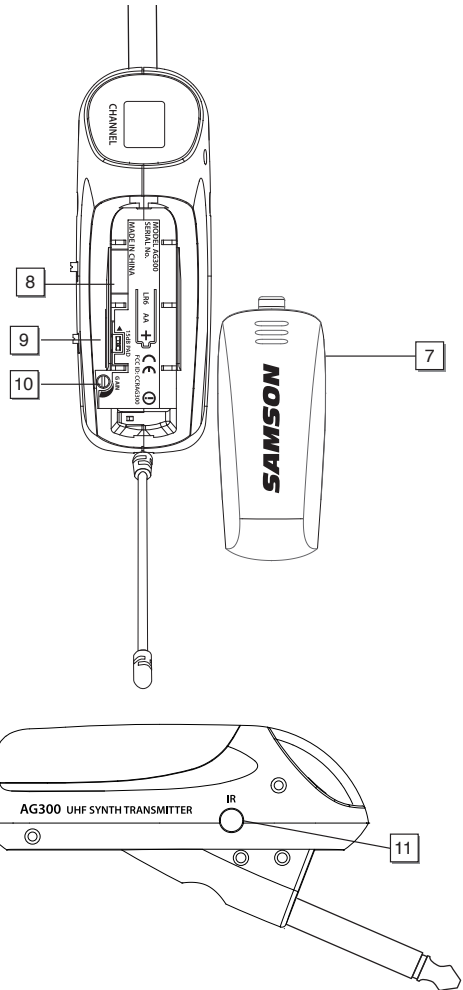
**7: Battery cover** - Pull back gently on this cover at the ribbing and pry upwards to remove. See the "Setting Up and Using the AirLine Synth System" section on page 15 in this manual.

**8: Battery compartment** - Insert a standard AA alkaline battery here, being sure to observe the plus and minus polarity markings shown. We recommend the Duracell type battery. Although rechargeable Ni-Cad batteries can be used, they do not supply adequate current for more than four hours of operation. **WARNING:** Do not insert the battery backwards; doing so can cause severe damage to the AG300 and will void your warranty.

**9: 15 dB Pad** - Located under the battery is a miniature slide switch to adjust the AG300's input sensitivity. Move this switch in the direction of the arrow to reduce the output of the AG300 by 15 dB when your instrument is putting out too hot a signal. In general, if you have single coil pick-ups, you'll probably want set the PAD to "OFF". If you have super hot humbuckers, you'll probably want to switch the PAD on. See the "Setting Up and Using the AirLine Synth System" section on page 15 in this manual.

**10: Gain control** - This miniature trimmer is used to fine tune the AG300's input sensitivity. Use the included screwdriver to make the adjustments.

**11: IR Lens** - This acrylic window is used to capture the infrared signal sent from the AR300 during the IR SET to channelize the AG300.



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# Setting Up and Using Your AirLine Synth System

The basic procedure for setting up and using your AirLine Synth system takes only a few minutes:

1. Remove all packing materials (save them in case of need for future service) and check to make sure that the supplied power adapter is the correct voltage for your country. If not, contact your distributor or, if purchased in the United States, Samson Technical Support at 1-800-372-6766.
2. Physically place the AR300 receiver on your amp or on the ground in front of you next to your pedal board. The general rule of thumb is to maintain “line of sight” between the receiver and transmitter so that the person using the transmitter can see the receiver.
3. Extend the AR300 antennas and spread the tips horizontally outwards at least 5 inches.
4. Make sure the Power On-Off switch in your AG300 transmitter is set to “Off” and that the MUTE is also to “ON”. Pull back gently on the AG300 battery cover at the ribbing and pry it upwards to remove it. Please use care when opening this cover as undue force can damage it. Install a fresh AA alkaline battery in the battery compartment, being sure to observe the polarity markings. Then carefully replace the battery cover and gently press down on it until it clicks. Momentarily turn on the power to the transmitter by sliding its Power On-Off switch in the direction of the arrow; the “Power/Battery” LED will flash if the battery is sufficiently strong (if it lights steadily, the battery has less than 2 hours of power remaining and should be replaced). Once battery strength is verified, turn the transmitter off again and place it aside for now.
5. With the Power switch on the AR300 set to the “Off” position, connect the included power adapter. Turn the AR300 on momentarily to confirm that the unit is receiving power. You’ll see the LCD display light up. Then turn the AR300 power off.

