

frontrow™
pro



USER GUIDE

930T body-worn transmitter

930TM pendant transmitter

930HT handheld transmitter

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introduction

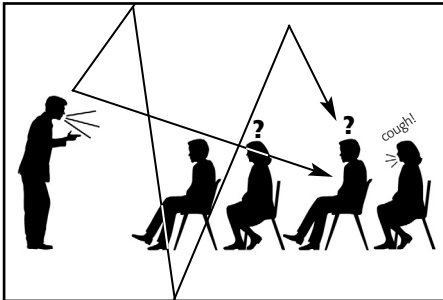
Congratulations on the purchase of your new FrontRow Pro active learning system! With proper care and use it will remain one of your most valuable teaching tools for many years.

You may have heard the term *sound field* used to describe technology to improve classroom acoustics. Your FrontRow system fits under that category, but we call it an *active learning system* because it's about so much more than just sound. *Active learning systems* can help engage students, improve attentiveness to the teacher, build learning success, reduce the achievement gap, foster control and orderliness, improve test scores, and reduce vocal strain and fatigue for teachers.

Read this manual carefully to become familiar with your system and to get the most out of its many features and options.

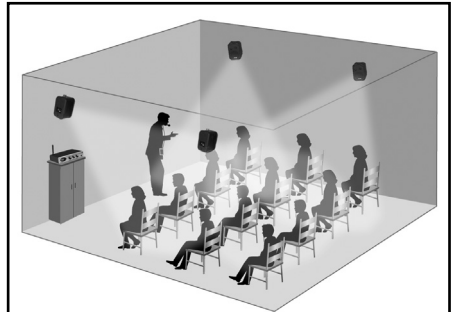
understanding active learning and its benefits

without active learning



- reduced comprehension
- reduced attention
- teacher fatigue

with active learning



- improved comprehension
- improved attention
- greater teacher energy

installation tips

Your FrontRow Pro active learning system is a precision wireless audio instrument designed to improve students' ability to perceive the teacher's voice. In fact, the US Food and Drug Administration (FDA) considers it to be a medical device.

As such, we strongly recommend having your system set up by a professional installer who is familiar with Phonic Ear active learning systems (contact your representative for referrals to installers in your area).

If you choose to install your FrontRow Pro system yourself, take great care to follow the instructions in the separate *FrontRow Pro Installer Guide* before using. Achieving the best performance from your system is only possible by properly selecting and positioning all speakers and sensors. Improper installation can result in poor performance.

basic system guidelines

To help ensure that you get the most from this system, follow these basic guidelines:

Fresh batteries. To ensure that your batteries are as fresh as possible upon arrival, we have intentionally not installed them in your equipment.

Install your batteries in your equipment now, then charge overnight before initial use (see pages 12-15 for charging procedure).

Avoid battery corrosion. Before charging any electronic equipment make sure only NiCad or NiMH rechargeable batteries are installed. As an added precaution, remove batteries if the equipment will not be used for several weeks. Note that your 930TM and 930HT transmitter mics can detect and charge appropriate battery types. Older models that may be in your classroom may not have this feature, however.

Charge your transmitter batteries every night. Our rechargeable Nickel Metal Hydride (NiMH) batteries last a minimum of 8 hours between charges, but should be recharged every night so they are ready to go in the morning. Plan on buying new NiMH batteries after 12 months of use.

Alkaline batteries. If you forget to charge your NiMH batteries, you can use alkaline batteries. They will last approximately 12 hours. NEVER recharge alkaline batteries!

basic system guidelines (cont'd)

Speak at a normal level when using your microphone; the system is projecting your voice for you.

Don't block your FrontRow Pro sensors. Your FrontRow Pro transmitter uses light to communicate with the receiver. Your installer placed the receiver and possibly external sensors to ensure that you can move about the classroom freely without interruption of the signal. Don't block the receiver or sensors with drawings, furniture, or other objects because your voice may not be heard.

