

SHURE®

T SERIES

WIRELESS SYSTEM

THE GUITARIST

THE PRESENTER

THE VOCAL ARTIST

THE TWO MINUTE USER'S GUIDE

The instructions on this page will help you get your system up and running in minutes. For more detailed instructions, read the section of this manual that applies to your system.

RECEIVER SETUP

1. Plug the ac power adapter into a wall socket or other electrical outlet.
2. Connect the power cable to the receiver DC INPUT connector. The green POWER light on the receiver will come on.
3. If you are using the Guitarist™, connect the receiver output to a guitar amplifier using any standard guitar cable (two supplied). If you are using the Vocal Artist™ or Presenter™, connect the receiver output to an audio mixer using an audio cable.
4. Fully extend the telescoping antenna(s) as far as they will go. The antenna on the T3 receiver should be vertical. The antennas on the T4 diversity receiver should point away from each other at a 45° angle from vertical.

TRANSMITTER SETUP

1. Open the transmitter battery compartment and install a 9V alkaline battery (one supplied). Make sure the “+” and “-” battery terminals match the “+” and “-” terminals on the transmitter.
2. If you are using the Guitarist, plug any standard guitar cable (two supplied) into your guitar output connector and into the transmitter. Then turn the volume control on your guitar pickup all the way up. If you are using the Vocal Artist or Presenter, no further transmitter setup is required.

OPERATING THE SYSTEM

1. Slide the transmitter POWER switch to the ON position. The green POWER light on the transmitter will glow, as will the yellow RF light (T3 receiver) or the DIVERSITY A/B lights (T4 receiver).
2. Slide the transmitter MUTE/ON switch (on the T1 Guitarist or Presenter) or the MIC ON/OFF switch (on the T2 Vocal Artist) to the ON position.
3. Play your guitar, or talk or sing into the microphone. The red PEAK light (T3 receiver) or the AUDIO PEAK light (T4 receiver) should flicker when loud sounds are transmitted. If the red PEAK or AUDIO PEAK lights do not flicker when loud sounds are transmitted, the transmitter gain may need to be increased. Refer to the *Transmitter Audio Gain Adjustment* procedure for your system. **NOTE:** This step is particularly important for the Guitarist system, since guitar outputs can vary widely.
4. Adjust the receiver VOLUME control until the receiver output level matches the level of your guitar or microphone through a cable. The factory setting is in the full clockwise position.

YOU ARE NOW READY TO PERFORM!

IMPORTANT: Every wireless performance is a unique situation, and can present a variety of problems. Never attempt a performance without first conducting a “walk-through” test on the wireless system in the performing area. **If you encounter a problem, refer to the Troubleshooting table.**

THANK YOU FOR CHOOSING SHURE

Congratulations! You have purchased the finest wireless system in its class. Your Shure wireless system is engineered to provide a clean, low-noise sound comparable to other systems costing much more. Built in the tradition of reliability that has made Shure a symbol of American quality for more than half a century, this wireless system should provide you with excellent sound for years.

To get the most out of your T Series wireless system, please read the applicable section in this Guide before you attempt to use the system. If you have any questions that are not answered in this booklet, please contact Shure Customer Service at (847) 866-2553, Monday through Friday, from 8:00 am to 4:30 pm, Central Standard Time.

INTRODUCTION

Your new T Series system is designed to give you the best of both sound reinforcement worlds: the freedom of a wireless system, and the world-famous Shure sound quality. This manual covers both Standard and Diversity versions of each of the T Series systems: the Guitarist™, the Vocal Artist™, and the Presenter™.

SYSTEM TYPES

The Guitarist – Body-Pack system designed for use with electric guitars, basses, and other electric instruments. The Guitarist systems are designed for guitarists who want the freedom of going wireless, but insist on the highest quality sound and reliability.

The Vocal Artist – Hand-Held system designed for singers; includes a Shure SM58 or BG 3.1 dynamic microphone with a built-in transmitter. The Vocal Artist systems are designed for singers and other performers who prefer the sound of Shure microphones and the freedom of wireless performance.

The Presenter – Body-Pack system designed for public speaking applications such as lectures and business presentations; it features an omnidirectional Shure WL93 micro-miniature lavalier microphone. The Presenter systems are designed for public speakers who prefer an inconspicuous, “hands-free” lavalier microphone.

Component	<i>The Guitarist</i>	<i>The Vocal Artist</i>	<i>The Presenter</i>
Transmitter	T1G Body-Pack	T2 Microphone-Transmitter	T1 Body-Pack
Microphone	—	SM58 or BetaGreen 3.1	WL93 subminiature lavalier
Receiver	T3 Standard or T4G Diversity	T3 Standard or T4V Diversity	T3 Standard or T4V Diversity
Power Supply	PS20 (105–125 Vac, 60 Hz) or PS20E (220 Vac, 50 Hz)		
Cables	Two guitar-to-transmitter	—	—
Battery	9-volt alkaline		
Supplied Accessories	Vinyl transmitter bag Receiver feet Receiver VELCRO® mounting strips	Vinyl transmitter bag Microphone stand adapter	Vinyl transmitter bag Receiver feet Receiver VELCRO mounting strips

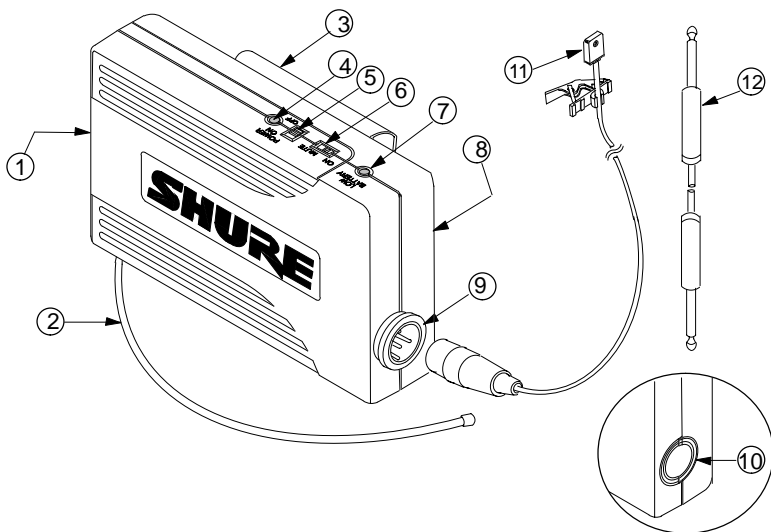


FIGURE 1

T1 BODY-PACK TRANSMITTER FEATURES (FIGURE 1)