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# Setting Up and Using Your AirLine Synth System

6. Make the physical cable connection between the AR300 output jack and an audio input of your amplifier or mixer. Leave your amplifier or mixer off at this time.
7. Turn the Level knob on the AR300 completely counterclockwise, then set its Power switch up to turn it on. The LCD display light will illuminate.
8. Now to set the channel, press and hold the EDIT control until the display reads CH SCAN. Next, the AR300 will automatically find the clearest channel and you will see it in the Channel number of the display just before the IR SET will begin.
9. Once you see the IR SET flashing in the LCD display, hold the transmitter, with the control switches facing you, approximately 6 inches away from the receiver and turn the AG300 power switch on. The AR300 will transmit the channel number to AG300 over infrared light and you will see the corresponding absolute channel number in the transmitter LCD.
10. The RF Meter on the AR300 receiver should now be active, indicating that it is receiving valid RF signal and is placed and positioned correctly.
11. Now it's time to set the audio levels. Turn on your amplifier and/or mixer but keep its volume all the way down. Set the output level of your electric guitar or bass to maximum and begin playing it at a normal performance level while observing the AR300 AF Meter. If all the bars are lit, indicating a Peak condition, even with the AR300 Level control fully counterclockwise, engage the 15 dB pad on your transmitter by sliding the switch in the direction of the arrow. (In general, if you have single coil pick-ups, you'll probably want set the PAD to "OFF". If you have super hot humbuckers, you'll probably want to switch the PAD on.) If the AF Meter bars are not all lit, slowly turn the AG300's Gain control clockwise to the point where the AF Meter reaches "0" during the very loudest passages, then back it off just slightly; this will ensure maximum signal to noise ratio. Now, raise the Level on the AR300. Finally, raise the level of your amplifier and/or mixer until the desired volume is reached.
12. If you hear distortion or the AR300 AF Meter is reaching "0" with the 15 dB pad engaged and the TX Gain control at minimum (fully counterclockwise), reduce the output level of your instrument until AF Meter is reading less than "0". Conversely, if you hear a weak, noisy signal at the desired volume level, make sure that your instrument is set to maximum output level, that the 15 dB pad is not engaged, and that the AG300 Gain control is turned up.



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## Setting Up and Using Your AirLine Synth System

13. Temporarily turn down the level of your amplifier or mixer and turn off the power to your transmitter, leaving the AR300 receiver on. Then restore the previously set level of your amplifier or mixer. With the transmitter off, the receiver output should be totally silent; if it is, skip ahead to the next step. If it isn't (that is, if you hear some noise), you may need to adjust the AR300 Squelch control. When the Squelch control is at its minimum setting, the AirLine Synth system always provides maximum range without dropout; however, depending upon the particular environment your system is used in, you may need to reduce that range somewhat in order to eliminate band noise when the AG300 transmitter is turned off. To do so, use the provided screwdriver to rotate the Squelch control completely counterclockwise (to the "Min" position), then slowly turn it clockwise until the noise disappears. If no noise is present at any position, leave it at its fully counterclockwise "Min" position (so as to have the greatest overall range available).
14. When first setting up your AirLine Synth system in a new environment, it's always a good idea to do a walkaround in order to make sure that coverage is provided for your entire performance area. Accordingly, turn down the level of your audio system and turn on both the transmitter and receiver. Then restore the level of your audio system and while playing your electric guitar or bass at a normal performance level, walk through the entire area that will need to be covered. As you do so, observe the RF Meter on the AR300 receiver to make sure that it is close to reaching "75%", indicating that it is receiving sufficiently strong RF signal. Always try to minimize the distance between transmitter and receiver as much as possible so that the strongest possible signal is received from all planned transmission points. In certain environments, it may be desirable to angle the AR300's antennas differently from the vertical position.