Don't use two transmitters on the same channel. Your FrontRow Pro receiver is designed to accept audio from two microphones simultaneously, but they must be on separate channels. Consult pages 22-23 for details.

typical transmitter components

1



1

930T body-worn transmitter

or

930TM pendant transmitter

or

930HT handheld transmitter

2



2

930T AA NiMH rechargeable batteries (2), standard (AT0807)

3



3

930TM AA NiMH rechargeable battery (1), auto-sensing (374-30-400-00)

4



4

930HT AA NiMH rechargeable batteries (2), auto-sensing (374-30-400-00)

5



5

elastic belt for 930T (AT0712)

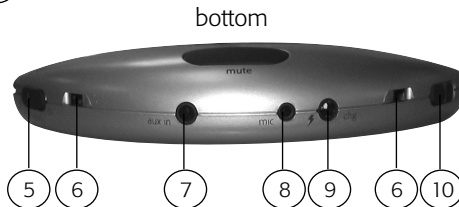
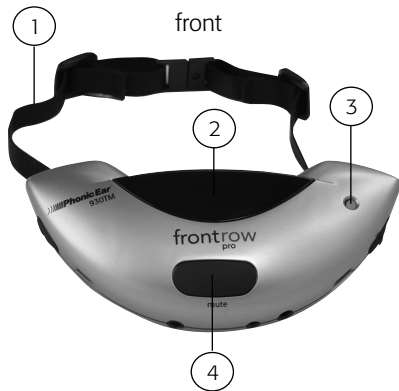
6







6

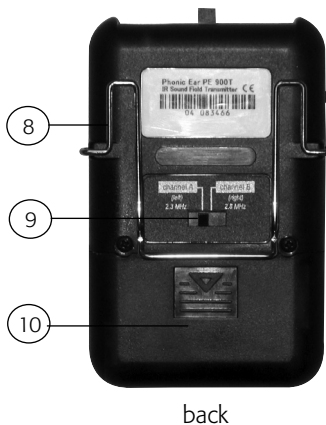
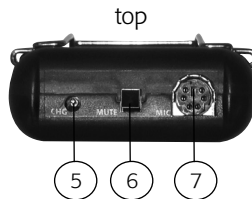
aux-in adaptor cord, 3.5mm to 3.5mm (384-01-210-08)




930TM transmitter features



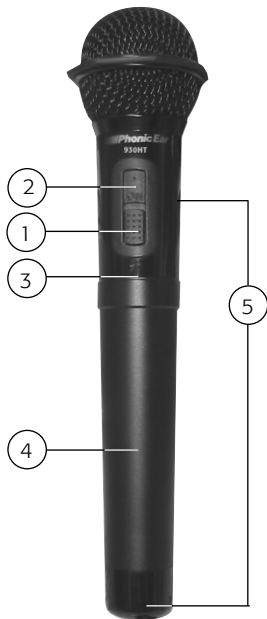
- ① lanyard neck strap
- ② emitter diodes
Do not block
- ③ 4-way indicator light
 -  **on** = Green light
 -  **mute** = Blinking green light
 -  **low batt** = Blinking red light. When light starts blinking there is approximately 1 hour of battery life left.
 -  **batt charging** = Solid red light
- ④ mute button
Push to mute
- ⑤ channel selector
Select channel A or channel B. (Do not match another transmitter channel in same room)
- ⑥ dual microphone ports
- ⑦ auxiliary input
(Optional) connect a secondary sound source (computer, VCR, etc.)
- ⑧ external mic jack
(Optional) connect a boom microphone
- ⑨ charge jack
Connect to 930R charge output jack to charge NiMH battery
- ⑩ on/off switch
- ⑪ battery compartment
Use 1 AA rechargeable NiMH (auto sensing) or disposable alkaline battery

