

frontrow™
juno



USER GUIDE

ITR-01 Tower Receiver

ITM-01 Pendant Microphone

ISM-01 Pass-Around Microphone

IMC-01 Microphone Charger

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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 is 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 plugs, convenience receptacles, and 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 this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing 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, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. Do not use batteries that have been dropped or otherwise damaged.
16. The apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.
17. Discoloration of the materials with this product may occur over time, especially if exposed to direct sunlight. This is cosmetic and will not affect the safety or usability.



Electrical Warnings

1. Avoid Abuse to the Power Supply

To reduce risk of electric shock, unplug the power supply from outlet before attempting any maintenance or cleaning. Turning off controls will not reduce this risk.

WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

DO NOT disassemble the power supply. Return the apparatus to FrontRow for qualified service and repair if required. Incorrect reassembly may result in a risk of electric shock or fire.

DO NOT expose the power supply to rain, snow, water, gas, oil, etc.

DO NOT operate the power supply if it has received a sharp blow, been dropped, or otherwise damaged in any way; return the apparatus to FrontRow for qualified service and repair.

DO NOT block or cover the apparatus and impede ventilation.

DO NOT expose batteries (battery pack or batteries installed) to excessive heat such as sunshine, fire, or the like or excessive cold.

2. Proper Use of the Power Supply and Wiring

An extension cord should not be used unless absolutely necessary. Use of improper extension cord could result in a risk of fire and electric shock. The cord **MUST** be plugged into a grounded outlet. Make sure it is properly wired, in good electrical condition, and wire size is large enough for AC ampere rating of the power supply or charger. To reduce risk of damage to plug and cord when disconnecting the power supply or charger, **ALWAYS** pull on plug - **NEVER** on cord.

Locate cord so that it will not be stepped on, tripped over, or otherwise subject to damage or stress. **DO NOT** lay extension cord on charger. **DO NOT** operate the power supply with damaged cord or plug - replace them immediately.

Electrical Safety Information:



PRECAUTIONS & SAFETY RECOMMENDATIONS

Follow Manufacturers' Recommendations

Before using the Tower and power supply, read all instructions for, and caution markings on the receiver and power supply and in this user guide.

System Contents



ITR-01 Juno Tower
Amplifier / Receiver



ITM-01 Pendant
Microphone



Lithium Ion
Battery



Aux-in cord



1 meter micro
USB cable



Phillips head
screwdriver



Wall mounting
screw set



Power supply



AC cable



4 meter USB cable

Optional components



ISM-01
Pass-Around
Microphone



IMC-01
Microphone
charger

Expansion Modules



3 Channel Expansion Module
Add up to 3 additional microphones



Speaker Expansion
Module



Page Override
Module

Setup and Placement

Your Juno Tower will perform best when you place it:

- Even with either the front or rear edge of the main listening area (i.e. where students sit) **and**
- With the speaker facing the center of the listening area. **See Image 1**

Choose the location that allows connection to the teaching computer (4m USB cable provided) and other audio sources (e.g. DVD player)

You can either mount the Juno Tower on a wall using a standard 100mm VESA mount (recommended) or simply place it on a table using the stand provided. In any case, the bottom edge of the Tower should be at least 4.5 feet (1.3m) from the floor. **See Image 2**

If wall mounting, angle the tower down to point at the center of the listening area. **See Image 2**

NOTE: For wall mounting instructions, please see the Juno Installation guide available at gofrontrow.com/products/frontrow-juno

Image 1

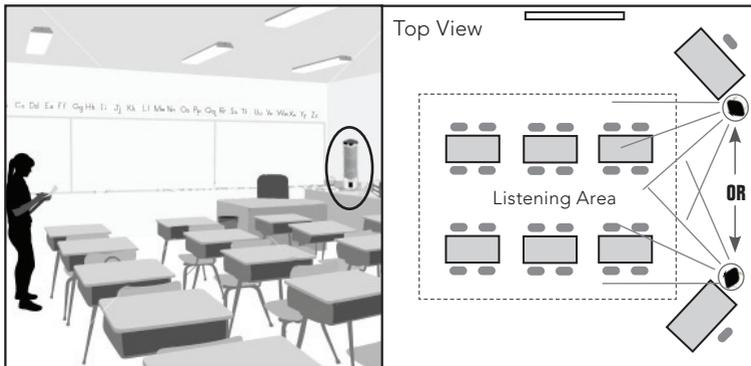
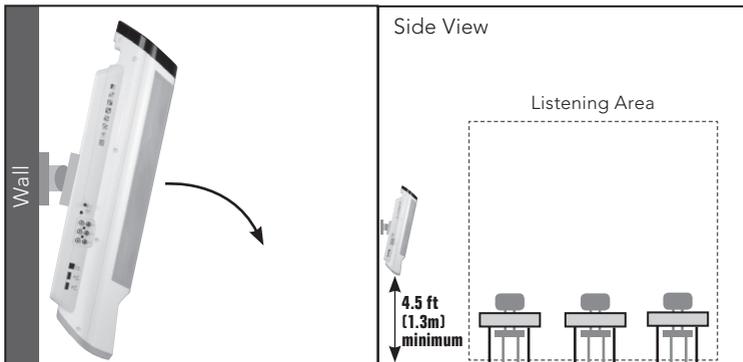


Image 2



Volume Setting Guidance

Your Juno Tower is equipped with a powerful Adapto™ feedback suppression engine that helps avoid harsh squealing noise that would normally occur when a microphone gets too close to a speaker. Nevertheless, try to use volume settings for daily use that give good audibility without constantly activating the feedback suppression engine.

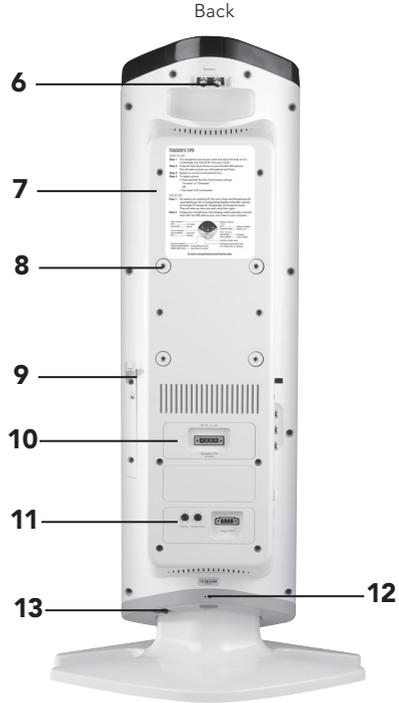
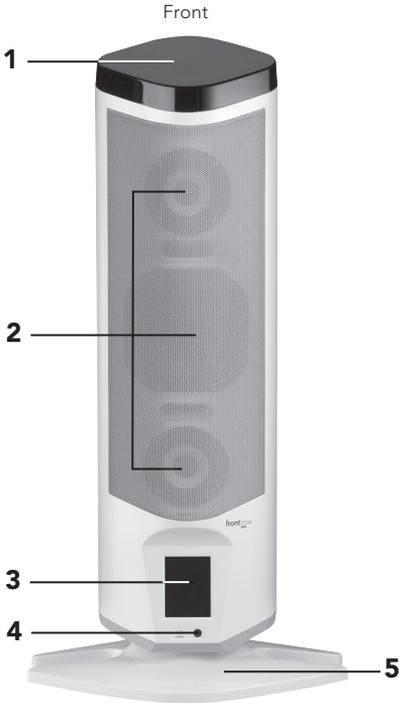
The chart below shows the volume settings for the Pendant and Pass-Around microphones that are adequate for a typical classroom environment (600 - 900ft²/56 - 84m²). If more volume is required for a large or noisy room, you may notice the Adapto engine activating and at a certain high volume or short distance, the engine may not be able to maintain a pleasant audio quality. If feedback occurs, move away from the Tower, remain behind it while talking, or lower either the master volume or the volume for the microphone that is causing the feedback. (See pages 12, 13)

Recommended:

Master Volume	18 - 20
Pendant Microphone Volume	5 - 6
Student Microphone Volume	4 - 5

Features

ITR-01 Juno Tower Receiver



1 Integrated Sensor

Integrated high sensitivity infrared diode array covers a typical classroom without the need for additional sensors.

2 2.1 Speaker Array

Two mid-range HF drivers and one woofer provide full, rich stereo sound. The array design ensures good room coverage even with just one Tower.

3 LCD Touchscreen

Full-color touch screen puts daily system controls in one easy-to-find place.

4 Stereo Quick Connect

Easily and quickly connect an MP3 player or other audio device.

5 Table/shelf/desk Stand

Sturdy desk stand is easily removed for wall mounting.

6 Additional Sensor Ports

Two ports for adding sensors for use in large or odd shaped rooms.

7 Channel Expansion Module Bay (behind main cover)

Add the optional Channel Expansion Module to use up to five microphones with the Juno Tower.

8 Wall Mount Screw Taps

100mm VESA mount compliant.

9 Transmitter/USB Cable Hook

Neatly hang your transmitters while charging from the tower. When not charging, the USB cable hangs from the center of the hook.

