

Applied Research & Technology
215 Tremont St.
Rochester, NY 14608
USA

tel: 1-585-436-2720
fax: 1-585-436-3942
url: www.artproaudio.com

Features and specifications subject to change without notice.
©2005 Applied Research and Technology



INSTRUCTION MANUAL

TRANSIT SPECIFICATIONS

- 115V/230V 50/60Hz AC power, 24 VDC power, or built-in battery power
- Automatic charger (6 to 10 hours recharge time)
- Playing Time: 4 to 5 hours continuous usage depending on program material
- Full range 4 Ohm 8 inch loudspeaker
- Rated amplifier output power 75 Watts into 4 Ohms
- Microphone / Line-input mixer with Bass and Treble tone controls
- High impact molded composite enclosure (withstands wide temp. shifts)
- Molded-in 1-3/8" diameter speaker stand adaptor on base, padded handle on top
- Heavy-duty tripod speaker stand included (height adjustable 44" to 77")
- Detachable two-wheel trolley unit with extendable handle included
- Dimensions: 17.4"H x 13"W x 9.5"D
- Weight: 28.7 pounds

Transmitter Specs:

Bandwidth:	25KHz
Frequency Stability:	± 0.005%
Frequency Response:	50 Hz – 18 KHz (± 3 dB)
Signal to Noise Ratio:	> 80 dB overall system
RF Output Power:	10 mW (maximum)
Current Consumption:	90 mA
Battery:	2 x 1.5 Volt AA Alkaline

Receiver Specs:

Bandwidth:	25KHz
Frequency Stability:	± 0.005%
Deviation:	40 KHz Limiting
Dynamic Range:	> 110 dB
S/N Ratio:	> 105 dB
THD:	< 0.5%
Squelch Circuit:	Pilot tone
Frequency Response:	50 Hz – 18 KHz ± 3 dB
Receiver Mode:	PLL Synthesized Non-diversity

16 User Selectable Channels:

Channel	Frequency (MHz)
1	- 794.100
2	- 794.625
3	- 794.950
4	- 795.250
5	- 795.875
6	- 796.125
7	- 796.600
8	- 796.925
9	- 797.350
10	- 797.725
11	- 798.100
12	- 798.650
13	- 799.125
14	- 799.425
15	- 800.250
16	- 800.925

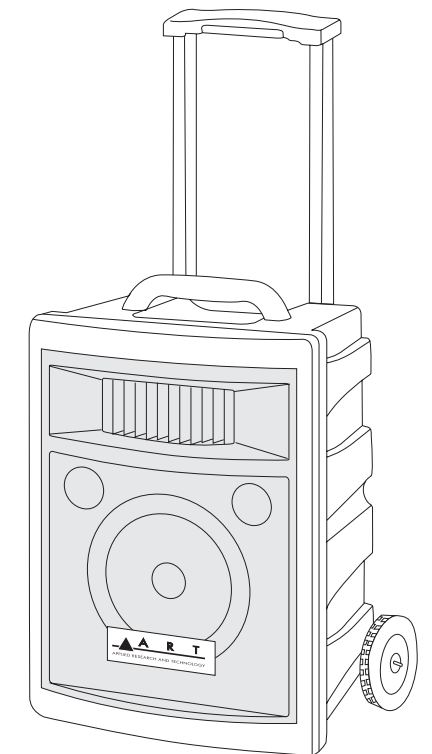
- Internal Battery for PA contains two rechargeable 12 V - 4.5 Ah
- Sealed lead/acid maintenance free

TABLE OF CONTENTS

INTRODUCTION	1
IDENTIFYING THE PARTS (front view)	1
IDENTIFYING THE PARTS (rear view)	2
WIRELESS RECEIVER MODULE	3
MASTER TONE CONTROLS & MIC / LINE INPUT MIXER	4
POWER CONNECTIONS	5
CASSETTE DECK CONTROLS	6
CD PLAYER CONTROLS	6
WIRELESS MICROPHONE	7
BODY PACK WIRELESS MICROPHONE	8
INSTRUCTIONS FOR CHANGING BATTERIES	9
NOTES ON UNIT INSTALLATION	10
WARRANTY	10
TRANSIT SPECIFICATIONS	11

System Includes

- Transit Unit
- Tripod Speaker Stand
- APEX 940 Wired Handheld Microphone with Cable and Mic Clip
- Detachable 2 Wheel Trolley
- AC Line Cord
- Operation Manual





TRANSIT PORTABLE WIRELESS MULTIPURPOSE AMPLIFIER SYSTEM

INTRODUCTION

Thank you for choosing the TRANSIT portable wireless multipurpose amplifier system from ART.

For optimal performance please read this manual thoroughly before operating the TRANSIT.

Please also save this manual for future reference.

The TRANSIT features an elegant yet durable water resistant enclosure design, providing rugged and reliable performance under the most demanding operating conditions.