1. **Battery Compartment.** Holds one 9V alkaline battery. Hinged cover opens to provide access the battery. Typical battery life is 18 hours.
2. **Antenna.** A flexible wire antenna is permanently attached to the bottom of the T1 transmitter. *For best operation, the antenna **must** hang vertically, and should not be coiled or bundled.*
3. **Belt Clip.** Secures the transmitter to a belt, waistband or guitar strap.
4. **Power On Indicator.** This green light glows when the POWER ON/OFF switch is turned on. It serves as a reminder to turn the transmitter off when it is not in use.
5. **Power On/Off Switch.** Turns the transmitter on and off. It is recessed to prevent accidental turn off.
6. **Audio On/Mute Switch.** Mutes the transmitter to prevent unwanted sounds from being picked up by the receiver *without* turning the transmitter off.
7. **Low Battery Indicator.** When this red light is glowing, you have one hour or less of useful operating time; change the battery at your first opportunity.
8. **Audio Gain Control.** Provides audio level adjustment to accommodate different sound sources (e.g., speaking or playing an instrument). The factory setting is at mid-point. A small screwdriver is supplied to make adjustments.
9. **Microphone Input Connector (T1 only).** Tini “Q-G” Connector provides connection to a variety of lavalier and headset microphone cables, and the Shure WA302 instrument adapter cable.
10. **Guitar Input Connector (T1G only).** Accepts one end of any standard guitar cable. Plug one end of a guitar cable (two are included) into your guitar, then plug the other end into this connector.
11. **Lavalier Microphone (T1 only).** Condenser lavalier microphone supplied with a mount that clips onto a tie, lapel, or acoustic instrument.
12. **Guitar Cable (T1G only):** Plugs into electric guitar and other electrical instruments.

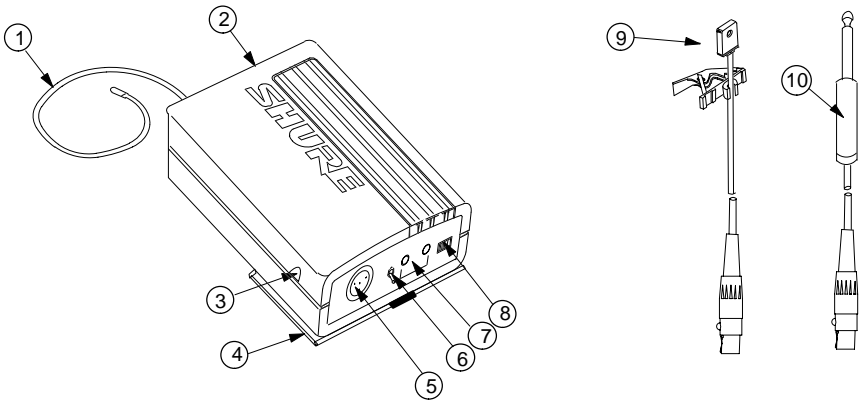


FIGURE 2

T11 BODY-PACK TRANSMITTER FEATURES (FIGURE 2)

1. **Antenna.** A flexible wire antenna is permanently attached to the bottom of the T11 body-pack transmitter. *For best operation, the antenna **must** hang vertically, and should not be coiled or bundled.*
2. **Battery Compartment.** Holds one 9V alkaline battery. Hinged cover opens to provide access the battery. Typical battery life is 18 hours.
3. **Audio Gain Control.** Provides audio level adjustment to accommodate various sound sources (e.g., speaking or playing an instrument). The factory setting is at mid-point. A small screwdriver is supplied to make adjustments.
4. **Belt Clip.** Secures the transmitter to a belt, waistband or guitar strap. Press the tab marked PRESS and slip the belt or strap between the transmitter body and the belt clip.
5. **Input Connector.** Tini “Q-G” connector that provides connection with a variety of lavalier and headset microphone cables, and the Shure WA302 instrument adapter cable.
6. **Mic On/Mute Switch.** Mutes the transmitter to prevent unwanted sounds from being picked up by the receiver *without* turning the transmitter off.
7. **Power/Battery Fuel Gauge.** The green light indicates the unit is on and there is more than one hour of battery life remaining. The red light indicates less than one hour of battery life remains.
8. **Power On/Off Switch.** Turns transmitter power on and off.
9. **Lavalier Microphone (WL93 shown):** Condenser lavalier microphone supplied with a mount that clips onto a tie, lapel, or acoustic instrument.
10. **WA302 Instrument Adapter:** Plugs into electric guitar and other electrical instruments.

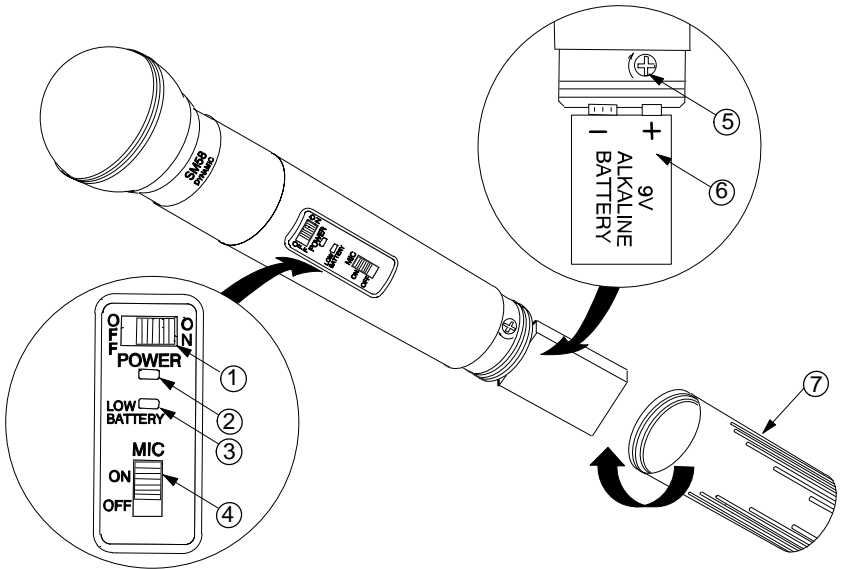


FIGURE 3

T2 MICROPHONE-TRANSMITTER FEATURES (FIGURE 3)