10 Speaker Expansion Module Bay

Install the optional module to add additional speakers (up to six) for expanded audio coverage.

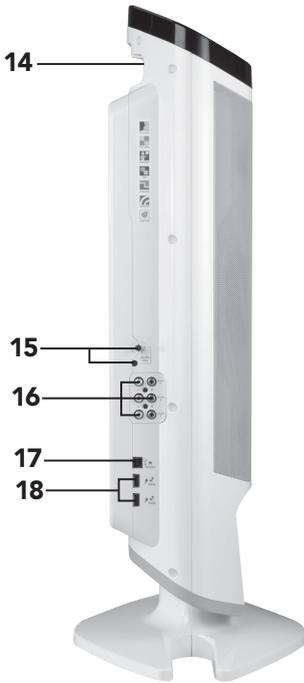
11 Page Override Module Bay

Simply install the optional module to mute all audio whenever an announcement is made over the school's public address system.

12 Power Jack

13 Power Switch

Side



14 Easy Grip Handle

Integrated ergonomic handle makes carrying or moving the Juno Tower easy.

15 Auxiliary Output

Output with volume control. Connect to a computer running the FrontRow Echo™ software to capture lectures or connect personal FM systems for listeners with hearing impairment.

16 Stereo Inputs for External Audio

Connect other classroom A/V equipment such as a DVD player, television or VCR.

17 Serial Port

Using the included USB cable, connect to a computer running the FrontRow Desktop software application for remote control of the Juno Tower.

18 Integrated Serial Hub

Two serial ports for charging microphones, and for programming microphones through a connected PC using the FrontRow Desktop software application.

19 Custom naming

Tower name can be customized using the optional FrontRow Desktop software. Name is displayed on the LCD touch screen for easy identification.

20 Feedback suppression

The next-generation Adapto™ digital engine actively scans audio 375 times per second to suppress feedback squeal before it starts.

21 Optimized speech clarity

FrontRow's patented OptiVoice technology is designed to emphasize critical speech sounds, so kids comprehend even more.

22 Easy lesson capture

With a few simple voice commands, the Echo™ lesson capture system records screen and audio and automatically titles and prepares the recordings for upload where students can review them at night.

23 Connect with classrooms around the world

Using FrontRow with tools like Skype™ and Adobe® Connect™, you can easily set up a real-time audio/video connection between your class and any location.

24 Voice command

Control important functions by speaking simple voice commands into the teacher microphone.

25 Teacher priority

PrioriTeach™ gives priority to the teacher microphone by reducing the volume of all other devices and microphones when the teacher microphone is used.

ITM-01 Pendant Microphone

1 Amazing Sound Quality

With FrontRow's ClearVoice™ digital synthesis technology, the ITM-01 uses a single cardioid microphone element to deliver superb pick up and audio quality. And combined with a high-isolation, low-noise, open air microphone suspension, the ITM-01 minimizes noise from friction against clothing, buttons or jewelry.

2 Mute Indicator

OFF/STANDBY Un-muted
 SOLID RED Muted

3 Power Indicator

SOLID GREEN Power On
 OFF Standby

4 One-Touch Button

Controls all of the features of the Pendant Microphone. Use with voice command to activate the Echo™ lesson capture software and control your Juno Tower.

When the Pendant Microphone is in standby mode:

PRESS MOMENTARILY Awaken

When the Pendant Microphone is active:

PRESS MOMENTARILY Mute / Un-mute

PRESS AND HOLD Issue Voice Command

5 Superior Comfort

Lightweight (just 73.7g/2.6oz) with soft backing that provides comfort and reduces friction noise from contact with clothing, buttons or jewelry.

6 Battery Indicator

In Use

OFF Battery Charged

FLASHING RED Battery Low

When Charging

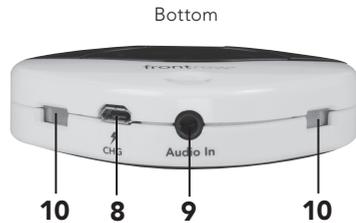
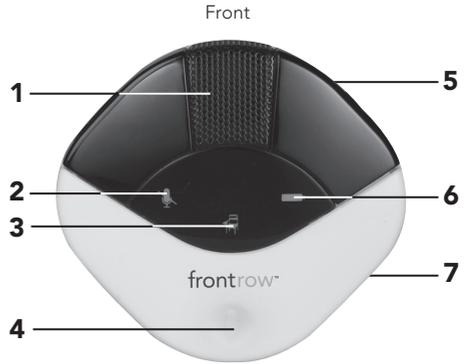
SOLID RED Charging

SOLID GREEN Fully Charged

FLASHING RED/GREEN Charge fault

7 Lithium Ion Battery

3-year life expectancy, lightweight, rechargeable lithium ion battery.



8 Charging / Programming Jack

For charging via USB cable or for configuring settings using the FrontRow Desktop software application.

9 Portable Audio Interface

3.5mm audio input jack lets you use the Pendant Microphone to transmit audio from any secondary audio source such as a computer or MP3 player.

10 Charge Contacts

For use with the optional IMC-01 microphone charger.

11 Adjustable power

Adjust the power to increase either battery life or range.

12 Programmable channels

Program the switch positions to 2 of 5 available channels.

13 Custom naming

Assign custom names to microphones for easy identification on the Tower LCD or in the optional FrontRow Desktop Software.

ISM-01 Pass-Around Microphone

1 Amazing Sound Quality

With FrontRow's ClearVoice™ digital synthesis technology, the ISM-01 uses a single cardioid microphone element to deliver superb pick up and audio quality. And combined with a high isolation, low noise, open air microphone suspension – the ISM-01 minimizes handling noise.

2 360° Emitter Diodes

360° emitter diodes let students hold the Pass-Around Microphone the way it's most comfortable for them without worry of dropout.

3 Power Indicator

SOLID GREEN..... Power On
OFF.....Power Off

4 Battery Indicator

In Use
OFF..... Battery Charged
FLASHING RED Battery Low

When Charging

SOLID RED Charging
SOLID GREEN..... Fully Charged
FLASHING RED/GREEN Charge fault

5 Small and Lightweight

At less than 15cm/6in tall and just 73.7g/2.6oz the microphone is much easier for even young students to use than a standard-sized mic.

6 Power/Push-to-talk Switch

The push-to-talk option makes transitions when passing the microphone between students easier (e.g. no need to take time from the conversation to turn the mic on and off during transition).

PRESS AND HOLD..... Push-to-talk
PRESS AND SLIDE UP..... Power On

7 Name Plate

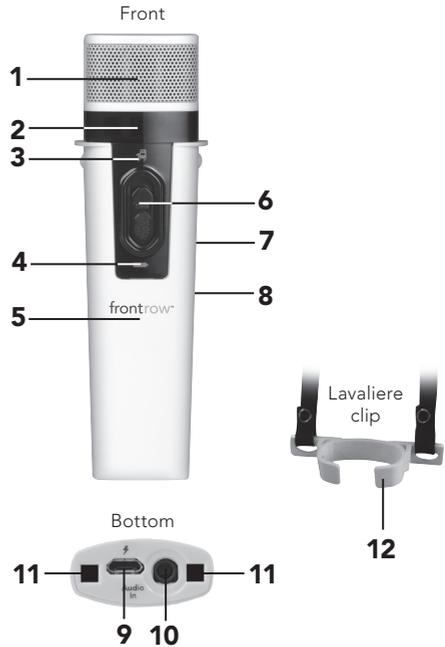
Perfect for adding a name or room number for easy identification.

8 Lithium Ion Battery

3-year life expectancy, lightweight, rechargeable lithium ion battery.

9 Charging / Programming Jack

For charging via USB cable or for configuring settings using the FrontRow Desktop software application.



10 Portable Audio Interface

3.5mm audio input jack lets you use the Pass-Around Microphone to transmit audio from any secondary audio source such as a computer or MP3 player.

11 Charge Contacts

For use with the optional IMC-01 microphone charger.

12 Comfortable Hands Free Option

Easy, comfortable lavalier clip makes reading in front of class simple and lets the Pass-Around Microphone double as a lightweight teacher microphone.

13 Adjustable power

Adjust the power to increase either battery life or range.

14 Programmable channels

Program the switch positions to 2 of 5 available channels.

15 Custom naming

Assign custom names to microphones for easy identification on the Tower LCD or in the optional FrontRow Desktop Software.

Activate Tower and Microphone

1. Turn Tower on. **See Image 3**
2. Place microphone around neck and connect clasp.
3. Adjust neck straps to position microphone approximately 5in (14cm) from mouth. **See Image 4**
4. Press One-Touch button to wake microphone. Power indicator (chair icon) should be green. **See Image 5**

NOTE: For daily use, you do not need to turn the Tower on and off. The Tower will wake up from its energy-saving standby mode whenever you turn on a microphone or play audio through one of the audio connections. The Tower will go back to sleep 30 minutes after your microphones enter sleep mode or you stop playing audio.