The TRANSIT is straight forward and easy to operate, while providing a loud and clear sound.

The automatic recharging system includes two built-in 12V/4.5Ah sealed lead acid batteries.

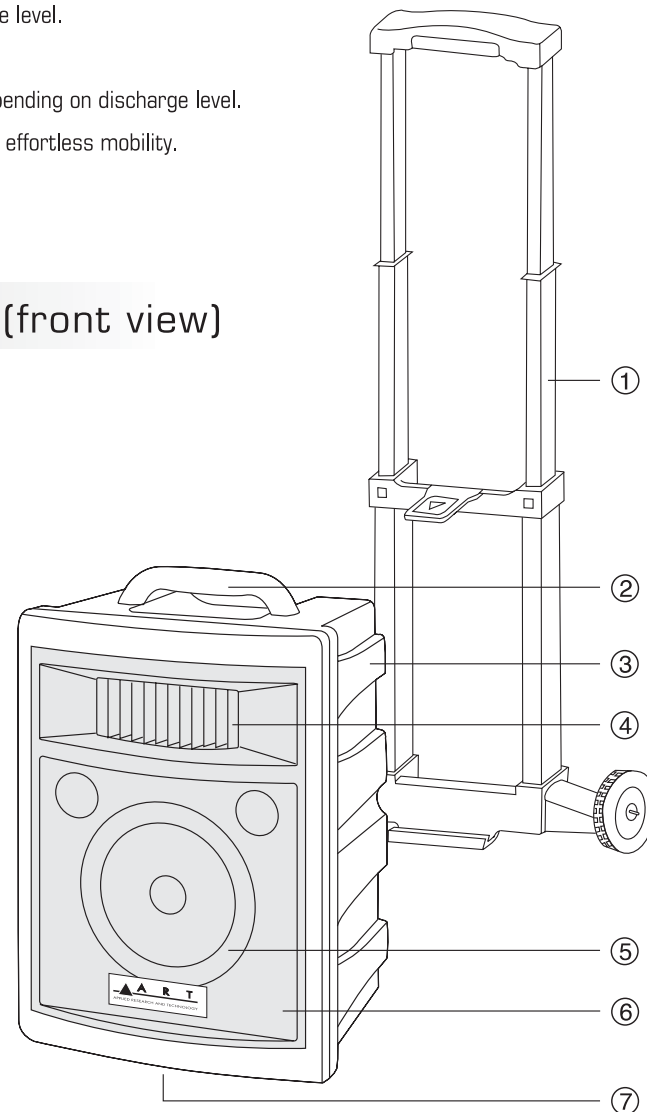
The TRANSIT is suitable for both indoor and outdoor use with a playing duration on a single charge of 4 to 5 hours depending on the program material and volume level.

* Battery recharging time averages between 8 - 10 hours depending on discharge level.

* The included collapsible two wheel trolley easily attaches for effortless mobility.

IDENTIFYING THE PARTS (front view)

- 1) Detachable two wheel trolley with telescoping handle.
- 2) Carry handle.
- 3) Molded fiber reinforced plastic enclosure capable of withstanding wide shifts in temperature.
- 4) Heat-sink for internal power amplifier.
- 5) 8 inch full range loudspeaker.
- 6) Rust resistant perforated steel grill.
- 7) Tripod stand socket. (located in bottom)
Accepts 1 - 3/8 inch diameter pole.



NOTES ON UNIT INSTALLATION

- 1) Always confirm the proper operating voltage before connecting to an AC power source.
- 2) For improved audio coverage position the TRANSIT at least 3 to 5 feet above the ground using the included stand.
- 3) Always position tripod stand with legs spread out as far as possible to maximize stability.

WARRANTY INFORMATION

Limited Warranty

Applied Research and Technology will provide warranty and service for this unit in accordance with the following warrants:

Applied Research and Technology, (A R T) warrants to the original purchaser that this product and the components thereof will be free from defects in workmanship and materials for a period of one year from the date of purchase. Applied Research and Technology will, without charge, repair or replace, at its option, defective product or component parts upon prepaid delivery to the factory service department or authorized service center, accompanied by proof of purchase date in the form of a valid sales receipt.

Exclusions:

This warranty does not apply in the event of misuse or abuse of the product or as a result of unauthorized alterations or repairs. This warranty is void if the serial number is altered, defaced, or removed.

A R T reserves the right to make changes in design or make additions to or improvements upon this product without any obligation to install the same on products previously manufactured.

A R T shall not be liable for any consequential damages, including without limitation damages resulting from loss of use. Some states do not allow limitations of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific rights and you may have other rights, which vary, from state to state.

For units purchased outside the United States, an authorized distributor of Applied Research and Technology will provide service.

SERVICE

The following information is provided in the unlikely event that your unit requires service.