930T transmitter features



- ① on/off switch
- ② 3-way indicator light
 -  **on** = Dim red light
 -  **low batt** = Blinking red light. When light starts blinking there is approximately 1 hour of battery life left.
 -  **batt charging** = Bright red light
- ③ emitter mic element
- ④ emitter mic diodes
Do not block
- ⑤ charge jack
Connect to 930R charge output jack to charge NiMH batteries
- ⑥ mute button
Push down to mute
- ⑦ DIN connector jack
Connects to emitter/microphone
- ⑧ belt clip
- ⑨ channel selector
Select channel A or channel B. (Do not match another transmitter channel in same room)
- ⑩ battery compartment
Use AA rechargeable NiMH or disposable alkaline batteries. Do not charge alkaline batteries!

930HT handheld transmitter features



① on/off switch

② 2-way indicator light

● **on** = Green light

● **low batt** = Red light. When red light is on there is approximately 1 hour of battery life left.

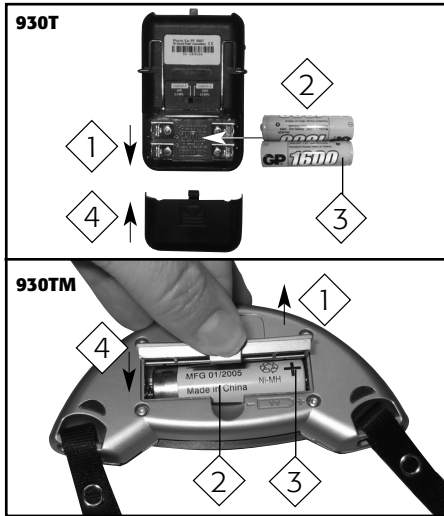
③ internal channel selector
Select channel A or channel B. (Remove battery compartment tube for access; do not match transmitter channels in same room)

④ battery compartment tube
Use 2 AA rechargeable NiMH (autosensing style) or disposable alkaline batteries

⑤ emitter diodes
Do not block

1a

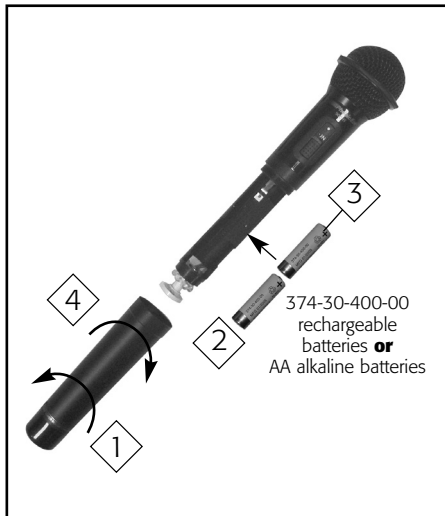
installing body-worn and pendant transmitter batteries



- 1 Push off battery compartment door
- 2 Insert battery(ies) into compartment
- 3 Follow polarity indicators
- 4 Replace battery door

CAUTION!: DO NOT recharge AA alkaline batteries. The 930TM and 930HT transmitters use auto-sensing batteries to prevent accidental recharging of alkaline cells. **NEVER** recharge alkaline batteries in 930T or 900T body-worn transmitters.

1b installing handheld transmitter batteries

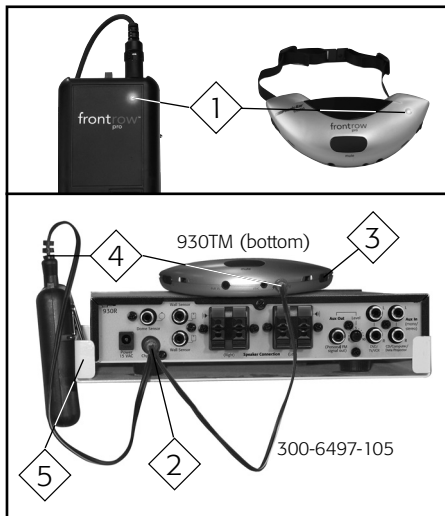


- 1 Twist handle counter-clockwise to remove
- 2 Insert 374-30-400-00 rechargeable batteries into compartment
- 3 Follow polarity indicators
- 4 Twist handle clockwise to replace

CAUTION!: DO NOT recharge AA alkaline batteries. The 930HT handheld transmitter uses auto-sensing batteries to prevent accidental recharging of alkaline cells. **NEVER** recharge alkaline batteries in 930T or 900T body-worn transmitters.