Image 3



Image 4

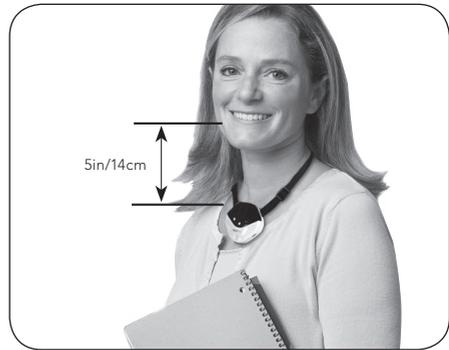
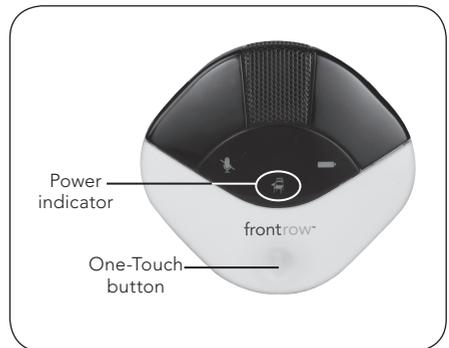


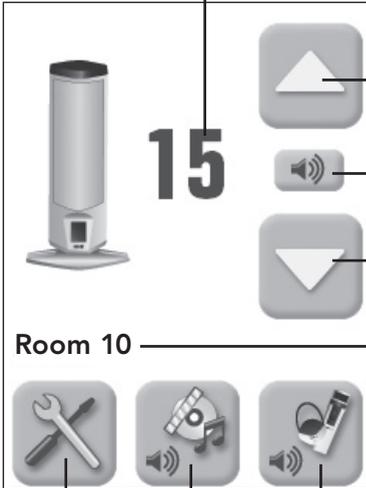
Image 5



Tower Controls

Home Screen

Displays the current master volume



Master Volume Up
(press and hold to increase volume quickly)

Master Mute

Master Volume Down
(press and hold to decrease volume quickly)

Room 10

Name of Tower
(set via FrontRow Desktop software)

Settings
Menu

Device
Volume
Menu

Microphone
Volume
Menu

Volume

Master Volume

Your Juno system has a master volume control that increases or decreases the mixed volume of all devices and microphones. From the home screen you can adjust or mute the master volume of your Juno Tower.

See Image 6

Image 6



Device Volume

You can control the individual volume of each device connected to your Juno Tower. Devices that are currently playing audio will appear in white text and have a green check mark in the far right on the orange bar.

1. Press the Device Volume Menu icon.
2. Select the audio device for which you want to change the volume. **See Image 7**
3. Adjust the volume of the connected device using the up or down arrow. **See Image 8**

Image 7



Image 8



NOTE: Using the optional FrontRow Desktop software, you can name the devices used with your Juno system for easier identification. For more information visit gofrontrow.com/products/frontrow-juno

Microphone Volume

You can separately control the volume of each microphone used with your Juno Tower.

1. Press the Microphone Volume Menu icon.
2. Select the microphone for which you want to change the volume (microphones that are active – on and unmuted – will appear in white text and will have a green checkmark in the far right of the orange bar).

See Image 9

3. Adjust the volume of the microphone.

See Image 10

NOTE: Using the optional FrontRow Desktop software, you can name the microphones used with your Juno system for easier identification. For more information visit gofrontrow.com/products/frontrow-juno

NOTE: A Juno system comes standard with the ability to use two microphones simultaneously. With the optional Channel Expansion Module your Juno system can be used with up to five microphones simultaneously.

NOTE: When playing music from a device connected to the Microphone's Audio-in jack, check the Music Audio-in box for best audio performance.

Image 9



Image 10



Settings

From the Settings Menu, you can customize some of your Juno Tower's available features.

See Image 11

1. Select the feature you would like to configure.
2. See details for each feature below.

NOTE: Additional settings are available through the optional FrontRow Desktop software application.

Image 11



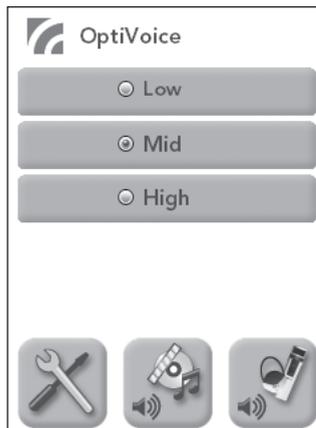
OptiVoice™

A powerful tool for test taking, directions and ESL instruction. Fragile consonant sounds carry 75% of the meaning in speech but are easily destroyed by background noise. OptiVoice strengthens these critical sounds, doing the work of a 12-band equalizer with a single switch.

For low background noise environments and for a more natural reproduction of your voice, use the low setting. For environments with higher background noise, use the mid or high setting (**see Image 12**). Experiment with the right mix of microphone volume and OptiVoice setting to find the optimal solution for your environment.

NOTE: OptiVoice affects microphone audio only; auxiliary audio sources can be adjusted using the equalizer adjustment in the optional FrontRow Desktop software application.

Image 12



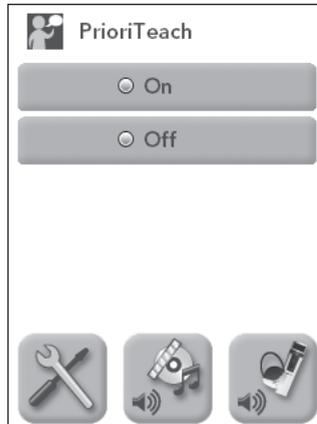
PrioriTeach™

Use PrioriTeach to have the Juno Tower automatically reduce the volume of all other audio sources including Pass-Around Microphones when you speak into the Pendant Microphone. **See Image 13**

NOTE: Advanced settings for PrioriTeach are available through the optional FrontRow Desktop software.

NOTE: The PrioriTeach feature is only activated by a Pendant Microphone and only when on channel A or B.

Image 13



Voice Command

Your Juno System can be controlled using your ITM-01 Pendant Microphone and your voice. See page 19 for details, a list of available voice commands, and instructions for use.

Voice Command can be used on only one channel at a time. Set the command channel to A or B depending on the channel you are using with your Pendant Microphone.

See Image 14

NOTE: Advanced settings for Voice Command are available through the optional FrontRow Desktop software application.

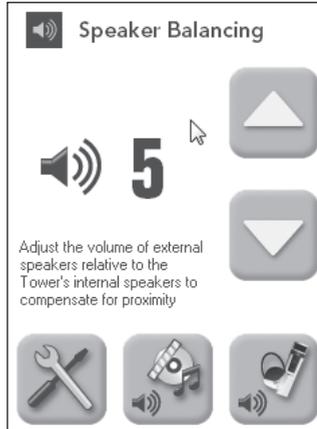
Image 14



Speaker Balancing

With the optional Speaker Expansion Module, your Juno tower can be connected to external speakers mounted in the ceiling or on the wall. Use the Speaker Balancing option to adjust the balance between the Tower's internal speakers and the external speakers. **See Image 15**

Image 15



Restore Defaults

Your Juno Tower can be restored to factory defaults if necessary. **See Image 16**

Image 16



About

The About screen displays your Tower serial number, firmware version and DSP version.

See Image 17

Image 17



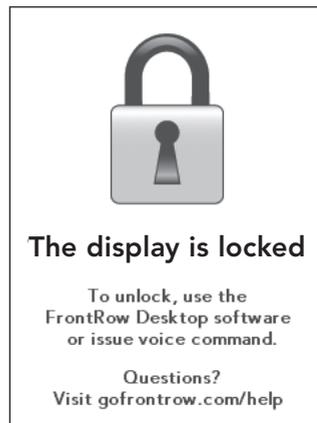
Locking the LCD

To prevent tampering with settings, the LCD on your Juno Tower can be locked using a voice command or the optional FrontRow Desktop software. To lock or unlock your Tower LCD using Voice Command, say "LCD". For details on using the voice command feature of your Juno System, see page 19.

See Image 18

NOTE: When the display is locked and you attempt to make a selection, the lock screen will appear for approximately 10 seconds.

Image 18



LCD Calibration

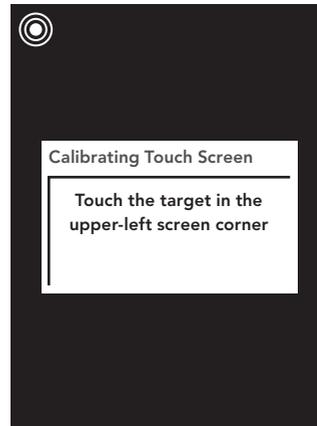
Touch Screen Calibration

Although unlikely, the Juno Tower's touch screen may drift out of alignment over time. If it does not respond accurately when you touch it, it will need to be calibrated.

1. Turn the Tower off.
2. Press and hold the touch screen while turning the Tower back on.
3. Continue pressing the touch screen until the screen turns black.
4. Release the touch screen and wait for calibration screen. **See Image 19**
5. Follow the on screen instructions.

NOTE: Use a stylus intended for touch screens or similar soft-tipped object for best accuracy.

Image 19



Firmware Update

From time to time, FrontRow may make improvements or enhancements to your Tower's firmware. Use the FrontRow Desktop software application to update the Tower firmware (download from gofrontrow.com/products/frontrow-juno)

Voice Command



Your Juno System lets you remotely control parameters of your Juno Tower using a few simple voice commands.