- 1) Be sure that the unit is the cause of the problem. Check to make sure the unit has the proper power supplied, all cables are connected correctly, and the cables themselves are in working condition.
- 2) If you find the unit to be at fault, write down a complete description of the problem, including how and when the problem occurs. Please write down a description of your complete setup before calling Customer Service.
- 3) Contact our Customer Service Department at (716) 297-2920 for your Return Authorization number or questions regarding technical assistance or repairs. Customer Service hours are 9:00 AM to 5:00 PM Eastern Time, Monday through Friday.
- 4) Pack the unit in its original carton or a reasonable substitute. The packing box is not recommended as a shipping carton. Put the packaged unit in another box for shipping. Print the RA number clearly on the outside of the shipping box. Print your return shipping address on the outside of the box.
- 5) Include with your unit: a return shipping address (we cannot ship to a P.O. Box), a copy of your purchase receipt, a daytime phone number, and a description of the problem.
- 6) Ship only your unit and its power supply (keep your manual!):

The Yorkville Group
4625 Witmer Industrial Estates
Niagara Falls , NEW YORK 14305
RA# _____

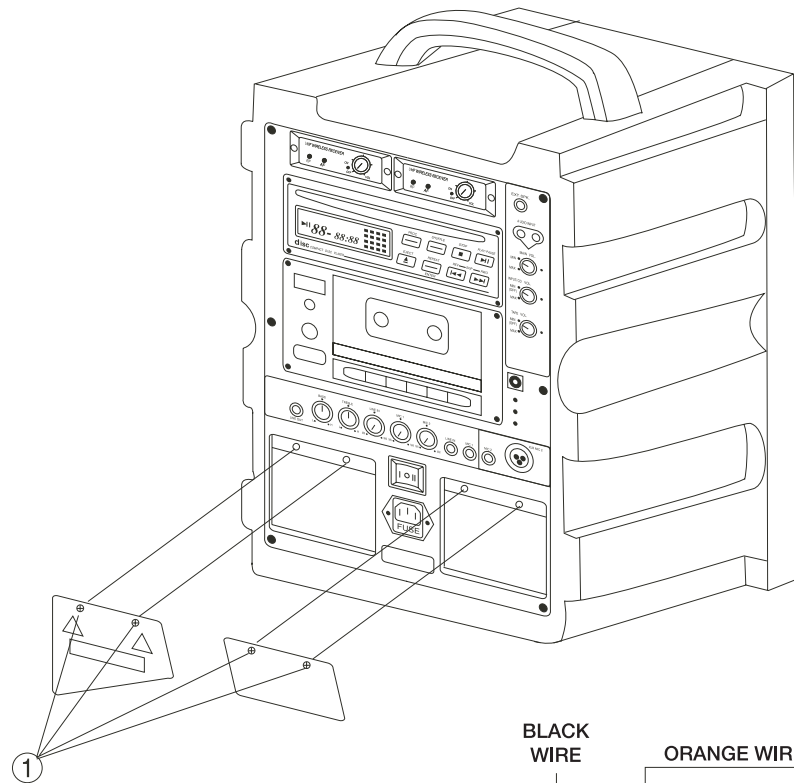
Fill in the following for you reference:
Date of purchase _____
Purchased from _____
Serial number _____

INSTRUCTIONS FOR CHANGING BATTERIES

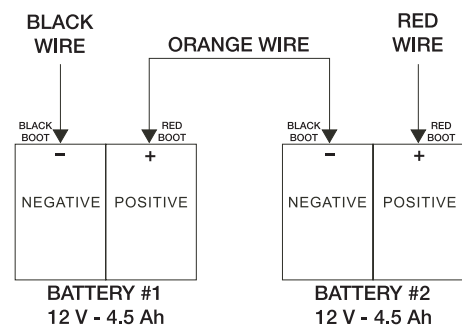
CAUTION: Be certain to turn off the power switch and disconnect the AC line cord before opening the battery compartment.

NOTE: Depending on use, the batteries are typically maintenance free for several years. Replace batteries when you notice greatly reduced playback capability, or the batteries no longer fully recharge.