2a

930T/930TM transmitter charging (charge before first use and nightly)



- 1 Indicator light on body-worn or pendant transmitter flashes red when batteries run low
- 2 Plug 300-6497-105 charge cord into charge socket on back of 930R
- 3 Make sure that transmitter(s) is turned off
- 4 Plug 300-6497-105 cord into 900T, 930T, or 930TM transmitter(s)
- 5 Hang 930T or 900T transmitter on edge of wall mount. Lay 930TM on top of receiver.

CAUTION!: DO NOT recharge AA alkaline batteries. The 930TM pendant transmitter uses auto-sensing batteries to prevent accidental recharging of alkaline cells. **NEVER** recharge alkaline batteries in 930T or 900T body-worn transmitters.

2b

930HT handheld transmitter charging *(charge before first use and nightly)*

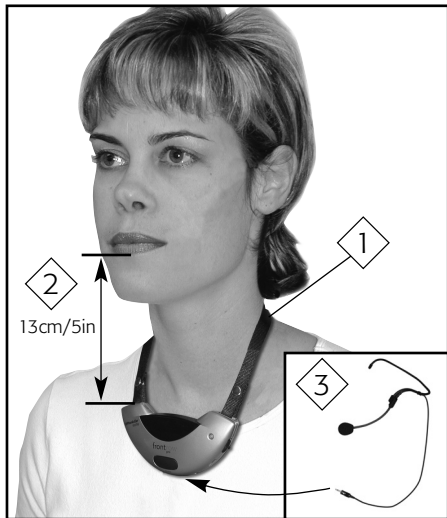


- 1 Indicator light on handheld transmitter turns red when batteries run low
- 2 Plug AT0792 cord into 930HTC charger unit
- 3 Plug AT0792 power supply into wall socket
- 4 Turn mic off
- 5 Place handheld transmitter into 930HTC charger

CAUTION!: DO NOT recharge AA alkaline batteries. The 930HT handheld transmitter uses auto-sensing batteries to prevent accidental recharging of alkaline cells. **NEVER** recharge alkaline batteries in 930T or 900T body-worn transmitters.

3a

using 930TM pendant transmitter



1

Place transmitter around neck and connect clasp

2

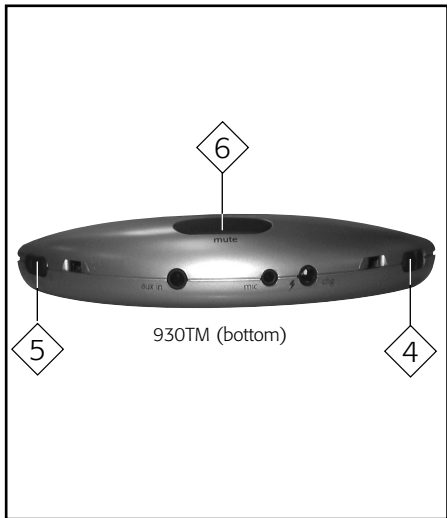
Adjust strap to position transmitter as close to mouth as possible, approximately 13cm/5in. (Maximizes feedback resistance and sound quality).