1. **Power On/Off Switch.** Turns the transmitter on and off. It is recessed to prevent it from being accidentally turned off.
2. **Power On Indicator.** Green light glows when the POWER ON/OFF switch is turned on to remind you to turn the transmitter off when it is not in use.
3. **Low Battery Indicator.** Red light glows when you have one hour or less of useful operating time; when this light glows, change the battery at your first opportunity.
4. **Microphone On/Off Switch.** Lets you turn the microphone audio on and off (mute the microphone), avoiding the “thump” noise that can occur when turning the transmitter on and off.
5. **Audio Gain Control.** Allows you to match the level of your vocals with the transmitter for better performance.
6. **9V Alkaline Battery (shown installed).** Provides power to the microphone-transmitter. Typical battery life is 18 hours.
7. **Battery Cover.** Unscrews for access to the 9V alkaline battery and gain control.

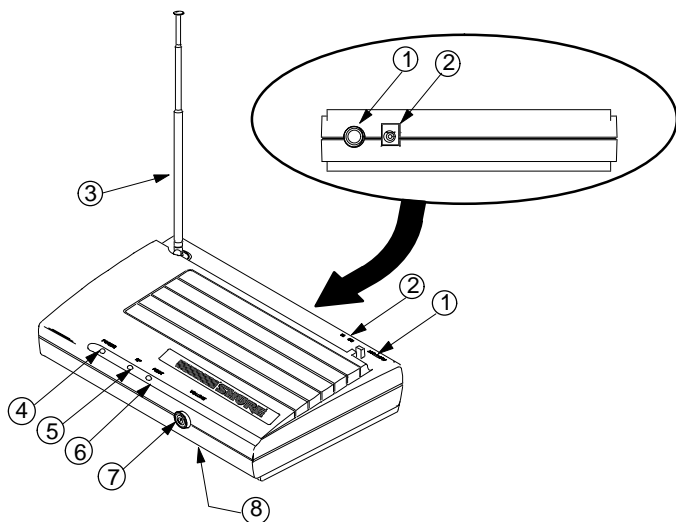


FIGURE 4

T3 RECEIVER FEATURES (FIGURE 4)

1. **T3 RECEIVER: Audio Output Connector:** Connect an output cable between this connector and the input of your mixer or amplifier.
2. **Power Input Connector:** Connect the ac adapter to this connector and then plug into an ac electrical outlet.
3. **Telescoping Antenna:** Receives signals from the transmitter. Make sure the antenna is fully extended vertically.
4. **Power On Indicator:** This green light glows when the receiver is plugged into an electrical outlet.
5. **RF Signal Indicator:** This yellow light glows when RF (radio frequency) signals are received from the transmitter.
6. **Audio Peak Indicator:** This red light flickers when the audio signal approaches the overload clipping level.
7. **Volume Control:** Rotate this knob to increase or decrease the volume of the receiver output. This control does not affect the PEAK indicator. It is affected by the transmitter gain control setting and the loudness of the guitar or bass.
8. **Squelch Control:** This control, located on the bottom panel, is factory pre-set, and normally does not need further adjustment. Refer to the *Receiver Squelch Adjustment* section for more information.

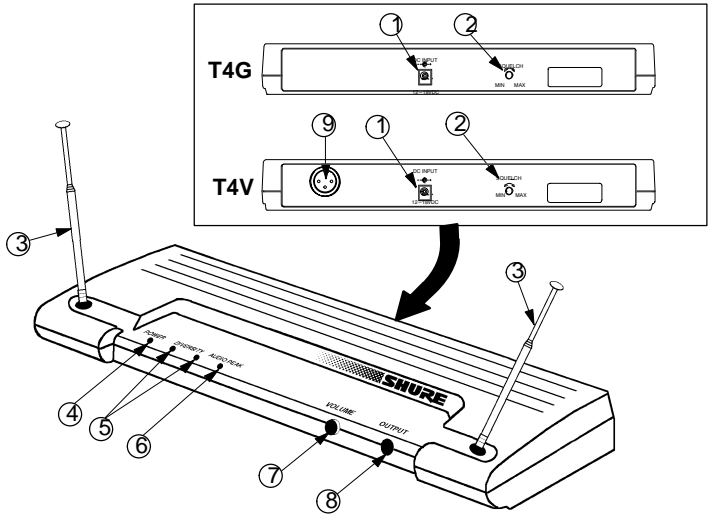


FIGURE 5

T4 DIVERSITY RECEIVER FEATURES (FIGURE 5)

1. **Power Input Connector:** Connect the ac adapter to this jack and then plug into an ac electrical outlet.
2. **Squelch Control:** This control is factory pre-set, and normally does not need further adjustment. Refer to *Receiver Squelch Adjustment* section for more information.
3. **Telescoping Antennas:** Receive signals from the transmitter. Make sure the antennas are fully extended and point away from each other at a 45° angle from vertical.
4. **Power On Indicator:** This green light glows when the receiver is plugged into an electrical outlet. It indicates that the receiver is on.
5. **Diversity Signal Indicators:** The yellow DIVERSITY A and B lights glow when RF (radio frequency) signals are received from the T1 or T2 transmitter. When only one light is glowing, the signal is being received on only one receiver section. When both lights are glowing, the T4 is receiving signals on both receiver sections.
6. **Audio Peak Indicator:** This red light flickers when the audio signal approaches the overload clipping level. It is affected by the transmitter gain control setting, and the loudness of the guitar or bass (*Guitarists* systems), the singer (*Vocal Artist* systems) or the talker (*Presenter* systems).
7. **Volume Control:** Rotate this knob to increase or decrease the volume of the receiver output. This control does not affect the AUDIO PEAK indicator.
8. **Phone Jack Audio Output Connector (unbalanced):** An unbalanced audio cable with a 1/4" phone plug can be used between this connector and your amplifier input (optional for T4V receiver).
9. **T4V RECEIVER: XLR Audio Output Connector (balanced):** Plug an XLR-type audio cable from this connector to the input of your audio mixer.