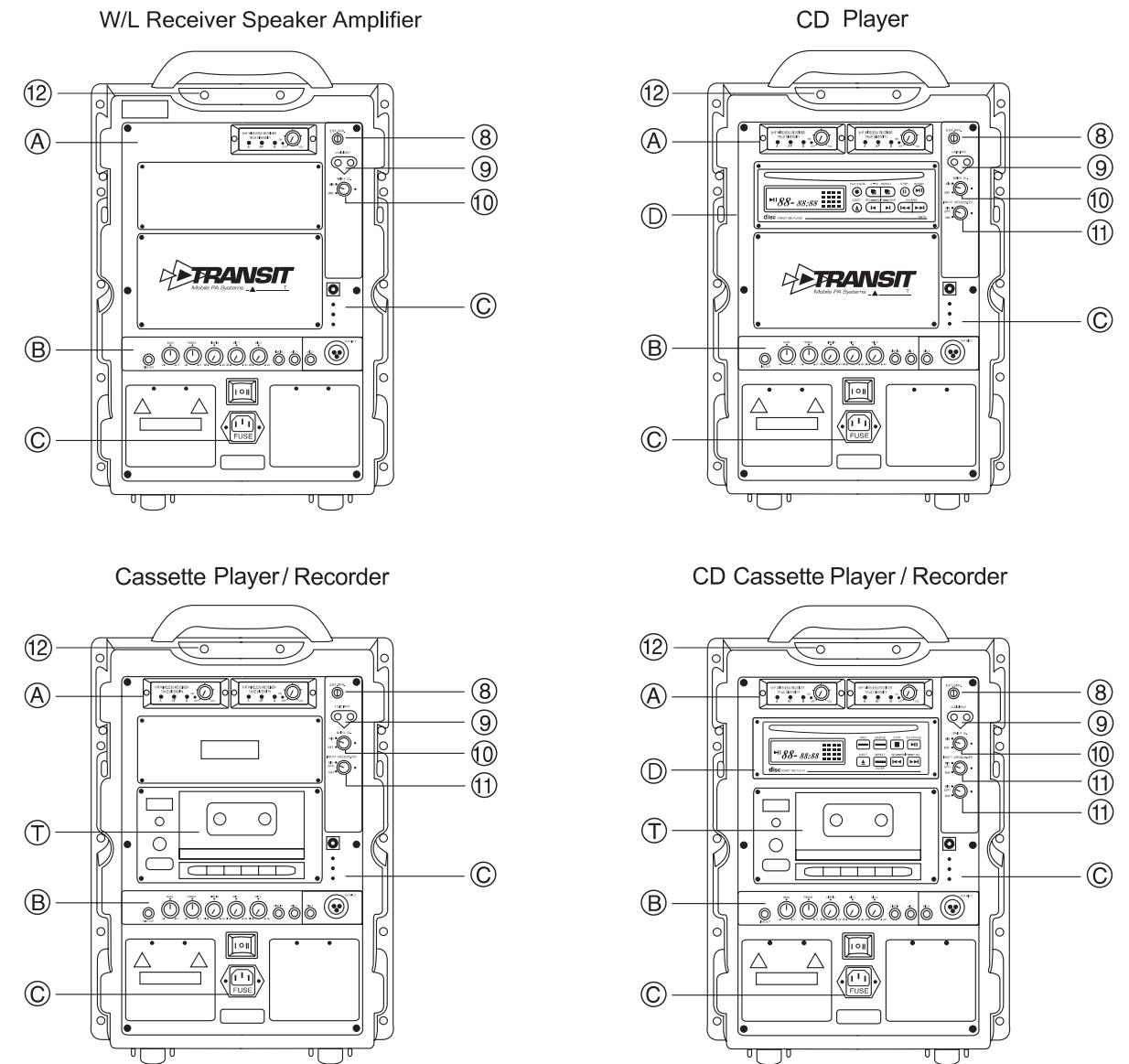
- 1) Remove the two battery compartment covers which are held in place by two screws (1) at the top of each cover.
- 2) Carefully slide each of the batteries out of the unit until you have access to the side where the wires attach. Each battery is attached to two wires using slide-on connectors which are covered by rubberized plastic boots.
- 3) Slide each wire connector off of the battery terminal.
- 4) Re-attach the wires to the new batteries taking care to observe the proper polarity. Connect the RED booted connectors to the positive (+) battery terminals and the BLACK booted connectors to the negative (-) battery terminals. See the diagram below.
- 5) Insert batteries back into the unit taking care to allow the wires to fold up into the open areas at the ends of the battery compartments. Fasten the compartment covers with two screws at the top of each cover.



NOTE: Only replace batteries with same type.

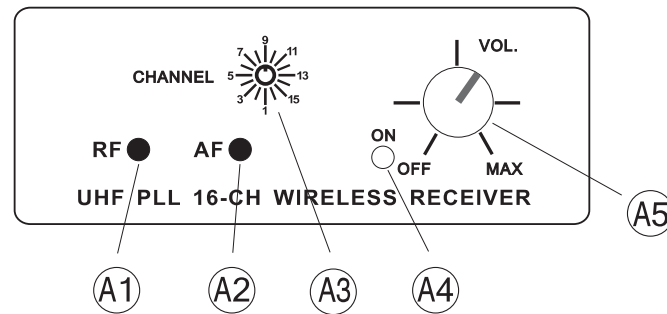


IDENTIFYING THE PARTS (rear view)



- 8) EXTENSION SPEAKER output jack. Connect to optional ART model TRCAB for optimal performance. (Extension speaker is wired in "Series" with internal speaker, so load impedances add together.)
- 9) AUDIO INPUT jack - RCA inputs summed to mono. Use MAIN VOL. to control level. (It may be necessary to adjust volume control on audio source unit in combination with MAIN VOL. to achieve clearest sound.)
- 10) MAIN VOLUME control. Turn clockwise to increase volume. NOTE: THIS IS THE MASTER VOLUME FOR ALL AUDIO SOURCES. Typically this control should be set to 4 to 6 o'clock (or higher), to obtain clearest sound.
- 11) CD or CASSETTE power ON/OFF switch and volume control. Turn clockwise to supply power to, and increase the volume of, optional CD or Cassette. Switch to OFF when not using CD or Cassette to conserve battery power.
- 12) Locking socket for detachable two wheel trolley.