3

OPTIONAL: If desired, plug in external boom microphone to further improve feedback resistance

3b

using 930TM pendant transmitter (cont'd)



4

Turn transmitter power on

5

Set channel A or B

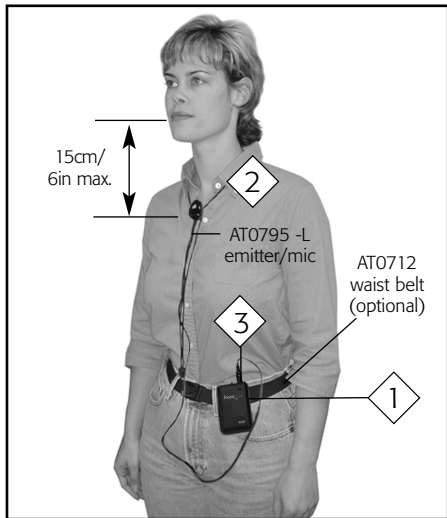
6

Use mute switch as needed for private conversations

NOTE: DO NOT match any other transmitter channel used in the same room.

4a

using 930T body-worn transmitter



1

Clip transmitter to belt using AT0489 wire clip (optional AT0712 waist belt available)

2

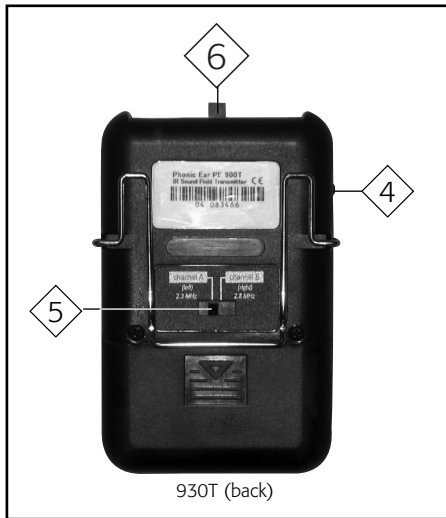
Put microphone around neck and adjust distance to mouth (position mic as close to mouth as possible to maximize feedback resistance and sound quality)

3

Plug in microphone

4b

using 930T body-worn transmitter (cont'd)



4

Turn transmitter power on

5

Set channel A or B

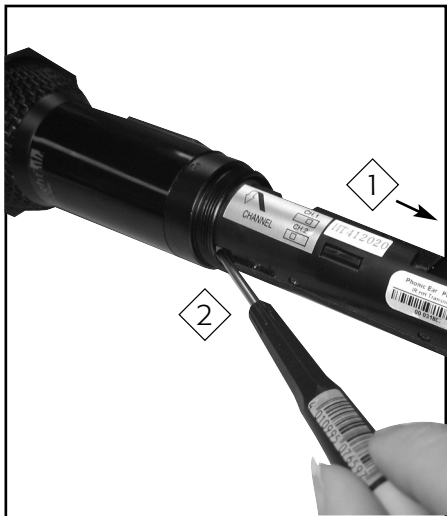
6

Use mute switch as needed for private conversations

NOTE: DO NOT match any other transmitter channel used in the same room.

5a

using 930HT handheld transmitter



1

To set or change channel, remove battery compartment cover to access channel control switch

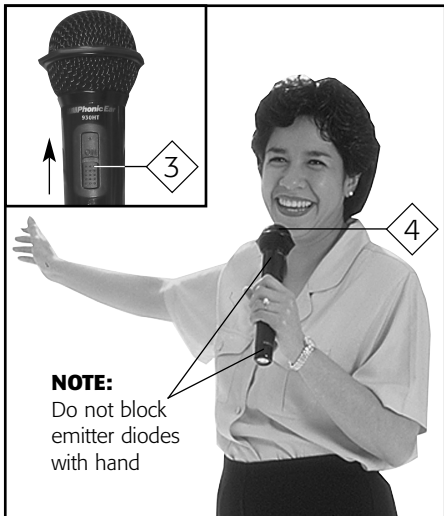
2

Insert small screwdriver into access hole as shown to change channel switch

NOTE: DO NOT match any other transmitter channel used in the same room.