To issue a voice command:

1. Press and hold the One-Touch button on the Pendant Microphone.
2. Wait for Voice Command tone and Tower LCD background to turn green.
3. Keeping the button pressed, issue one of the commands below.
4. Wait for confirmation tone and Tower LCD background to return to white.
5. Release button.

For best performance:

- Follow the sequence above precisely when issuing voice command.
- Avoid brushing the microphone against clothing, jewelry, etc. while issuing voice command.
- Speak clearly with a normal conversational tone.

Say:	When you want to:
Increase	Increase the volume by 2 steps
Reduce	Reduce the volume by 2 steps
LCD	Toggle Juno Tower LCD lock on/off
Begin	Begin or resume a suspended recording through the optional Echo™ lecture capture application
Suspend	Suspend a recording through the optional Echo™ lecture capture application
Finish	Stop, encode and automatically name a recording based on your personalized settings using the optional Echo™ lecture capture application

NOTE: Voice command works only with the Pendant (teacher) Microphone, and only on either channel A or B.

NOTE: While recording, confirmation tones are not heard.

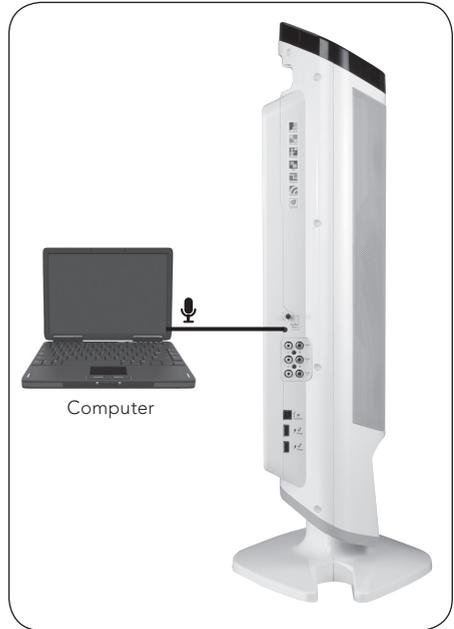
Lesson Capture through Echo™



FrontRow's superior microphone and optional Echo™ lecture capture system open a world of lesson capture and sharing possibilities – without tying teachers to the computer.

- Absent students can still access the original lesson – a huge time saver
- Makes flipped classrooms possible, and allows learning at one's own pace
- Makes podcasting easy
- Students with mobile devices can get lessons on the go
- Helpful tool for keeping parents involved with reinforcing your lessons

Image 20

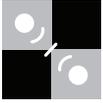


Connect the Juno Tower to your computer

1. Plug a 3.5mm cord into the **Audio Out** port on the side of the Juno Tower and connect the other end to the line-in or mic-in input on your computer. **See Image 20**
 2. Be sure the Tower is connected to your computer via the supplied USB cable.
 3. Set the auxiliary output volume between 4 and 6.
 4. Install the FrontRow Desktop software which includes the **Echo™ lecture capture system**. Download from **gofrontrow.com/products/frontrow-juno**.
 5. Follow the easy on-screen **Echo™** configuration instructions.
 6. Using the ITM-01 Pendant Microphone, and the voice commands on page 19, begin, suspend, and finish your recording. The **Echo™ lecture capture system** automatically names and saves your recordings (screen and audio) to your computer's hard drive. Follow the software's guidance to help you upload it to Google Apps for Education or another host of your choice.
- NOTE:** Test the audio quality of your recording. If the volume is too low or too high, check your computer's microphone or line input volume settings and adjust.
7. Share the location of your uploaded files with your students according to the host's instructions.
 8. Students can benefit from the recordings anytime, anywhere – files are not only accessible by students using any computer but are also accessible on most portable devices including iPad™, iPhone™, iPod Touch™, and Kindle Fire™.

NOTE: To learn more about the FrontRow **Echo™ lecture capture system**, visit **gofrontrow.com/products/frontrow-juno**.

Collaborative Learning using Class2Class



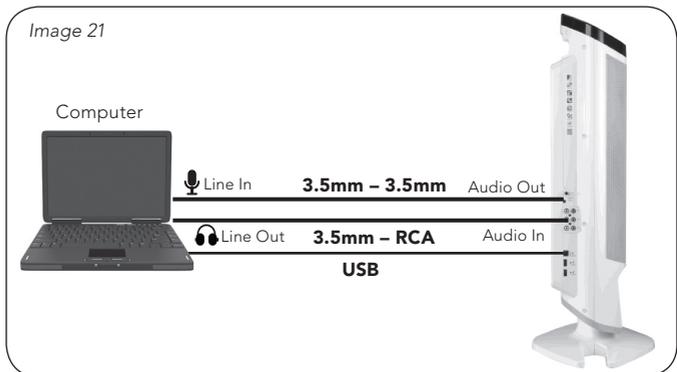
Class collaboration expands the reach of your lesson and introduces your class to new and exciting experiences. The Juno system ensures everyone can hear equally and participate in the learning forum.

Numerous online resources such as **education.skype.com** provide opportunities for your classroom to participate in live educational events and projects with other classes and programs such as Skype™, Adobe® Connect™ and others* provide the medium to see and hear your collaborative classroom partners. Use the Juno Tower to ensure all students are able to effectively participate in the learning session by easily hearing the conversation as well as sharing their thoughts during the session using the optional Pass-Around Microphones. For example, FrontRow classrooms have used this technique to simultaneously connect 14 different classrooms to a live talk with an Olympic athlete, and let students communicate with a NASA Command Center during an emergency simulation.

In both classrooms:

1. Using a 3.5mm to 3.5mm cable, plug the Audio Out from the Tower to the "microphone" or "line in" on your computer. **See Image 21**
2. Using a 3.5mm to RCA cable, plug the "audio" or "headset" out on your computer to one of the audio in connections on the Tower. **See Image 21**
3. Using the supplied USB cable, connect the Juno Tower to your computer.
4. Using the optional FrontRow Desktop software (download from **gofrontrow.com/products/frontrow-juno**), enable the Class 2 Class option.
5. Install and run the communication software application (e.g., Skype™, Adobe® Connect™)
6. Connect to other classroom or collaborator using the communication software.
7. Speak into the Juno microphones; all microphone audio will be transmitted between classrooms and audible via the Tower speakers.
8. If you like, you may start an Echo™ recording of the session. Note that media audio originating from the computer and audio from the remote classroom will not be recorded.
9. When finished, disable the Class2Class option to ensure that computer audio is recorded via Echo™ during normal recording sessions.

NOTE: To learn more about the FrontRow Desktop software, visit **gofrontrow.com/products/frontrow-juno**



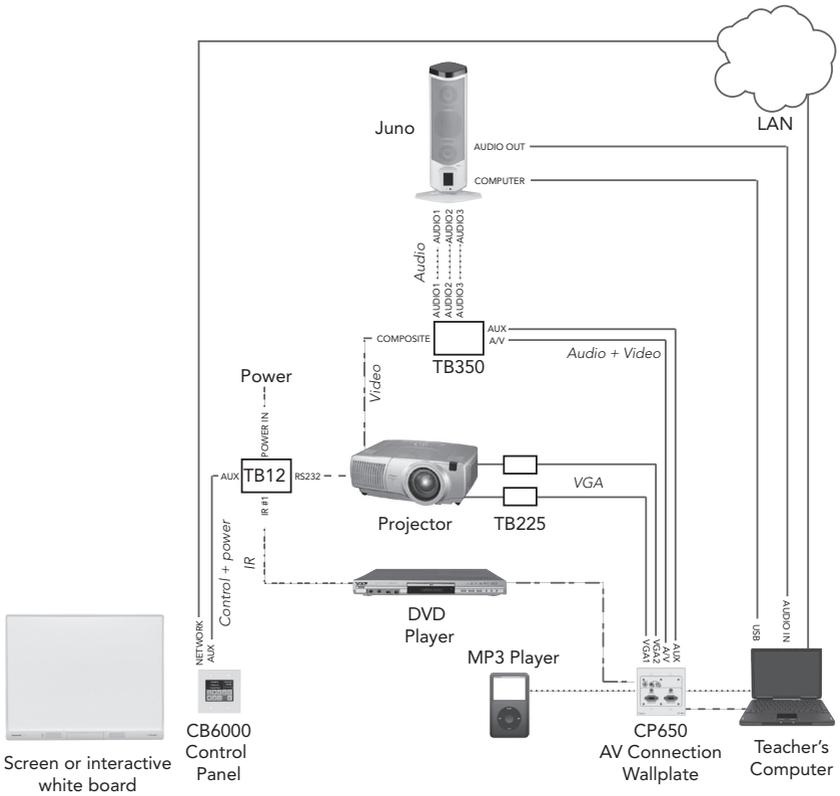
*These applications are not supplied or supported by FrontRow.

Connecting to other Classroom Media

Your FrontRow Juno System can connect to other media to enhance the overall audio experience in your classroom. Ideally, these connections were made during installation; however, they can easily be made after the unit is installed using standard audio cords from your local electronics store.