TRANSMITTER BATTERY INSTALLATION

1. Slide the transmitter POWER ON/OFF switch to the OFF position.
2. *T1*: Press down on the OPEN side of the battery compartment cover, slide it back and flip it open, as shown in Figure 6A.
3. *T2*: Unscrew the transmitter battery cover to expose the battery terminals, as shown in Figure 6B.

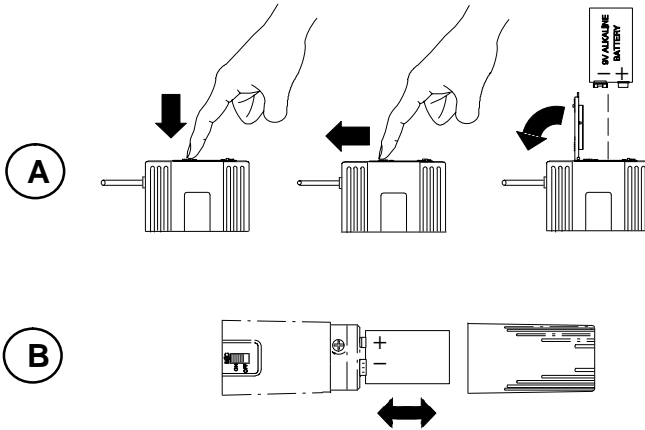


FIGURE 6

4. Insert a fresh 9V alkaline battery into the battery compartment (Duracell MN1604 recommended and included with the system). A fresh 9V alkaline battery should typically provide 18 hours of performance time. A fully charged 8.4V NiCad battery should provide 2 hours of performance time. When the red LOW BATTERY light on the transmitter glows, you have 1 hour or less of useful battery life remaining; change the battery at your first opportunity.

IMPORTANT: Carbon-zinc and zinc-chloride batteries will not provide adequate power and are not recommended.

5. Replace the battery cover.

OPERATING THE GUITARIST SYSTEM

1. Attach the transmitter to your belt or guitar strap as shown in Figure 7. Depress the tab marked PRESS and slip the belt or strap between the transmitter body and the belt clip. The clip holds tighter if the material is drawn to the clip's top wire (especially when using thinner guitar straps).

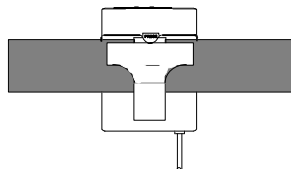


FIGURE 7

2. Refer to Figure 8. Plug one end of the ac power adapter into the DC INPUT connector in back of the receiver, and plug the other end into an ac power source (use PS20 for 105–125 Vac, 60 Hz power; use PS20E for 230 Vac, 50 Hz power). The green POWER light on the receiver will glow.