*If you have followed all the steps above and are experiencing difficulties, contact your local distributor or, if purchased in the United States, call Samson Technical Support (1-800-372-6766) between 9 AM and 5 PM EST.*

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# AR300 Operation

## Setting a Group and Channel Manually

The AR300 receiver contains over 300 selectable channels that are organized into a series of Groups. Each Group contains channels that are compatible for simultaneous use. When using multiple systems, you'll want to assign each system to the same Group in order to maximize the number of compatible channels. Each of the Groups has six to ten channels. The Group is designated with a letter, followed by the Group Channel number 0-9 which is displayed under the "GROUP" icon in the AR300 LCD display.

To the right of the Group and Group Channel number is the read out Absolute channel number. This three-digit Absolute Channel number corresponds to the exact channel from the entire 320 channel plan. That Absolute Channel number is shown on the AG300 transmitter's LCD display.

The AG300 displays the Absolute Channel number on its LCD for a few seconds, and then the display shuts off to preserve battery power. You can also see the transmitters Absolute Channel number by switching the Mute on. In addition, the AG300 will also display the Absolute Channel number briefly when the power is shut off.

1. Press the EDIT control once and you will see the Group and Group Channel Number Flash.
2. Turn the EDIT controller and you will see the Group and Group Channel number change, and you will also see the Absolute Channel number change in sync.
3. If you prefer, you can choose the Absolute Channel. Simply press the EDIT control again until the Absolute Channel number flashes. Then, turn the EDIT controller and you will see the Absolute Channel number change. It changes in sync with the Group Channel number.
4. Once you have the desired channel set on the AR300 you're ready to transmit the infrared channel data to the AG300. Have the transmitter ready in your hand with the Power switch set to off.
5. Double click the EDIT controller and you see the display flash "IR SET" indicating that the AR300 is sending the channel information over infrared transmission.
6. Now, position the transmitter about 6-inches from the front of the AR300 with the AG300 IR receiver facing the AR300's LCD display and turn the power switch on.

You will now see the corresponding Absolute Channel in the AG300 LCD display indicating that the transmitter is matched to the receiver.

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# AR300 Operation

## Operating In FREE Mode

You can tune in an exact frequency using the AR300's FREE mode. Once you are in FREE mode you can change the frequency by 25 kHz steps. For most situations, it's better to use the GROUP Channel plan but if your application requires an exact frequency, follow these steps to operate in FREE mode.

1. Press the EDIT controller three times until the display's FREE icon turns on and Frequency number flashes.
2. Next, turn the EDIT controller until you reach the desired frequency number.
3. Once you have the desired frequency set on the AR300 you're ready to transmit the infrared channel data to the AG300. Have the transmitter ready in your hand with the Power switch set to off.
4. Double click the EDIT controller and you see the display flash "IR SET" indicating that the AR300 is sending the channel information over infrared transmission.
5. Now, position the transmitter about 6-inches from the front of the AR300 with the AG300 IR receiver facing the AR300's LCD display and turn the power on.

You will now see the corresponding Absolute Channel in the AG300 LCD display indicating that the transmitter is matched to the receiver.

If you want to see the Absolute channel while the AR300 is in Free Mode, simply turn the EDIT control and it will toggle between the exact Frequency and the Absolute Channel.

To exit FREE Mode, just press the EDIT controller switch and you will return to the Group and Absolute Channel fields. Once you are in the Group Channel or Absolute Channel field and you have selected your channel, double click the EDIT control to perform the IR set and lock in the channel. You can also use the Scan function to find a clear channel by pressing and holding the EDIT knob. If you do not perform an IR set or Channel Scan, the AR300 will return to Free Mode and the channel will be set to the previously selected frequency.