Example 1

Many classrooms use a FrontRow EZRoom™ AV control system to manage projectors and other equipment online. If your classroom uses EZRoom™, you'll connect your computer audio and video into your AV wallplate and connect your Tower to the TB350 adapter via a 3.5mm cable.



NOTE: This is a schematic illustration intended to clarify the relationship of components to each other. The location of jacks shown here may not reflect their true position on specific devices.

- Cat 5 cable —————
- Serial cable - - - - -
- Audio cable
- RCA cable - - - - -
- Speaker cable - · - · -
- Sensor cable - - - - -
- Other cable - · - · -

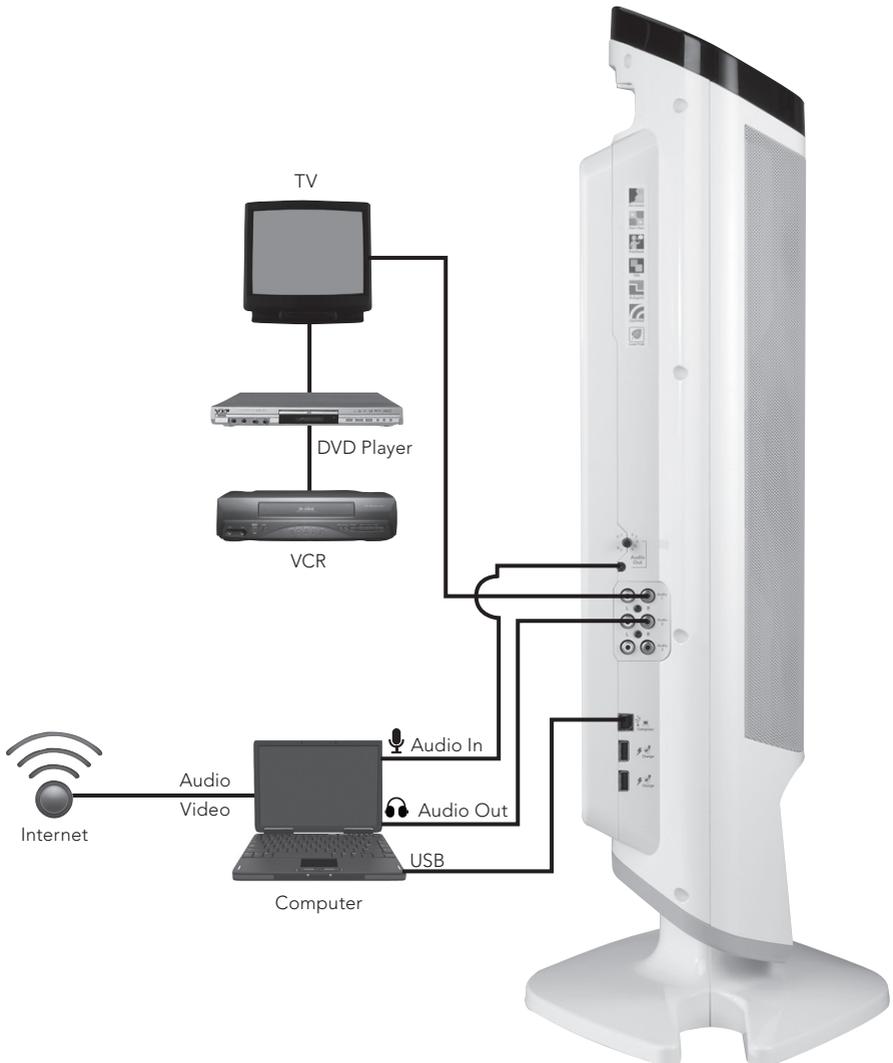
Example 2

If your classroom does not have an EZRoom AV Control System, you can connect your computer directly to your Juno Tower. This can be done using your computer's headphone jack connected to one of the three stereo RCA inputs.



Example 3

Some classrooms use the TV/DVD/VCR as stand-alone media. For these classrooms, you may need to use two auxiliary audio input connections to the Juno Tower.



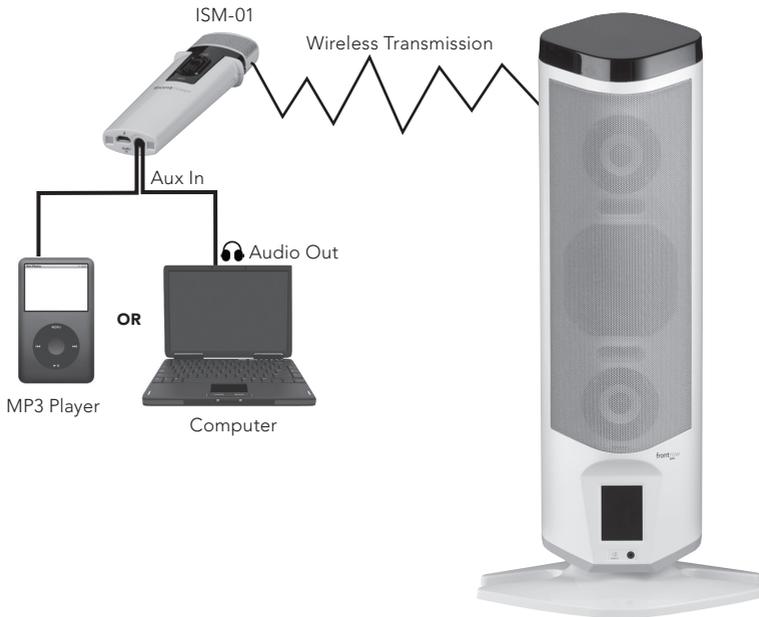
Example 4

Many teachers have MP3 players, portable CD players or other devices that move around the classroom. To amplify audio from portable electronics, it may be most convenient to connect these as needed through the quick connect jack on the front of the Juno Tower. Turn the volume on the MP3 player at least 3/4 of the way up for best sound quality.



Example 5

Connect either the ITM-01 Pendant or ISM-01 Pass-Around Microphone to any audio source that's too far from the Juno Tower to conveniently connect directly.



The ITM-01 Pendant or the ISM-01 Pass-Around Microphones can be used to transmit audio from a secondary audio source (MP3 player, computer, portable radio/CD/tape player) to the receiver.

1. Plug one end of the audio adapter cord (included) in the Audio Out/headphone jack of the secondary audio source. Plug the other end of the adaptor cord to the Audio In jack on the Microphone. **See Image 25**
2. On the Juno Tower LCD, check the "Music Audio in" box on the Microphone's Volume Setting screen. (See page 13)
3. Turn on the secondary audio source.
4. If using the ISM-01 Pass-Around Microphone, turn it on by sliding the Power Switch up.
5. Turn the volume on the secondary audio source at least $\frac{3}{4}$ of the way up and adjust the microphone volume on the Juno Tower to obtain the optimal volume. (See page 13)

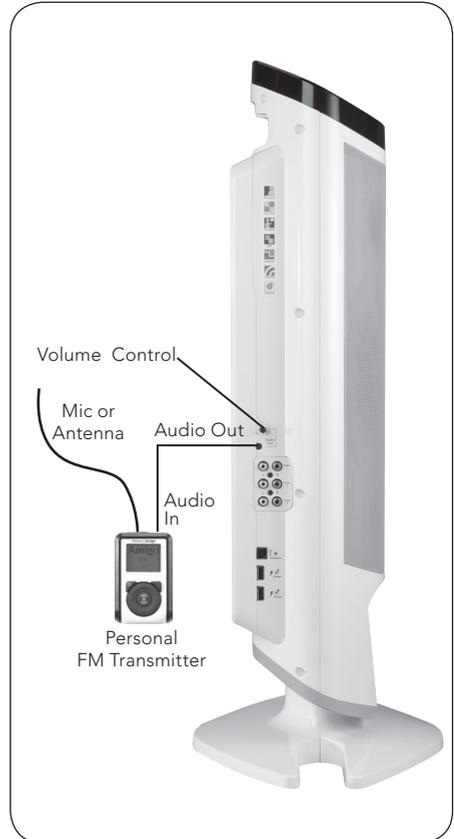
Rebroadcasting via Personal FM Receivers

Allows rebroadcast of all voice and auxiliary audio directly to a hearing-impaired student's personal FM system.

1. Turn on the student's personal FM transmitter. Press the transmitter's mic mute switch for best results.
2. Straighten the microphone cord (or optional antenna).
3. Connect an audio cable to the transmitter's audio input jack.
4. Connect the other cable end to the classroom receiver's audio output jack.
5. Adjust audio output volume on classroom receiver if desired by student.

For more information, visit gofrontrow.com/classroom/innovative-integration to download the Easy Connect Guide.

Image 22



ITM-01 Pendant Microphone

Using

1. Place microphone around neck and connect clasp.
2. Adjust neck straps to position microphone approximately 5in (14cm) from mouth.

See Image 23

3. Press One-Touch button to wake microphone. Power indicator should be green.

See Image 24

NOTE: Your microphone will go into standby mode (off) automatically after 10 minutes in mute mode or 10 minutes of silence. Press One-Touch button to wake.