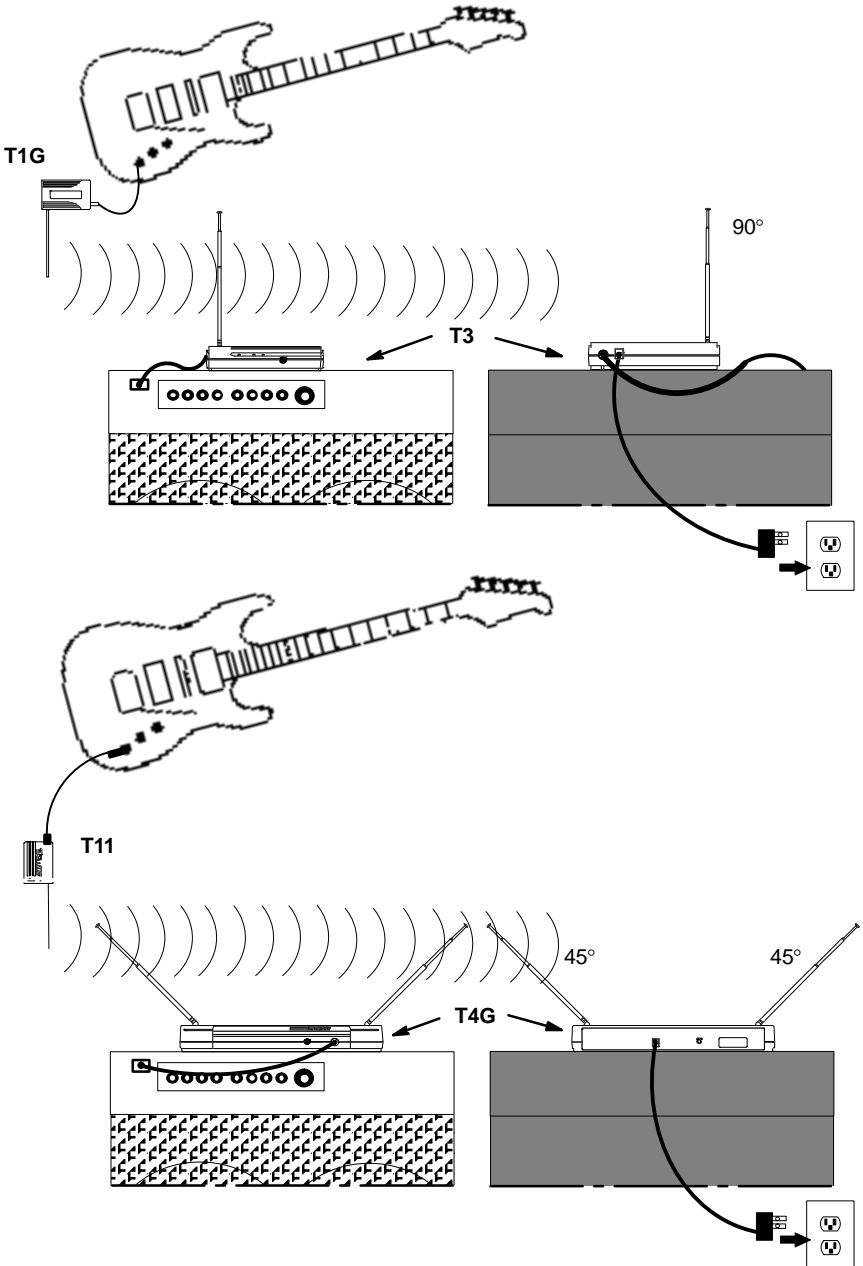


FIGURE 8

3. Connect one end of any standard guitar cable (two included) to the receiver AUDIO OUT connector (T3) or OUTPUT connector (T4G) and insert the other end into the amplifier input.
 4. Connect your guitar or bass to the transmitter input jack with any standard guitar cable (two are supplied).
 5. Turn the volume control on your guitar pickup all the way up.
 6. Slide the recessed transmitter POWER ON/OFF switch to the ON position. The green POWER ON light on the transmitter will turn on. The yellow RF light (T3) or the DIVERSITY A/B lights (T4G) will also turn on.
 7. Slide the transmitter MUTE/ON switch to the ON position.
 8. Play your guitar or bass. Normal operation is indicated by:
 - *Steady glow of yellow RF light (T3) or DIVERSITY A/B lights (T4G).*
 - *Flickering of the red PEAK light (T3) or AUDIO PEAK light (T4G) when loud sounds are transmitted.*
- NOTE:** If the red PEAK light on the receiver does not flicker occasionally, refer to the *Audio Gain Adjustment* paragraph. Then, if the system is still not operating properly, consult the *Troubleshooting* table.
9. When the performance is over, slide the recessed transmitter POWER ON/OFF switch to the OFF position to conserve battery power.

OPERATING THE VOCAL ARTIST SYSTEM

1. Refer to Figure 9. Plug one end of the ac power adapter into the DC INPUT connector in back of the receiver, and plug the other end into an ac power source (use PS20 for 105–125 Vac, 60 Hz power; use PS20E for 230 Vac, 50 Hz power). The green POWER light on the receiver will glow.
 2. Connect one end of an audio cable to the receiver AUDIO OUT connector (T3), or the OUTPUT or BALANCED LOW Z connector (T4V). Connect the other end of the cable to the mixer input.
 3. Slide the transmitter POWER ON/OFF switch to the ON position. The green transmitter POWER ON light will glow. The yellow RF light (T3) or the DIVERSITY A/B lights (T4V) will also glow.
 4. Slide the MIC ON/OFF switch to the ON position to turn the microphone on.
 5. Sing into the microphone. Normal operation is indicated by:
 - Steady glow of the yellow RF light (T3) or DIVERSITY A/B lights (T4V).
 - Flickering of the red PEAK light (T3) or AUDIO PEAK light (T4V) when loud sounds are transmitted.
- NOTE:** If the red PEAK light on the receiver does not flicker occasionally, the transmitter gain may need to be increased. Refer to the *T2 Audio Gain Adjustment* paragraph. Then, if the system is still not operating properly, consult the *Troubleshooting* table.
6. When the performance is over, slide the transmitter POWER ON/OFF switch to the OFF position to conserve battery power.

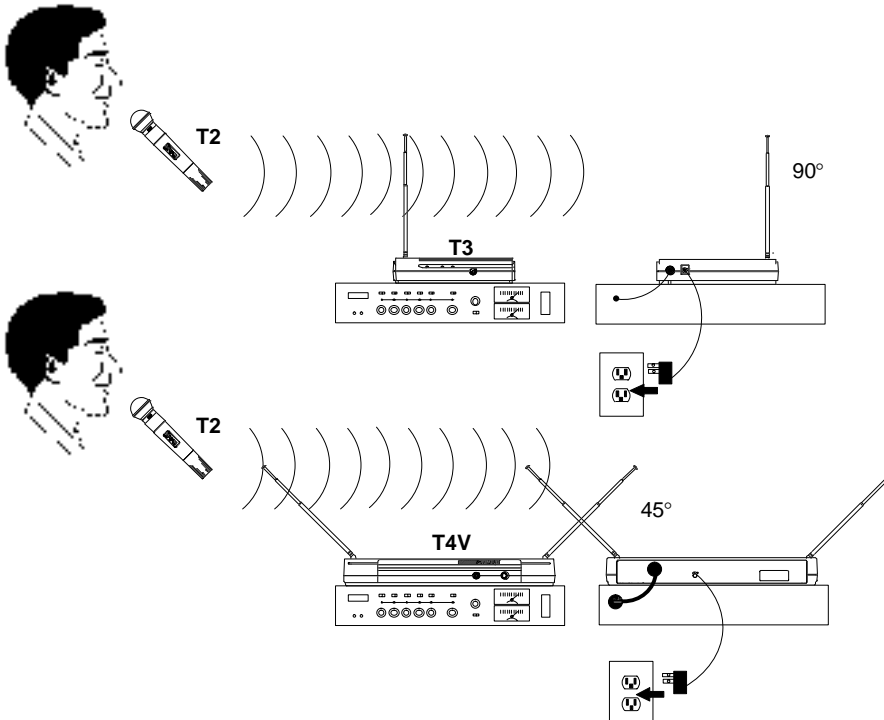


FIGURE 9

OPERATING THE PRESENTER SYSTEM

1. Attach the transmitter to your belt or waistband as shown in Figure 10. Depress the tab marked PRESS and slip the belt or strap between the transmitter body and the belt clip. The clip holds tighter if the material is drawn to the clip's top wire.

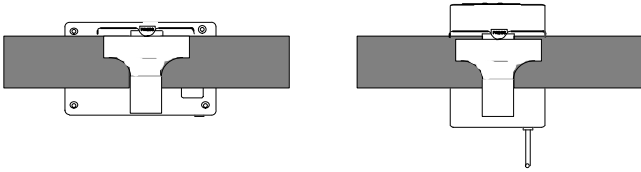


FIGURE 10

2. Refer to Figure 11. Plug one end of the ac power adapter into the DC INPUT connector on the receiver, and plug the other end into an ac power source (use PS20 for 105–125 Vac, 60 Hz power; use PS20E for 230 Vac, 50 Hz power). The green POWER light on the receiver will glow.
3. Connect one end of an audio cable to the receiver OUTPUT (T3) or AUDIO OUT or BALANCED LOW Z connector (T4) and the other end to the mixer input.