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# Specifications

## SYSTEM SPECIFICATIONS

Channels	319 channels 25kHz Step
Operating Frequency	639.025MHz -646.975MHz (US) 798.025MHz-806MHz (Export)
Frequency Type	F3E
Modulation Type	FM
Noise Reduction Type	Compander
Distance	100 meters line of sight
Audio Frequency Response	50Hz - 15KHz (+/- 3dB)
Dynamic Range	>100dB (IHF-A)

## AR300 RECEIVER

Oscillation System	VCO
Type of Reception	Double superheterodyne / True Diversity
Intermediate Frequency	10.7MHz
Antenna	1/4 Wavelength Rod TNC Type UHF - Extendable
Antenna Filter	SAW Filter
Output	1/4-inch and XLR Balanced
LCD Display	47mm x 17mm Back Lighted Display (Frequency, Channel, Group, Absolute Channel, Antenna, AF, RF, Scan, IR Set)
Controls	EDIT Encoder/Button, Volume, Squelch
Operating Temperature	0°C - +50°C
Power Supply Voltage	ACD1000 AC Adatper - 18V DC
Current Consumption	Less Than 150mA RXM300 + AR300 Mother System x RXM300 (65mA)
Receiving Sensitivity	More than S/N 60dB at 21 dBuV input
Squelch Sensitivity	Adjustable
T.H.D	1% Max (@AF 1kHz, RF 56dBuV)
Audio Output Level	-3dBv @1% THD (Maximum +7dBv)
Audio Output Impedance	10k ohms
Dimensions	220.7mm x 179.38mm x 44mm (8.7" x 7.1" x 1.73")
L x W x H	
Weight	1.97 lb

*Specifications are subject to change without notice.*

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# Specifications

## TRANSMITTER (AG300)

Oscillation Type	Crystal-controlled PLL frequency synthesized
Modulation Type	FM
Antenna	1/4 Wave Length Wire Type
Input Impedance	290k ohms (ATT:0dB)
Maximum Input Level	-2dBv (ATT:0dB), +15dBv (ATT:-15dB)
Switches/Controls	POWER switch, MUTE switch, ATT switch, GAIN control
Display	CHANNEL (LCD), BATT (LED)
Interface	Infrared
Impedance	2.2k ohms
Battery	AA x 1
Current Consumption	Less than 120mA
Operating Voltage	1.2V-1.5V
Battery Life	10 hours @ 25°C
Operating Temperature	0°C - 50°C
RF Output Power	10mW ERP
Frequency Stability	+/-15kHz
Spurious Ratio	1 uW
Deviation	20kHz (with 1kHz input), 40kHz max.
T.H.D.	> 2% max (@1kHz, dev. 20kHz) Typical THD less than 1%
Dimensions	AG300 (45° jack) 113.95mm x 29.8xx x40.2mm (4.5" x 1.17" x 1.6") L x W x H
Weight	.108 lb

*Specifications are subject to change without notice.*

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### **FCC Rules and Regulations**

**Samson wireless systems are type accepted under FCC rules parts 90, 74 and 15.**

**Licensing of Samson equipment is the user's responsibility and licensability depends on the user's classification, application and frequency selected.**

**This device complies with RSS-210 of Industry & Science Canada.**

**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.**

#### **AirLine Synth UHF Wireless Microphone Systems**

Country Code Code de Pays Laender-Kuezel	Authorised Frequency Range Bande de Fréquences Autorisée Frequenzbereich
AT, BE, ES, FR, GB, IE, NL, PT	863 – 865 MHz
CH, DE, DK, FI, IT, NO, SE	801 – 806 MHz, 863 – 865 MHz
GR	801 – 806 MHz
All other countries	*

\* Please contact your national frequency authority for information on available legal frequencies and legal use in your area.





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