A WIRELESS RECEIVER MODULE

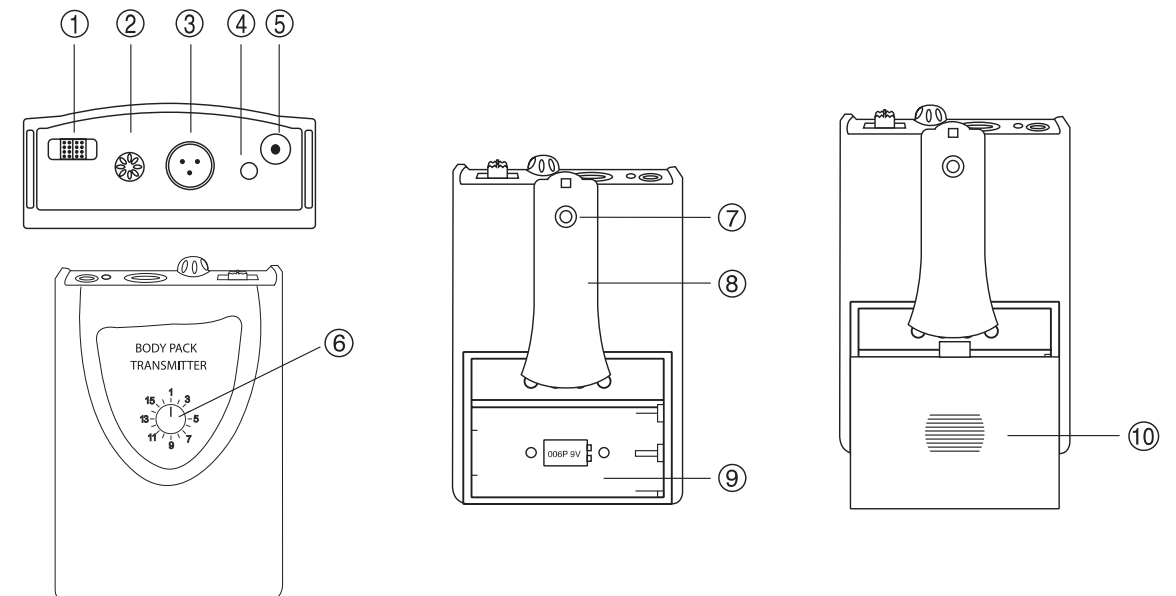


- A1) RADIO FREQUENCY INDICATOR - Indicates that receiver has locked on to the radio carrier signal from wireless transmitter. (Typically the light remains on as long as wireless transmitter is turned on.)
- A2) AUDIO FREQUENCY INDICATOR - Indicates that audio is being received from the wireless transmitter. (Typically the light will flicker on and off with the presence of audio.)
- A3) CHANNEL SELECTOR - Selects one of sixteen operating channel frequencies for wireless microphone operation. Receiver channel number must match the channel number setting on the wireless microphone transmitter. Select a channel which is normally quiet and free of interference. This can be checked by turning off the wireless transmitter and listening to see if there is any noise breaking through on the selected channel. While the wireless transmitter is turned off, the receiver should stay muted with no activity on the receiver AF light. If there is noise interference (AF activity), try using another channel setting. NOTE: When using more than one wireless microphone and receiver in close proximity, try to select channels for each that are two or more channels apart for best performance. This can be checked by listening to one microphone while momentarily turning the second microphone on and off and listening to hear if there is any adverse affect on the sound of the first microphone. If there is, simply choose another channel setting for the second microphone system.
- A4) RECEIVER POWER INDICATOR - Indicates that the receiver is switched on and receiving power.
- A5) RECEIVER POWER SWITCH AND VOLUME CONTROL - Turn control clockwise to activate the receiver and increase the volume of the wireless microphone signal. Turn fully counter clockwise to switch receiver off. Switch to OFF when not using the wireless microphone system to conserve battery power. (NOTE: Assure that MAIN VOL. control is set high enough to obtain clear sound.)