4. Momentarily press One-Touch button to mute as needed for private conversations. Mute indicator light will turn red. **See Image 24**
5. Press and hold One-Touch button to issue a voice command. For detailed instructions on using Voice Command see page 19.
6. When the battery in your microphone gets low, the battery indicator will flash red.

See Image 24

7. At the end of the day, charge your microphone. (See page 30)

Image 23

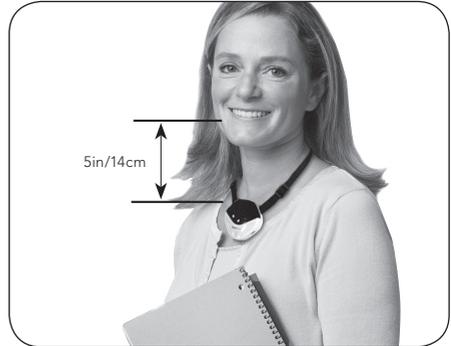
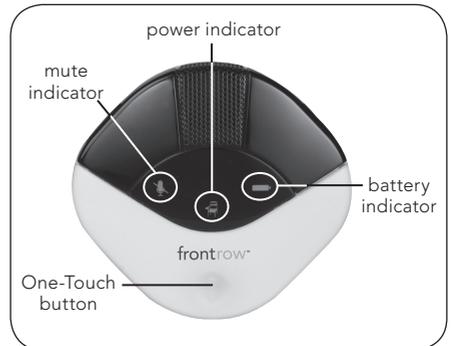


Image 24



Battery

Installing the battery

1. Unscrew battery door on the back of the microphone using the supplied Phillips screwdriver. **See Image 25**
2. Locate the charge contacts on the battery and on the microphone. **See Image 26**
3. Insert battery into compartment - battery contacts first, then push the battery into place. **See Image 27**
4. Replace battery door.
5. For best performance, charge battery overnight before initial use.

Battery Safety

Warning: To reduce risk of fire or burns:

- Do not use batteries that have been dropped or otherwise damaged.
- Do not attempt to open, disassemble or service the battery pack.
- Do not crush, puncture or short external contacts or dispose of in fire or water.
- Do not use battery if exposed to moisture. When exposed to moisture, red checked pattern of moisture indicator will disappear. **See Image 27.**
- Do not expose to temperatures above 40°C (104°F)
- Replace only with the battery pack designed for this product.
- Batteries shall not be exposed to excessive heat such as sunshine, fire or the like, or excessive cold.



Image 25



Image 26

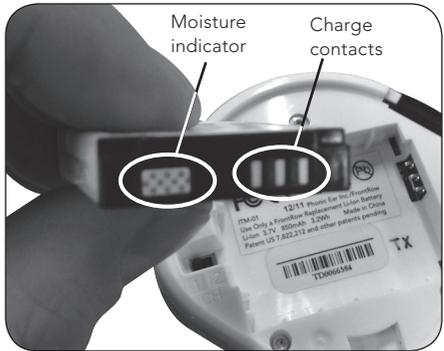


Image 27



Charging

Charge your battery in one of four ways:

- IMC-01 universal microphone charger (optional). **See Image 28**
- USB cable connected to one of your Juno Tower's charge ports. **See Image 29**
- USB cable connected to your computer's USB port*. **See Image 30**
- USB cable connected to a USB to AC power adapter. **See Image 31**

***NOTE - When charging from a computer USB port:**

If using a laptop on battery power and the battery is low, the ITM-01 microphone will not charge. We recommend that you always have your laptop plugged in to a power source when attempting to charge or program your microphone.

The ITM-01 microphone will not charge from a low-power USB port. If you are having trouble charging from a USB port on a computer that is plugged in to a power source, try using a different USB port on your computer.

The ITM-01 microphone will not charge unless you have first installed the software drivers as part of the FrontRow Desktop or Microphone Settings software application. To download the application, visit gofrontrow.com/products/frontrow-juno.

IMPORTANT! To maintain proper charging when using the IMC-01 universal microphone charger, occasionally clean the charge contacts on the bottom of the microphone using a cotton swab dipped in rubbing alcohol.

IMPORTANT! To ensure top performance and avoid equipment damage, batteries should be charged at room temperature.

IMPORTANT! To ensure top performance, FrontRow recommends replacing rechargeable batteries every three years.

IMPORTANT! Store the battery properly if it will be unused for a period of more than 2 weeks.

1. Charge the battery in the microphone for at least 2 hours.
2. Remove battery from microphone, place it in its own bag or envelope and store in a cool dry place.
3. Recharge battery before next use.

Image 28



Image 29



Image 30



Image 31



ISM-01 Pass-Around Microphone

Using

1. Turn microphone on by sliding the Power Switch up. **See Image 32**
2. Note Power Indicator (chair icon).
See Image 32
Green = On and transmitting
Off = Power is off
3. Keep top of microphone approximately 3 - 4in. (7.5 - 10cm) from mouth when using as a hand-held microphone.
See Image 33
4. Do not block emitter diodes. **See Image 32**
5. To allow hands-free use (for example, when reading aloud and turning pages), attach the lavalier clip and neck strap. Adjust neck strap to position microphone approximately 4 - 5in (10 - 13cm) from mouth.

6. When needed, you can simply push and hold the Power Switch while talking rather than sliding it into the "on" position. This makes transitions when passing the microphone between students easier (e.g., no need to take time from the conversation to turn the mic on and off during transition). **See Image 32**
7. When the battery in your microphone gets low (approximately 1/2 hour of use time left) the battery indicator will flash red.
See Image 32
8. Turn off microphone and charge at the end of the day. (See page 34)

NOTE: The ISM-01 is factory set on Channel B. Each microphone must be on a separate channel. See *Programming and Switching the Microphone Channels* on page 36.

Image 32

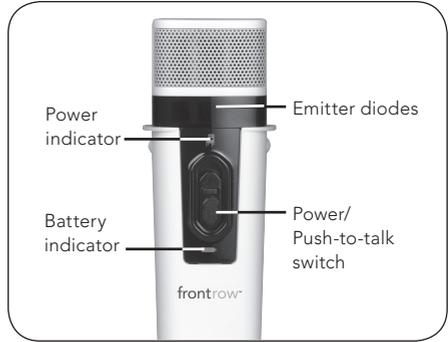


Image 33

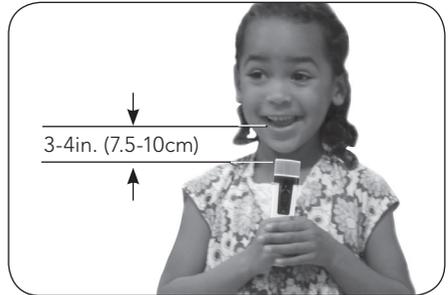
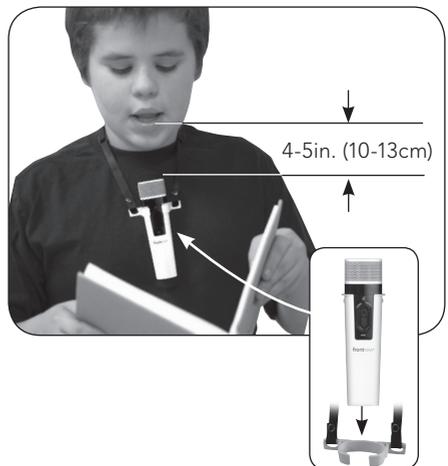


Image 34



Labeling

Your Pass-Around Microphone includes a location for adding a name or room number for easy identification.

1. Place the Microphone on a stable surface with the battery door facing up.
2. Remove the battery door using the supplied Phillips screwdriver. **See Image 35**
3. Slide the clear window out of the battery door.
4. Write the name of the microphone on a blank label that came with your microphone.
5. Place the name in the battery door.
6. Slide the clear window back into the battery door.
7. Replace the battery door and tighten the screw.

Image 35



Battery

Installing the battery

1. Unscrew battery door on the back of the microphone using the supplied Phillips head screwdriver. **See Image 36**
2. Locate the charge contacts on the battery and on the microphone. **See Image 37**
3. Insert battery into compartment - battery contacts first, then push the battery into place. **See Image 38**
4. Replace battery door.
5. For best performance, charge battery overnight before initial use.

Battery Safety

WARNING: To reduce risk of fire or burns:

- Do not use batteries that have been dropped or otherwise damaged.
- Do not attempt to open, disassemble or service the battery pack.
- Do not crush, puncture or short external contacts or dispose of in fire or water.
- Do not use battery if exposed to moisture. When exposed to moisture, red checked pattern of moisture indicator will disappear. **See Image 37**
- Do not expose to temperatures above 40°C (104°F).
- Replace only with the battery pack designed for this product.
- Batteries shall not be exposed to excessive heat such as sunshine, fire or the like, or to excessive cold.