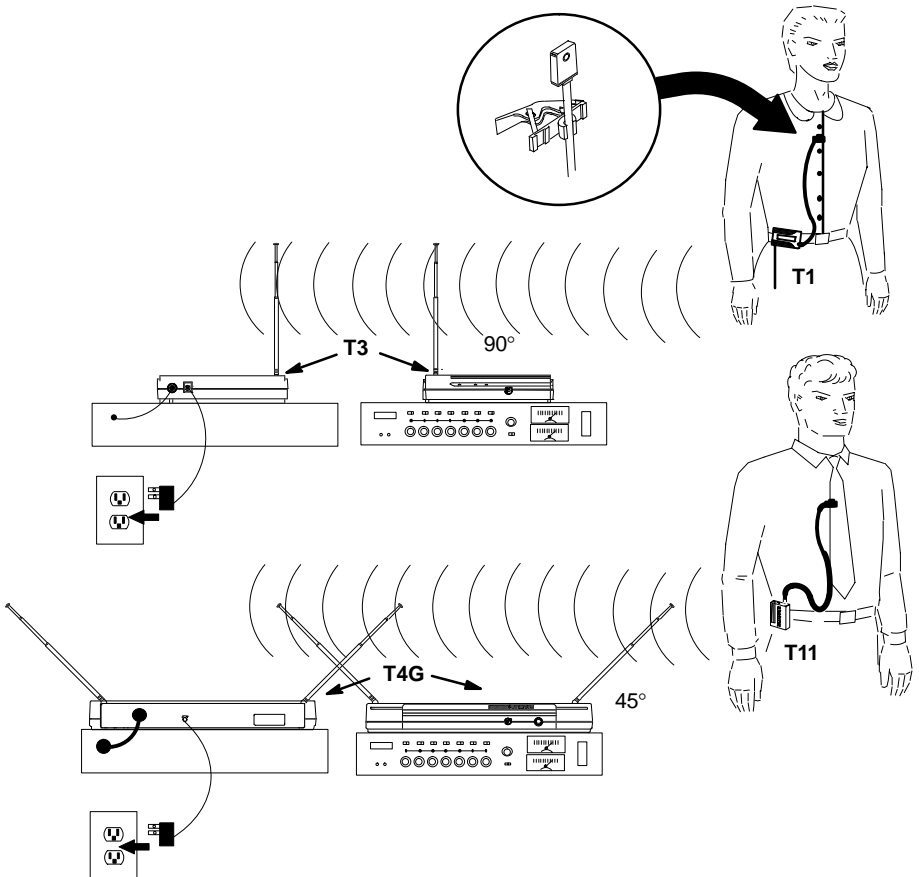


FIGURE 11

4. Press the attached WL93 lavalier microphone into the mounting clip and attach it to your garment. Do not cover the microphone with your clothing, and keep it approximately 8 to 12 inches below your chin. See Figure 9.
5. Slide the recessed transmitter POWER ON/OFF switch to the ON position. The green transmitter POWER ON light will glow. The yellow RF light (T3) or DIVERSITY A/B lights (T4V) will also glow.
6. Slide the recessed transmitter MUTE/ON switch to the ON position to unmute the system.
7. Speak in your normal conversational voice. Proper operation is indicated by:
 - *Steady glow of the yellow RF light (T3) or DIVERSITY A/B lights (T4V).*
 - *Flickering of the red PEAK light (T3) or AUDIO PEAK light (T4V) when you speak in a loud voice.*

NOTE: If the red PEAK light on the receiver does not flicker occasionally, the transmitter gain may need to be increased. Refer to the *Transmitter Audio Gain Adjustment* paragraph. Then, If the system is still not operating properly, consult the *Troubleshooting* table.
8. When the presentation is over, slide the recessed transmitter POWER ON/OFF switch to the OFF position to conserve battery power.

TRANSMITTER AUDIO GAIN ADJUSTMENT

The audio gain control on the T1G Transmitter is factory-preset at the minimum setting (full counterclockwise) to reduce the risk of overload and resulting distortion and/or clipping. If the red PEAK light on the receiver *does not* flicker when the guitar is played loudly, you should adjust the transmitter gain level so that it matches the output level of your guitar or bass. This will ensure the best possible signal-to-noise ratio during performance. Refer to Figure 12.

The gain control on the T1, T11 and T2 transmitters has been factory preset at the mid-range position for best performance in most applications. However, for singers or talkers with soft, quiet voices, the preset gain level may be too low and the audio gain may need to be increased for best signal-to-noise ratio. This condition is indicated by the failure of the receiver PEAK light to flicker when you speak in your normal voice.

For loud singers or talkers, the preset gain level may be too high, causing unwanted distortion. This condition is indicated by the continuous glow of the red PEAK light on the receiver when you sing or speak in a loud voice.

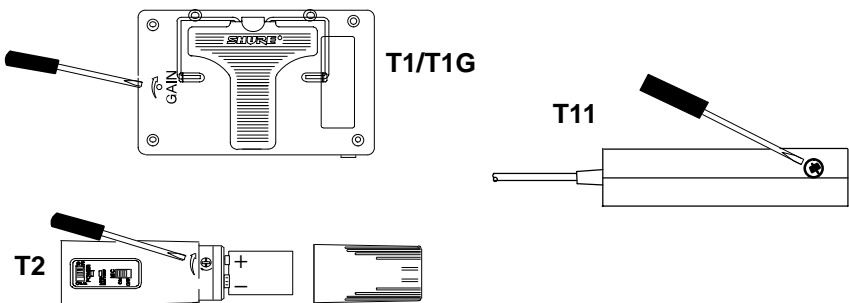


FIGURE 12

- *To Increase Gain:* Rotate the transmitter gain control clockwise with the supplied screwdriver until the red PEAK light on the receiver flickers when the guitar is played loudly, or when you sing or speak in a loud voice..

- *To Reduce Gain:* Rotate the transmitter gain control counterclockwise with the supplied screwdriver while you sing or speak in your normal voice. Continue rotating the gain control until the red PEAK light on the receiver only flickers when you sing or speak in a loud voice.
- *To Return Audio Gain to the Factory Setting:* Rotate the transmitter audio gain control counterclockwise as far as it will go (T1G) or the mid position (T1, T2).