BODY PACK WIRELESS MICROPHONE

- 1) POWER ON/OFF SWITCH - Use to extend battery life.
- 2) VOL. - Microphone gain adjust. Typically set to 12:00 position.
- 3) MIC IN - Three pin mini XLR connector to accept connection from clip-on lapel mic, or headset boom mic.
- 4) BATTERY INDICATOR - The red light will blink on, then off, each time the power switch is turned on and the battery is good. If the indicator does not light at all when moving the POWER ON/OFF switch (1) then it is safe to assume that the battery needs replacing. During normal operation as the battery begins to loose charge, the red light will gradually come on and glow steadily until the battery expires and the light goes dark. The steady red light serves as a low battery warning.
- 5) EXTERNAL ANTENNA - Rubberized mini whip antenna screws on here.
- 6) CHANNEL SELECTOR - Selects one of sixteen operating channel frequencies for wireless microphone operation. Receiver channel number must match the channel number setting on the wireless body pack transmitter. Select a channel which is normally quiet and free of interference. This can be checked by turning off the wireless transmitter and listening to see if there is any noise breaking through on the selected channel. The receiver should stay muted with no activity on the receiver AF light while the wireless transmitter is turned off. If there is noise interference (AF activity), try using another channel setting. NOTE: When using more than one wireless microphone and receiver in close proximity, try to select channels for each that are two or more channels apart for best performance. This can be checked by listening to one microphone while momentarily turning the second microphone on and off and listening to hear if there is any adverse affect on the sound of the first microphone. If there is, simply choose another channel setting for the second microphone system.
- 7) BELT CLIP MOUNTING POINT - Spring loaded for ease of operation.
- 8) BELT CLIP - Can be rotated 90 degrees for horizontal or vertical mounting of body pack.
- 9) BATTERY COMPARTMENT - Use single 9 V alkaline cell. Observe proper polarity.
- 10) BATTERY COVER - Slide to open and close battery compartment.

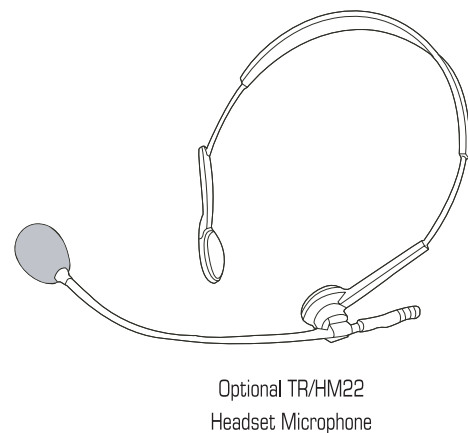
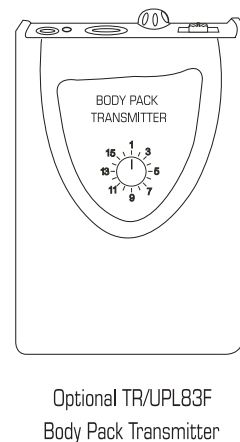
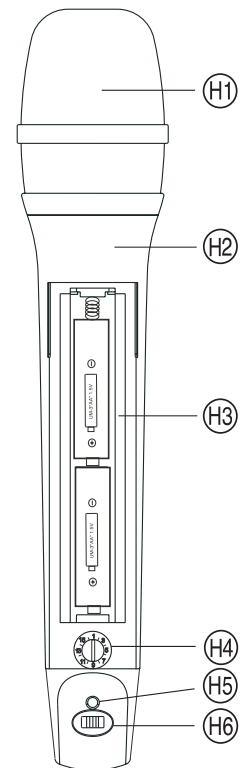
NOTE: Remove the batteries if you do not plan to use the microphone transmitter for a long period of time, to avoid the possibility of damage due to battery leakage.