Image 36



Image 37

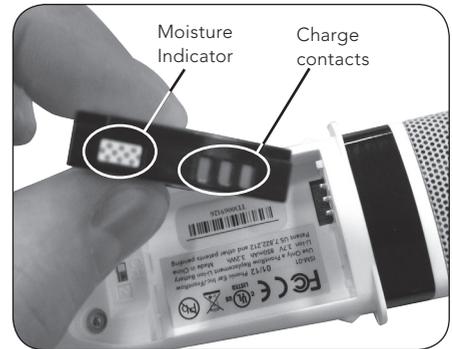


Image 38



Charging

Charge your microphone in one of four ways:

- IMC-01 universal microphone charger (optional). **See Image 39**
- USB cable connected to one of your Juno Tower's charge ports. **See Image 40**
- USB cable connected to your computer's USB port *. **See Image 41**
- USB cable connected to a USB to AC power adapter. **See Image 42**

***NOTE - When charging from a computer USB port:**

If using a laptop on battery power and the battery is low, the ISM-01 microphone will not charge.

We recommend that you always have your laptop plugged in to a power source when attempting to charge or program your microphone.

The ISM-01 microphone will not charge from a low-power USB port. If you are having trouble charging from a USB port on a computer that is plugged in to a power source, try using a different USB port on your computer.

The ISM-01 microphone will not charge unless you have first installed the software drivers as part of the FrontRow Desktop or Microphone Settings software application. To download the application, visit gofrontrow.com/products/frontrow-juno.

IMPORTANT! To maintain proper charging when using the IMC-01 universal microphone charger, occasionally clean the charge contacts on the bottom of the microphone using a cotton swab dipped in rubbing alcohol.

IMPORTANT! To ensure top performance and avoid equipment damage, batteries should be charged at room temperature.

IMPORTANT! To ensure top performance, FrontRow recommends replacing rechargeable batteries every three years.

IMPORTANT! Store the battery properly if it will be unused for a period of more than 2 weeks.

1. Charge the battery in the microphone for at least 2 hours.
2. Remove battery from microphone, place it in its own bag or envelope and store in a cool dry place.
3. Recharge battery before next use.

Image 39



Image 40



Image 41



Image 42



Microphone Configuration

Your microphones can be configured using the FrontRow Desktop application*.

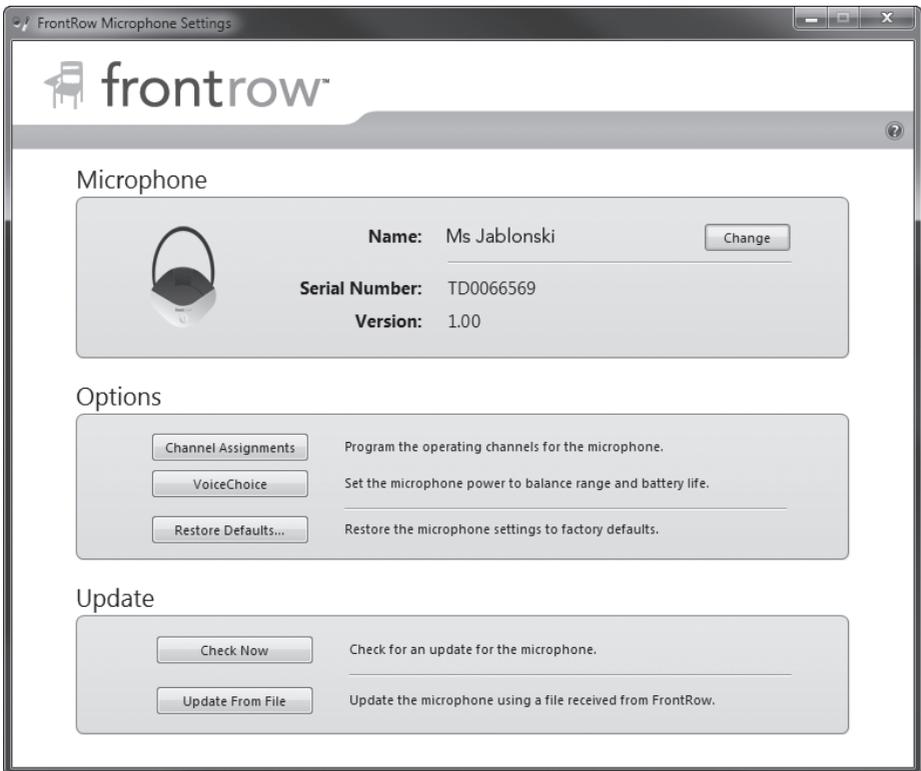
Microphone name – You can name your microphone for display on the Juno Tower LCD screen, making it easier to identify when changing volume.

Channel assignment – Assign the operating channels for your microphone.

VoiceChoice – Set the balance of microphone range and battery life that's right for you. Increase range when you need it for use in large or odd shaped rooms. Increase battery life when you need more talk time from your microphone.

Restore defaults – Restore the microphone settings to factory defaults.

Firmware updates – From time to time, FrontRow may make improvements or enhancements to your microphone's firmware. Use this function to periodically check for updates.



* If you do not have the FrontRow Desktop software installed, a free Microphone Settings application is available at gofrontrow.com/products/frontrow-juno.

Using Multiple Microphones

Your Juno system is designed to receive up to 5 microphone signals at once*. Any combination of Pass-Around and Pendant Microphones is possible. For example, use two Pendant Microphones (one for a teacher and one for a teacher’s aide) and three Pass-Around Microphones for students, or one Pendant Microphone for a teacher and four Pass-Around Microphones for students.

Microphones must be on different channels or interference will occur. You can quickly program them to properly operate on different channels.

NOTE: If you are using the ITM-01 Pendant Microphone with just one ISM-01 Pass-Around Microphone, you probably don’t need to program or set anything. The ITM-01 Pendant Microphone is factory set to transmit on Juno channel A and the ISM-01 Pass-Around Microphone is factory set to transmit on Juno channel B.

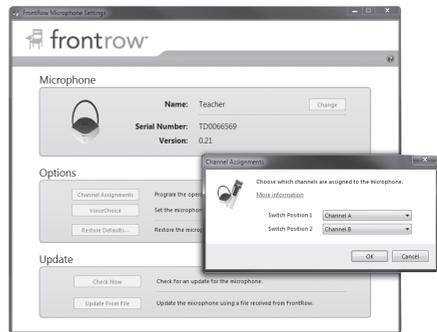
If you have the Channel Expansion Module installed in your Juno Tower and are using multiple microphones, you must assign channels using the FrontRow Desktop or Microphone Settings software and set mic switch positions so that each ITM-01 Pendant and ISM-01 Pass-Around Microphone transmits on a unique channel. Use the Recommended Channel Setting guide below to program channels and choose switch positions for your microphones.

Programming and switching the microphone channels

1. Use a USB cable to connect the microphone to a computer with the FrontRow Desktop software application** installed.
2. Open the FrontRow Desktop software application.
3. Click the Microphone Settings button.
4. Click the Channel Assignments button.
5. Using the dropdown choices on the right, assign the desired channels to the switch positions (see guide below) and click OK.

See Image 43

Image 43



Recommended Channel Setting									
Microphone 1		Microphone 2		Microphone 3		Microphone 4		Microphone 5	
Switch Position 1	Switch Position 2	Switch Position 1	Switch Position 2	Switch Position 1	Switch Position 2	Switch Position 1	Switch Position 2	Switch Position 1	Switch Position 2
A	B	A	B	C	D	C	D	E	C

*The Juno Tower comes standard with 2 channels. Add 3 additional channels with the optional Channel Expansion Module.

**If you do not have the FrontRow Desktop software installed, a free Microphone Settings application is available at gofrontrow.com/products/frontrow-juno.

6. Unscrew battery door using the supplied Phillips screwdriver. **See Image 44**
7. Using the channel indicator labels included with your microphones, label the switch positions you've just reprogrammed. **See Image 45**
8. Move the selection switch (**see Image 46**) to the channel you want to use – ideally, the one indicated in the shaded column in the table on page 36.
9. Close and screw down battery door.

Image 44



Image 45

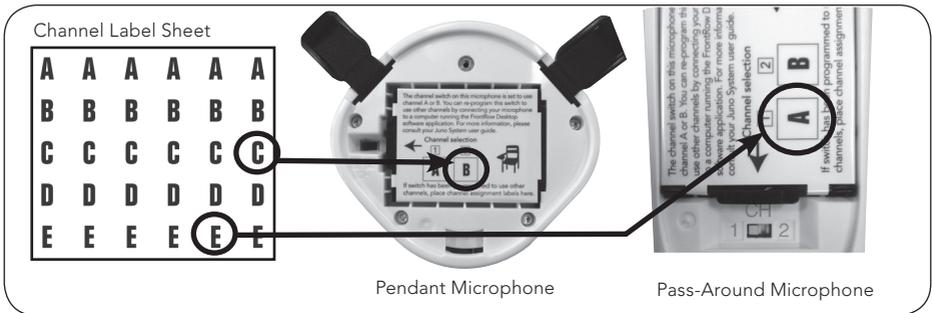


Image 46



IMC-01 Microphone Charger

Charger setup

1. Insert microphones in either of the two charge pockets. **See Image 47**
2. Find the power plug that is appropriate for the power outlet style in your country. **See Image 48**
3. Slide power plug onto the power supply. **See Image 49**
4. Plug the power supply into the power outlet and into the back of the charging base. **See Image 49**