RECEIVER VOLUME ADJUSTMENT

The volume control on the front panel of the T3 and T4 receivers can be adjusted to make the wireless system output identical to that of a cabled guitar or bass, or of a conventional wired microphone. Adjust the receiver volume control until the output reaches the desired level. Rotate the volume control clockwise to *increase* output. Rotate it counterclockwise to *decrease* output.

TIPS FOR ACHIEVING MAXIMUM PERFORMANCE

- *Make sure you can always see a receiver antenna from the transmitter position.*
- *Keep the distance between the transmitter and the receiver antennas short.*
- *Extend the transmitter and receiver antennas vertically as far as possible. For best performance, the T3 receiver antenna tip should be vertical; the T4 receiver antennas should be pointed away from each other at a 45° angle from vertical.*
- *Avoid placing the receiver antennas near metal surfaces and obstructions, since they will seriously reduce system performance.*
- *To mount the receiver on a flat surface, attach the four adhesive rubber feet or the cloth fastening strips to the bottom of the receiver.*

RECEIVER SQUELCH ADJUSTMENT

The squelch control on the T3 and T4 receivers is factory preset for optimum performance. No further adjustment is normally required. It is possible to adjust the Squelch control setting to emphasize either signal quality or system range. Adjusting the Squelch control will produce the following results:

- *Turning the squelch control clockwise causes the receiver to demand a higher quality signal (less noise before muting), but decreases operating range.*
- *Turning the squelch control counterclockwise allows a lower quality signal through (more noise before muting), but increases operating range.*

To return the receiver squelch control to the factory setting, rotate it to the mid-range position (so the slot is vertical).

HOW THE SHURE NOISE SQUELCH IMPROVES SYSTEM PERFORMANCE

Conventional squelch circuits work on the basis of received RF (radio frequency) signal strength. However, such circuits cannot discriminate between noise and desired signals. When the wireless system is used in an environment where lots of RF noise is present, conventional squelch circuits can “open” unexpectedly, sending loud bursts of noise through the receiver when the transmitter signal is weak or turned off.

Unlike conventional wireless systems, all Shure T-Series systems use a noise squelch circuit that analyzes *signal quality* instead of signal strength. A special detector monitors the level of high frequency noise. When the transmitter signal is strong, the noise level is low and the receiver sends audio through. When the transmitter signal is weak or absent, the noise level is high and the squelch circuit mutes the receiver. This virtually eliminates the possibility of annoying bursts of noise coming through your receiver.

TROUBLESHOOTING

PROBLEM	INDICATOR STATUS	SOLUTION
No sound.	Green transmitter POWER light off.	Slide transmitter POWER ON/OFF switch to ON position. Make sure battery is inserted properly (+/-battery terminals must match transmitter terminals). If battery is properly inserted and POWER ON light still does not glow, replace battery.
No sound.	Green transmitter POWER light glowing.	Slide transmitter MUTE/ON switch to ON position.
No sound.	Green receiver POWER light off.	Make sure ac adapter is securely plugged into electrical outlet and into dc input connector on rear panel of receiver. Make sure ac electrical outlet works and supplies proper voltage.
No sound.	Receiver RF lights (T3) or DIVERSITY A/B lights (T4) off. Transmitter and receiver POWER lights glowing.	Make sure the transmitter and the receiver are operating on the same frequency. Extend receiver antenna(s) as far as possible. T4 receiver antennas should point away from each other at a 45° angle from vertical. Move receiver antennas away from any nearby metal objects. Remove any obstructions from between transmitter and receiver. Make sure you can see receiver antenna(s) from transmitter. Move transmitter closer to receiver; it may be outside system range.
No sound.	Receiver RF lights (T3) or DIVERSITY A/B lights (T4) glowing. Receiver PEAK light flickers during loud sounds.	Turn up receiver volume control. Slide transmitter MUTE/ON switch to ON position. Make sure cable connection between receiver and amplifier or mixer is good.
Sound level from the receiver is different from that of a cabled guitar or microphone.	Receiver RF lights (T3) or DIVERSITY A/B lights (T4) glowing.	Adjust transmitter gain as necessary. Adjust receiver volume as necessary.
Sound level is different when you change guitars.	Receiver RF lights (T3) or DIVERSITY A/B lights (T4) glowing.	Readjust transmitter gain level to compensate for differences in guitar outputs.
Distortion level increases gradually.	Receiver RF lights (T3) or DIVERSITY A/B lights (T4) glowing. Transmitter LOW BATTERY light glowing.	Replace transmitter battery.
Bursts of noise, distortion, or other radio signals interrupt performance.	Receiver RF lights (T3) or DIVERSITY A/B lights (T4) on.	Identify potential sources of interference (other wireless systems, CB radios, etc.) and turn them off or remove them. If this is not possible, use a wireless system that operates on a different frequency.
Momentary loss of sound as transmitter is moved around performing area.	Receiver RF lights (T3) or DIVERSITY A/B lights (T4) off when sound is lost.	Reposition receiver and perform walk-through test again. If audio dropouts persist, mark "dead" spots and avoid them during performance.

SYSTEM SPECIFICATIONS

rf Carrier Frequency Range

169.445 to 216.000 MHz (Available frequencies depend on applicable regulations in country where system is used).

Operating Range: 100 m (328 ft) under typical conditions

Audio Frequency Response: 35 to 15,000 Hz, ± 3 dB

Image Rejection: 75 dB typical

Spurious Rejection: 75 dB typical

System Distortion (ref. ± 15 kHz deviation, 1 kHz modulation): 0.1% THD typical

Signal/Noise Ratio: 95 dB

Sensitivity: -110 dBm for 12 dB SINAD typical

Operating Temperature Range

-20° to 49° C (-4° to 120° F) **NOTE:** Battery characteristics may limit this range.

Battery Life: 16 hours with 9 V alkaline battery (Duracell MN1604 recommended).