5b

using 930HT handheld transmitter (cont'd)



3

Turn transmitter power on

4

Hold microphone approximately 2-3 inches from mouth and talk into the top of microphone grille

6a

team-teaching and student pass mic combinations

use any transmitter style combination...



teacher
(channel A)



student
(channel B)



teacher
(channel A)

or



teacher A
(channel A)



teacher B
(channel B)

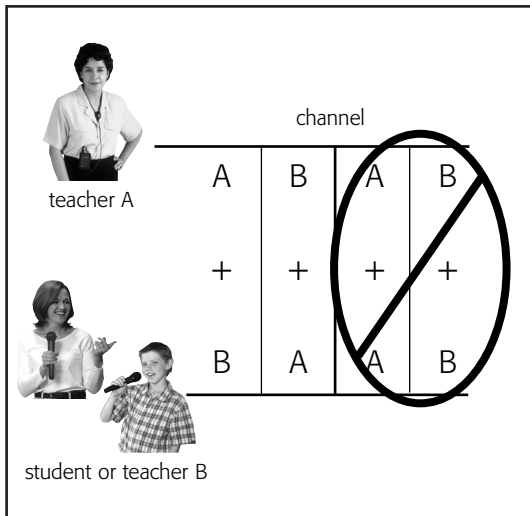


student
(channel B)

Your FrontRow Pro system encourages student participation with a convenient pass mic. If you offer team-teaching in your classroom, FrontRow Pro is also ready to accommodate you with a second teacher mic.

6b

team-teaching and student pass mic combinations (cont'd)



NOTE: Channel settings for transmitters **must** be different (i.e. Teacher A and Teacher B cannot both be using channel A)

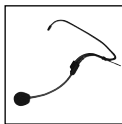
accessory options

used with 930T

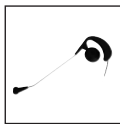


AT0795-L
emitter/microphone
lapel

used with 930TM



AT0655
boom microphone

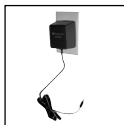


AT0814
earhook microphone

transmitter accessories



930HTC
handheld transmitter
charging stand



AT0792
930HTC power supply



040-7150-105
wall charger
(US/CAN)
930TM, 930T, 900T



890-88-051-00
wall charger
(UK, AU, NZ, EU)
930TM, 930T, 900T

troubleshooting

no signal reception (volume control light on receiver is red)

- Check that the transmitter is on
- Verify that you are not blocking either the emitters on the transmitter or the sensors on receiver or mounted around room
- If reception is interrupted when facing a certain direction, install an additional sensor in that area of the room (see Installer Guide)
- If team-teaching, verify that transmitters are not on the same channel
- Recharge or replace the transmitter's batteries
- Verify that the emitter/mic is working (Test with another working emitter/mic)

feedback (squealing)

- Make sure that speakers are mounted as close as possible to the ceiling and to the listening area. Avoid mounting speakers in the teacher's primary lecture area
- Position the microphone closer to mouth
- Lower the MIC VOLUME control(s) on the receiver
- Select the Low or Medium OPTIVOICE setting (930R)
- Adjust the HIGH BAND EQ control on the receiver (930R)

weak or no output from speaker(s)

- Increase the MIC VOLUME or AUX VOLUME control(s) on the receiver
- Position the microphone closer to mouth
- Verify that the speakers have been properly installed

troubleshooting (cont'd)

receiver won't turn on (power light doesn't turn on)

- Verify that the power supply is plugged into both the receiver and a working wall outlet
- Test with another power supply

'dead spots' or microphone crackling/noise

- Verify that you are not blocking either the emitters on the transmitter or the sensors on receiver or mounted around room
- If reception is interrupted when facing a certain direction, install an additional sensor in that area of the room (see *Installer Guide*)
- If three or more external sensors are used in your room, confirm that they are all wall sensors (see *Installer Guide*)

- If team-teaching, verify that transmitters are not on the same channel
- Recharge or replace the transmitter's batteries
- Verify that the emitter/mic is working (Test with another working emitter/mic)

product specifications

transmitter: 930TM

Transmitting frequency: 2.3MHz & 2.8MHz (switchable)