Image 47

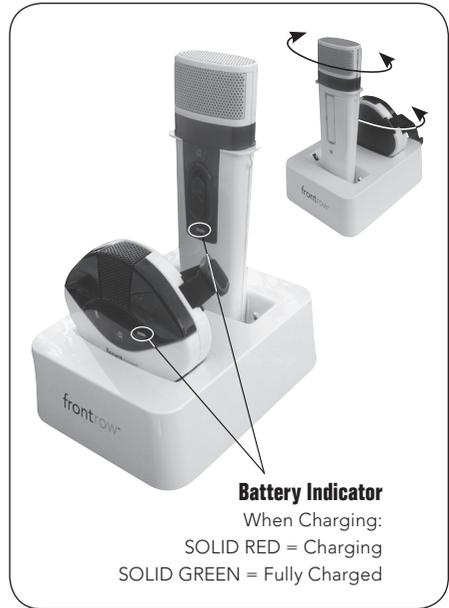
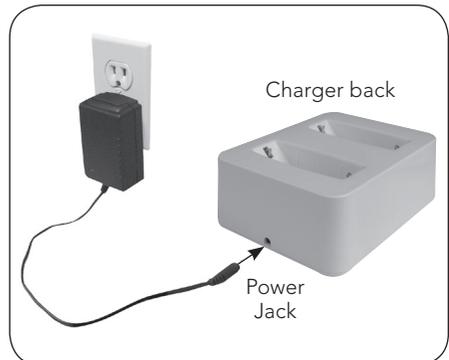


Image 48



Image 49



Troubleshooting

Microphone will not charge from the USB jack on my computer

- Verify that you have the microphone drivers installed. To install the drivers, you will need to install the FrontRow Microphone Settings application or the FrontRow Desktop application. You may need to reconnect your microphone after installation.
- If using a laptop computer, verify that it is plugged into a power outlet.
- If using a computer (desktop or laptop) that is plugged into a power outlet, you may be using a low power USB jack. Try other USB jacks on the computer.

Microphone is not recognized by my computer

- Verify that you have the Juno microphone drivers installed. To install the drivers, you will need to install the FrontRow Microphone Settings application or the FrontRow Desktop software application*. You may need to reconnect your microphone after installation.

Microphone is connected to a Tower charge jack but it will not charge

- Disconnect and reconnect the microphone from the Tower.
- If the Tower is connected to a computer via a USB cable, disconnect the Tower from the computer.

All the lights are flashing on my Pendant or Pass-Around Microphone

- If all lights are flashing after attempting a firmware update, open the Microphone Settings application and connect the microphone to the computer with the USB cable. After a short time, a message will be displayed that the microphone needs to be updated. If this message is not

displayed, disconnect the USB cable and remove the battery (see pages 29, 33). After about 15 seconds, replace the battery and battery door and then reconnect the USB cable to the computer and microphone. The following message should now be displayed: **Click Start Update to proceed**. The microphone will have the original version of the firmware installed. After this completes, click **Check Now** to update the microphone to the current version of the firmware.

The Battery Indicator on the Pendant or Pass-Around Microphone is flashing green/red

- Make sure the unit is not excessively hot or cold.
- Remove microphone from charger for 5 minutes and then try again.
- The battery needs to be replaced

No signal reception (display indicates inactive channel)

- Check that the microphone is on (see pages 28, 31).
- Check that the microphone is not muted (see page 28) (ITM-01 only).
- Verify that you are not blocking either the emitters on the microphone or the sensor at the top of the Juno Tower (see pages 6, 8 & 9).
- If reception is interrupted when facing a certain direction, install an additional sensor in that area of the room (see *Installer Guide*) or adjust VoiceChoice settings (see page 35).
- If using more than one microphone, verify that they are not on the same channel (see page 36).

Tower is not recognized by my computer

- Verify that you have the Juno Tower drivers installed. To install the drivers, you will need to install the FrontRow Desktop application*. You may need to reconnect your Tower after installation.

*Available at www.gofrontrow.com/products/frontrow-juno

Tower will not 'wake up' from standby mode

- Volume level on auxiliary audio device is set too low.
- Make sure microphone is on and working correctly.

Tower won't turn on (LCD does not turn on)

- Verify that the power supply is plugged into both the receiver and a working wall outlet.
- Verify the Tower power switch is on (see page 6)
- Test with another power supply.

'Dead spots' or microphone crackling/noise

- Verify that you are not blocking either the emitters on the microphone or the sensor at the top of the Juno Tower (see pages 6, 8 & 9).
- If reception is interrupted or noisy when facing a certain direction, install an additional sensor in that area of the room (see *Installer Guide*) or adjust VoiceChoice settings (see page 35).
- If using more than one microphone, verify that they are not on the same channel (see page 36).
- There may be "noisy" electrical wiring. Install an AC line filter (see *Installer Guide*).

Feedback (squealing)

- Lower the Microphone Volume control(s) on the Tower (see page 13).
- Position the microphone closer to mouth.
- Verify that the Music Audio In option is not checked in the Microphone Volume screen (see page 13).

Weak or no output from speaker(s)

- Increase the Master, Device or Microphone Volume control(s) on the Tower (see pages 12, 13).
- Position the microphone closer to mouth.
- Verify that the microphone is on and not muted.

High- or low-pitched whine or hum coming through Tower speakers

- There may be a ground loop with the system. Install a ground loop isolator (see *Installer Guide*).
- There may be "noisy" electrical wiring. Install an AC line filter (see *Installer Guide*).

Charging light won't come on

- Check that the charger is connected to a working power outlet.

When playing audio from an audio device such as an iPhone™ or other MP3 player, I can hear background noise through the speakers

- Your device may be emitting a low level hum that is amplified by the Juno Tower. Use a filtering cable such as a ground loop isolation transformer cable to eliminate or reduce the noise.

My voice commands are not being recognized

- Make sure there is not excessive background noise while issuing command
- Make sure the microphone is not being moved around, brushing on clothing, buttons or jewelry.
- Make sure you are following the correct sequence when issuing command (see page 19).

PrioriTeach not working

- Verify that the "Music Audio In" check box in the Teacher Microphone's volume screen (see page 13) is not checked.
- Adjust the drop down level from the FrontRow Desktop software application.
- Verify that PrioriTeach is turned on (see page 15).

Regulatory

receiver: part 15, subpart A

FrontRow Juno Receiver	ITR-01
FrontRow Juno Transmitter	ITM-01
FrontRow Juno Transmitter	ISM-01

 Tested to comply with
FCC Standards

FOR HOME OR OFFICE USE

This equipment has been tested and found to comply with the limits for a Class A 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. This product conforms to the essential requirements of European Union Directive / EU Directive 2004/108/EC EMC Directive and 2002/95 ROHS Directive. This product can be subject to interference at our operational frequency bands of 2.1, 2.4, 2.8, 3.3, and 3.6 MHz.

FCC notes

The Juno 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. FrontRow Calypso LLC receivers and 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 FrontRow Calypso LLC 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 /EU Directive 2004/108/EC EMC Directive and 2002/95 ROHS Directive. This product can be subject to interference at our operational frequency bands of 2.1, 2.4, 2.8, 3.3, and 3.6 MHz.

Electrical and electronic equipment (EEE) contains materials, components and substances that could be dangerous or detrimental to human health and the environment if waste electrical and electronic equipment (WEEE) is not disposed of correctly. Products marked with the crossed-out dustbin shown here are electrical and electronic equipment. The crossed-out dustbin indicates that waste electrical and electronic equipment may not be disposed of with unsorted household waste and that it must be collected separately. In developing and manufacturing your FrontRow Calypso LLC product, we used high-quality materials and components that can be reused. Thus, when disposing of your waste electrical and electronic equipment, you must use a collection system designated for this purpose, regardless of whether you dispose of your waste at your local waste site or it is collected from your home. Please contact your local authority for further information.



IC notes

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

The term "IC:" before the radio certification number only signifies that Industry of Canada technical specifications were met.



USA/Global

FrontRow
Corporate Headquarters
2080 Lakeville Highway
Petaluma, CA 94954-6713
toll-free: 800.227.0735
tel: 707.769.1110
fax: 707.769.9624
web: www.gofrontrow.com

Australia

Phonic Ear
12/97 Castlemaine Street
Milton Qld 4064
Australia
freecall: 1 800 PHONIC
fax: 1300 746 642
web: www.gofrontrow.com.au

Canada

Phonic Ear
6950 Creditview Road, Unit 1
Mississauga, ON L5N 0A6
toll-free: 800.340.9894
tel: 905.461.5300
fax: 905.677.7760
web: www.gofrontrow.com

Scandinavia

Phonic Ear A/S
Kongebakken 9
2765 Smørum
Denmark
tel: +45 3917 7101
fax: +45 3927 7900
web: www.gofrontrow.com
www.phonicear.com

New Zealand

Oticon New Zealand Ltd.
142 Lambton Quay
P.O. Box 9128
Te Aro, Wellington
toll-free: 800 OTICON
toll-free fax: 00800 FAX
OTICON
web: www.oticon.co.nz

United Kingdom

PC Werth Limited
Audiology House
45 Nightingale Lane
London SW12 8SP
tel: 020 8772 2700
web: www.soundfield.info