T1, T1G AND T11 BODY-PACK TRANSMITTER SPECIFICATIONS

rf Output	50 mW Typical (T1, T1G); 20 mW Typical (T11)
Input Configuration	Unbalanced
Connector Type	4-pin Tini QG (male)
Actual Impedance	1 M Ω
Maximum Recommended Input Level*	+12 dBV
Minimum Recommended Input Level**	-80 dBV
Connector Pin Assignments	Pin 1:Tied to Ground Pin 2:Tied to +5 V Pin 3:Tied to Audio Pin 4:Tied to 20k Ω Resistor and Audio Ground
Dimensions (T1, T1G)	64 mm H x 106 mm W x 24 mm D (2.52" H x 4.17" W x .95" D)
Dimensions (T11)	83 mm H x 64 mm W x 26 mm D (3.25" H x 2.5" W x 1.03" D)
Net Weight (T1, T1G)	96.4g (3.4 oz.)
Net Weight (T11)	79.4g (2.8 oz.)
Power Requirements	9 V alkaline battery (Duracell MN1604 recommended); 8.4 V NiCd battery optional.
Nominal Current Drain	30 mA

* Gain Control at minimum

** Gain Control at maximum

T2 HAND-HELD TRANSMITTER SPECIFICATIONS

	T2/58 (SM58)	T2/31 (BG3.1)
rf Output	50 mW Typical (FCC); 20 mW Typical (ETSI)	
Dimensions	236 mm H x 51 mm D (9.29" H x 2.01" D)	222 mm H x 51 mm D (8.74" H x 2.01" D)
Net Weight	295g (10.4 oz.)	266g (9.4 oz.)
Power Requirement	9 V alkaline battery (Duracell MN1604 recommended); 8.4V NiCd battery optional.	
Nominal Current Drain	30 mA	30 mA

T3, T4 AND T4G RECEIVER SPECIFICATIONS

Connector	3-Pin XLR (Male) T4 and T4G	1/4" Phone Plug (Female) T3, T4 and T4G
Maximum Output Levels	-22 dBV	-6.8 dBV
Nominal Output Levels	-62 dBV	-32 dBV
Output Configuration	Active Balanced	Unbalanced
Actual Impedance	500 Ω	1 k Ω
Connector Pin Assignments	Pin 1: ground Pin 2: hot Pin 3: cold	Tip: hot Sleeve: ground
Dimensions (T4, T4G)	36 mm H x 292 mm W x 103 mm D (1.41" H x 11.50" W x 4.06" D)	
Dimensions (T3)	35 mm H x 152 mm W x 98 mm D (1.38" H x 5.98" W x 3.85" D)	
Net Weight (T4, T4G)	416g (14.7 oz.)	
Net Weight (T3)	192 g (6.8 oz.)	
Power Requirements	12-18 Vdc nominal, 200mA	
Power Supply	120 V or 230V ac adaptor with 2.1 mm female plug	
Voltage/Current/Phantom Power Protection	Yes	Yes

Certification

- T1G, T1: Accepted under FCC Parts 74 and 90. Certified by IC in Canada under TRC-78.
- T11: Type Accepted under FCC Parts 74 and 90. Certified by IC in Canada under TRC-78. Conforms to European Union directives, eligible to bear CE marking; meets European Union Requirements. Type Approval: pr I-ETS 300 442, BZT 17 TR 2019, and BAPT 122 R 1. EMC Immunity: pr ETS 300 445.
- T2/31, T2/58: Type Accepted under FCC Parts 74 and 90. Certified by IC in Canada under TRC-78. Conforms to European Union directives, eligible to bear CE marking; meets European Union Requirements. Type Approval: pr I-ETS 300 442, BZT 17 TR 2019, and BAPT 122 R 1. EMC Immunity: pr ETS 300 445.
- T3, T4G, T4V: Approved under the Notification provision of FCC Part 15. Certified by IC in Canada under TRC-78. Conforms to European Union directives, eligible to bear CE marking; meets European Union Requirements. Type Approval: pr I-ETS 300 442, BZT 17 TR 2019, and BAPT 122 R 1. EMC Immunity: pr ETS 300 445. Power supply meets Low Voltage Directive: 73/23/EEC.

FURNISHED ACCESSORIES

Screwdriver	65A1659
Sew-in Mounting Block (WL93; Presenter Systems Only)	65B1733*
Single-Mount Tie Bar (WL93; Presenter Systems Only)	RK354SB*
Black Windscreen (WL93; Presenter Systems Only)	RK355WS*
Tan Windscreen (WL93; Presenter Systems Only)	RK304T**
Receiver AC Adapter	PS20 (120V), PS20E (220V)
Guitar Cables (2) (Guitarist Systems Only)	WA303
Vinyl Transmitter Bag (for Presenter or Guitarist)	26A13
Vinyl Transmitter Bag (for Vocal Artist)	26A14
Swivel Adapter (Vocal Artist Systems Only)	WA370A

* Replacements furnished in multiples of 4.

** Includes 2 tie bars and 2 windscreens.

OPTIONAL ACCESSORIES

Line Matching Output Transformer (T3 Receiver)	A95U
1.8 Meter (6 ft.) Receiver-Mixer Cable	WA410
Rack-Mount Kit (T4 Diversity Systems Only)	WA391

For additional microphone service or parts information, please contact Shure's Service department at 1-800-516-2525. Outside the United States, please contact your Authorized Shure Service Center.

LICENSING INFORMATION

IMPORTANT: Licensing of Shure wireless microphone equipment is the user's responsibility, and licensability depends on the user's classification and application, and on the selected frequency. Shure strongly urges the user to contact the appropriate telecommunications authority concerning proper licensing, and before choosing and ordering frequencies.

WARRANTY INFORMATION

Shure Brothers Incorporated ("Shure") hereby warrants that these products will be free from defects in material and workmanship for a period of one year from the date of purchase, with the exception of the BetaGreen 3.0 microphone cartridges in the T2/30 transmitters, which are warranted to be free from defects in material and workmanship for a period of two years from the date of purchase. At its option, Shure will repair or replace the defective product and promptly return it to you. You should retain proof of purchase to validate the purchase date and return it with any warranty claim. If you believe this product is defective within the warranty period, carefully repack the unit, insure it, and return it postpaid to:

Shure Brothers Incorporated
Attention: Service Department
222 Hartrey Avenue
Evanston, IL 60202-5730 U.S.A.

Customers outside the U.S.A. should ship the product to the authorized Shure Distribution Center in their region.