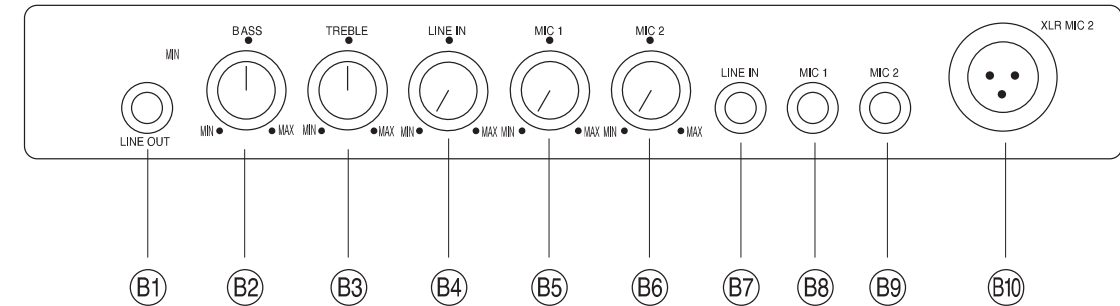
WIRELESS MICROPHONE

- H1) HEAD GRILL - Protects microphone capsule from damage. NOTE: For proper noise canceling and acoustic feedback reduction DO NOT hold hand or fingers over any portion of metal screen.
- H2) MICROPHONE BODY - Hold microphone with hand below this point.
- H3) BATTERY COMPARTMENT - Unscrew cover sleeve to expose battery compartment. Use two 1.5 V AA alkaline cells. Observe proper polarity.
- H4) CHANNEL SELECTOR - Selects one of sixteen operating channel frequencies for wireless microphone operation. Receiver channel number must match the channel number setting on the wireless microphone transmitter. Select a channel which is normally quiet and free of interference. This can be checked by turning off the wireless transmitter and listening to see if there is any noise breaking through on the selected channel. The receiver should stay muted with no activity on the receiver AF light while the wireless transmitter is turned off. If there is noise interference (AF activity), try using another channel setting. NOTE: When using more than one wireless microphone and receiver in close proximity, try to select channels for each that are two or more channels apart for best performance. This can be checked by listening to one microphone while momentarily turning the second microphone on and off and listening to hear if there is any adverse affect on the sound of the first microphone. If there is, simply choose another channel setting for the second microphone system.
- H5) BATTERY INDICATOR - The red light will blink on, then off, each time the power switch is turned on and the batteries are good. If the indicator does not light at all when moving the POWER ON/OFF switch (H6) then it is safe to assume that the batteries need replacing. During normal operation as the batteries begin to loose charge, the red light will gradually come on and glow steadily until the batteries expire and the light goes dark. The steady red light serves as a low battery warning.
- H6) POWER ON/OFF SWITCH - Use to extend battery life.

NOTE: Remove the batteries if you do not plan to use the microphone transmitter for a long period of time, to avoid the possibility of damage due to battery leakage.

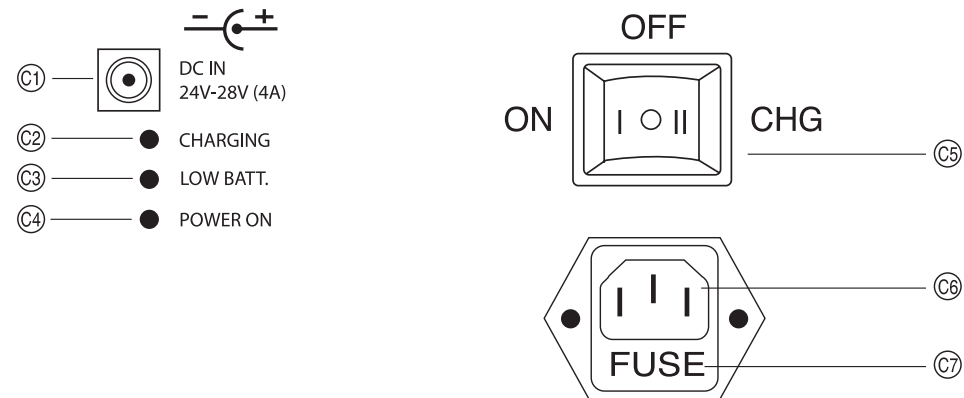


MASTER TONE CONTROLS & MIC/LINE INPUT MIXER



- B1) LINE OUT - Mixer output includes all audio sources. Useful for connecting to additional power amplifiers, PA systems, powered loudspeakers, or external recorders.
- B2) BASS CONTROL - Used to boost or cut low frequencies. Response is flat at 12:00 setting.
- B3) TREBLE CONTROL - Used to boost or cut high frequencies. Response is flat at 12:00 setting.
- B4) LINE IN CONTROL - Varies the level of signal connected to the LINE IN (B7) input jack.
- B5) MIC 1 CONTROL - Varies the level of signal connected to the MIC 1 (B8) input jack.
- B6) MIC 2 CONTROL - Varies the level of signal connected to the MIC 2 (B9 & B10) input jacks.
- B7) LINE IN JACK - Accepts an unbalanced line level input signal.
- B8) MIC 1 JACK - Accepts an unbalanced microphone level input signal.
- B9) MIC 2 JACK - Accepts an unbalanced microphone level input signal. (Operates in parallel with the MIC 2 (B10) XLR connector.)
- B10) MIC 2 XLR JACK - Accepts a balanced microphone level input signal. (Operates in parallel with the MIC 2 (B9) phone jack connector.)

C POWER CONNECTIONS



C1) DC INPUT - Accepts 24 to 28 VDC at 4 to 4.5A typical to recharge the batteries.

C2) CHARGING INDICATOR - Green light will blink to indicate that unit is recharging batteries. When batteries are fully charged the green light will stay on steady. NOTE: POWER switch (C5) must be in CHG position and unit must be connected to an AC power source (C6) or external DC power source (C1). NOTE: Green light may continue to blink in cases of improperly low AC line voltage, resulting in less than a full battery charge.

C3) LOW BATT. - Yellow light will begin to come on to warn that battery voltage is becoming low. This is the first stage low battery warning.

C4) POWER ON - Red light indicates power is switched on. After yellow LOW BATT. light has been on for a time, the red POWER light will begin blinking (second stage low battery warning) indicating that the battery voltage is getting very low, and that automatic shut-down of the unit is imminent. When battery voltage gets low enough to trigger an automatic shutdown, the RED light will go off, and the unit will go silent. The batteries will need to be recharged, or external power applied to resume operation.