Modulation: FM wide-band

Operating range: 18.5m/60ft line-of-sight (typical)

Transmission angles: 160° horizontally; 40° vertically (1/2 power)

Microphones: dual uni-directional cardioid (directivity index 6.0@500Hz)

User controls: On/off/mute/channel

Inputs/outputs: 2.5mm mic input; 3.5mm aux input; 1.3mm DC charge jack

Battery life: minimum 8 hour (single AA, 2500mAHrechargeable NiMH)

Size (wxhxd): 11 x 6 x 2.5 cm/4.5 x 2.5 x 0.9 in

Weight: 85g/3.0oz (with battery)

Case: ABS plastic

transmitter: 930T

Transmitting frequency: 2.3MHz & 2.8MHz (switchable)

Modulation: FM wide-band

Operating range: 18.5m/60ft line-of-sight (typical)

Transmission angles: 140° horizontally; 40° vertically(1/2 power)

User controls: On/off/mute/channel

Inputs/outputs: 6 pin DIN mic input; 1.3mm DC charge jack

Battery life: minimum 8 hour (dual AA, 1600mAH rechargeable NiMH)

Size (wxhxd): 11 x 6 x 2.5 cm/4.5 x 2.5 x 0.9 in

Weight: 85g/3.0oz (with battery)

Case: ABS plastic

product specifications (cont'd)

transmitter: 930HT

Transmitting frequency: 2.3MHz & 2.8MHz (switchable)

Modulation: FM wide-band

Operating range: 12m/40ft line-of-sight

Transmission angle: 360° radial

Audio distortion: <1.0% (± 15 kHz deviation @1kHz)

Microphone type: uni-directional dynamic

User controls: on/off/channel

Battery life: 8 hours fully charged (dual AA, 2500mAh rechargeable NiMH)

Size: 255 x 58 mm/10.04 x 2.28 in

Weight: 258g/9.1oz with battery

caring for your system

cleaning

Clean as needed, using a soft, damp cloth.

storage

Clean with a soft damp cloth and remove the batteries from the transmitter(s). Place the system in its original packaging.

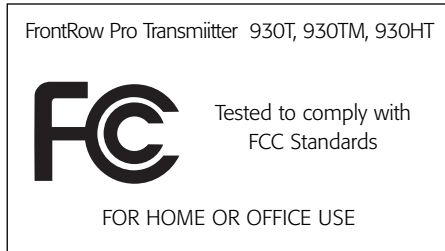
other important notes

- Protect your active learning system from excessive moisture, heat, and mechanical shocks.
- The case bottom of the 930R receiver, as well as the AT0783 power supply, can get warm under normal operation.
- To protect the transmitter's case front, position it face down on a soft surface when removing or inserting the batteries.

- Always dispose of old batteries in approved battery recycling bins. It may be illegal to dispose in the trash. If you are not sure of proper disposal method, please consult your local authority.

regulatory compliance

receiver: part 15, subpart B



This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference

to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.


regulatory compliance (cont'd)


FCC notes

The FrontRow Pro active learning system is approved by the FCC (Federal Communications Commission). The use of the system may be governed by specific FCC rules and FCC licensing or notifications may be required. Consult your local FCC office for detailed information.

Phonic Ear FM receivers and FM transmitters, when required, are approved by the Federal Communications Commission (FCC) in the U.S. and Industry Canada. Other government approvals are available upon request. (Other international regulations may also apply.)

Any changes or modifications made to any government-approved element of this instrument, without the express approval of Phonic Ear Inc in writing, could void the user's authority to operate those elements of the system.

 This product conforms with the essential requirements of European Union Directive 1999/5/CE R&TTE Directive

 This product has been cleared by the U.S. Food and Drug Administration for use by persons with normal hearing and hearing impairment.



Waste from electronic equipment must be handled according to local regulations.

FRONTROW is a division of

)))))) **Phonic Ear**[®]

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