C5) POWER ON/OFF/CHARGE SWITCH - Three position rocker switch, center position turns everything off. Store unit with switch in this position. Push switch to ON to operate the unit from battery or external power source. Push switch to CHG to activate battery recharger. NOTE: Unit must be connected to an AC power source (C6) or external DC power source (C1) for batteries to recharge.

C6) AC POWER INLET - Connect detachable line cord (included) to proper AC source. Check label on rear panel to assure proper voltage level (115VAC or 230VAC).

C7) FUSE - Only replace with same type. (20mm 5A / 250V) NOTE: Slide-out fuse holder stores a second fuse for backup replacement.

T CASSETTE DECK CONTROLS

T1) EJECT - Opens unit to insert or remove tape.

T2) COUNTER - 4 Digit LCD with backlight, shows record/playback location on tape.

T3) RESET - Button resets counter to 0000.

T4) SPEED ADJ. - Varies tape speed.

T5) MODE - Selects one of three playback modes:

- 1) Single Side (A or B)
- 2) One Cycle (A & B)
- 3) Continuous Cycle (A & B looped)

T6) F.FWD - Press to fast forward the tape.

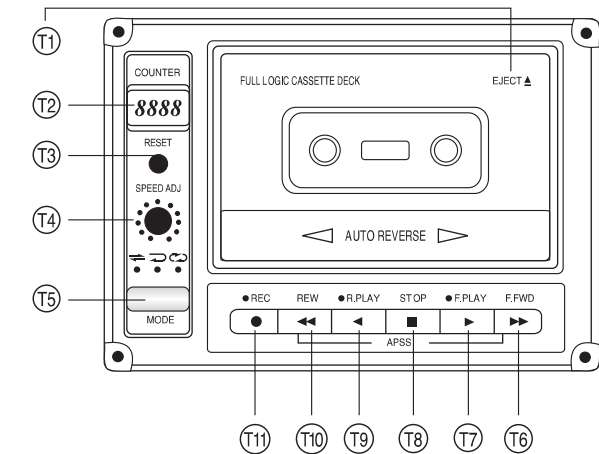
T7) F.PLAY - Press to play side A (Front side playback)

T8) STOP - Press to stop tape motion

T9) R.PLAY - Press to play side B (Reverse side playback)

T10) REW - Press to rewind the tape

T11) REC - Press to initiate recording mode



NOTE: Utilize TAPE power ON/OFF switch and volume control (item 11 on pg. 2). Turn clockwise to supply power to, and increase the volume of the Cassette unit. Switch to OFF when not using Cassette unit to conserve battery power.

D CD PLAYER CONTROLS

D1) PROG - Press to enter program mode. Use REV-SKIP-F.WD buttons (D7) & (D6) to select each track then press ENTER (D8). When finished with track selection press PLAY/PAUSE (D4) to play CD tracks in programmed order.

D2) SHUFFLE - Press to play CD tracks in a random order.

D3) STOP - Press to end CD playback.

D4) PLAY/PAUSE - Each button press alternates between Playback and Pause modes.

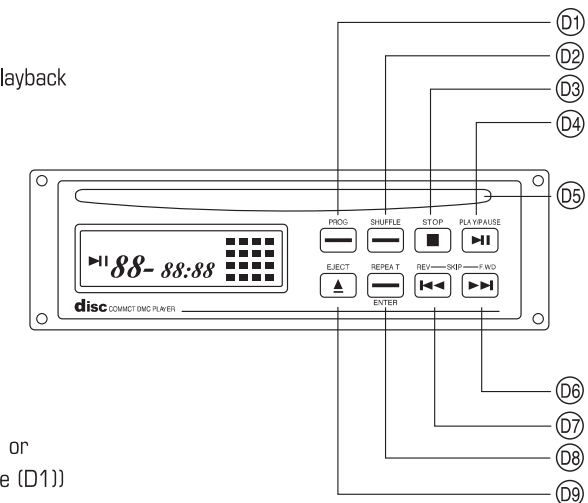
D5) CD SLOT - Insert CD here with label side facing up. NOTE: Assure that CD power is on before inserting CD.

D6) SKIP-F.WD - Press and release to skip or select tracks. During playback press and hold button in to listen to fast forward playback for search.

D7) SKIP-REV - Press and release to skip or select tracks. During playback press and hold button in to listen to fast reverse playback for search.

D8) REPEAT/ENTER - Press to enter repeat playback mode, or use to enter track selections while in program mode. (See (D1))

D9) EJECT - Press to remove CD from player.



NOTE: CD player only accepts standard 12cm disks. DO NOT insert any other size or shape of disk.

NOTE: Utilize CD power ON/OFF switch and volume control (item 11 on pg. 2). Turn clockwise to supply power to, and increase the volume of the CD player. Switch to OFF when not using CD player to conserve battery power.