ListenPoint™ Customization Guide

Table of Contents

Introduction

Thank you for purchasing a ListenPoint™ System. This system has been design for creating audio structure for your room. ListenPoint™ allows you to customize the room for enhanced intelligibility of the orator or presentation. This guide is intended to be utilized by the installer for advanced customization of the ListenPoint™ system. Within the guide, you will have a series of hyperlinks that will help direct you to the information you desire. The guide will also give you commonly used examples, FAQs and links to many different "white papers".

Product Terms

Control Unit (CU): The CU is where the auxiliary inputs and output are connected. The CU has a LCD display with a single control dial that allows you to customize you ListenPoint™ system. The CU should be placed located for easy access such as a desk or wall, it also has headphone jack with volume control on the front panel. The CU connects to the Room Module with a single CAT-5e cable.

Room module (RM): The RM contains the IR sensor and the speaker amplifiers. The RM should be suspended from the ceiling, and all the speakers connect directly to the RM. The RM connects to the *CU* with a single CAT-5e cable.

Control dial: This is master control on the *CU.* By rotating the dial you can scroll through menu items and by pushing the dial you can select desired functions.

Equalizer (EQ): The ListenPoint™ system has two different EQ circuits. One is used for speaker equalization and the other for room equalization. Equalizers are used to eliminate feedback and increase the intelligibility of the system.

GPI relay: General purpose interface. The GPI is a single pole double throw relay (SPDT). The relay has a three pin Euro connector on the back of the *RM.* Applications for the relay include; silent alarms to help alert an administrator, raising or lowering a screen, or turning on a projector.

LCD: The Liquid Crystal Display is on the *CU* and allows for viewing of the system customization. In the normal operation it shows aux inputs and master volume, microphone battery level, and relative microphone level and also indicates when an external page has been sensed.

MIC: The microphone can be worn around the neck, on the hip, as a lapel or be used as a handheld (additional microphone hand-held sleeve comes with LPT-M1 package). The microphone is a transceiver that sends and receives information (including your voice) to/from the RM. Some buttons may be customized to perform different related tasks.

ListenPoint™ Customization

To access the system customization menu, use the *LCD* and control dial on the *CU*, or optionally you can use the ListenPoint™ Software (downloaded from the website).This part of the customization guide will explain all the parameters you can adjust. Whether you adjust them via *CU* or with ListenPoint™ Software, the parameters behave the same.

Customizing using the LCD and Control Dial: With the unit on, press and hold the control dial for five seconds. The display on the unit will change to show the customization menu. Turning the control dial will scroll through the functions you can select. Push the dial to select a particular function.

If the control dial is not moved for 60 seconds the *CU* will exit the customization menu and return to the user screen

You may enable password protection for your entire customization menu by scrolling to the password Management section and entering a password as directed. A password may be any combination or 4 letters, numbers, or symbols. Make sure to write down your password in a safe place. Note: a forced reset will erase your password and ALL customization settings.

Customization Tree – Condensed

I. Customization Guide
   - A. *Speaker Control*
   - B. *Paging*
   - C. *Microphones*
   - D. *Auto Select*
   - E. CU *Input Trims*
   - F. *Input Names*
   - G. *Optional Module*
   - H. *GPI*
   - I. P*assword Management*
   - J. *Language*
   - K. *Screen*
   - L. *System Reset*

M. *About*
N. *Done*

Customization Tree - Expanded

I. Customization Tree
  A. Speaker Control
    1. *Amp* Trims (Default Value is 0)
      a. *Amplifier 1 Trim* - 18 dB to +2db
      b. Amplifier 2 Trim - 18 dB to +2db
      c. Amplifier 3 Trim - 18 dB to +2db
      d. Amplifier 4 Trim - 18 dB to +2db
      e. Back
    2. *Recall EQ*
      a. User EQ 1
      b. User EQ 2
      c. User EQ 3
      d. User EQ 4
      e. Flat
      f. Up
    3. *Save EQ*
      a. User EQ 1
      b. User EQ 2
      c. User EQ 3
      d. User EQ 4
      e. Cancel
    4. *Adjust EQ*
      a. *Speaker EQ*
        i. Flat
        ii. Music
        iii. Speech
        iv. Downloaded 1
        v. Downloaded 2
        vi. Downloaded 3
        vii. Downloaded 4
        viii. Downloaded 5
        ix. AMK SA615-7NT
        x. Atlas Sound FA40T
        xi. Atlas Sound HD72
        xii. Bose Model 16
        xiii. Bose Model 32
        xiv. Bose Model 100

xv. JBL Control 26C
xvi. Listen LPT-A104
xvii. Listen LPT-A104-P
xviii. Listen LPT-A105
xix. Listen LPT-A106
xx. Rauland-Borg ACC1400
xxi. Rauland-Borg ACCWB5
xxii. Penton CCS4/T
xxiii. Penton CCS6/T
xxiv. ProAcoustics PRS-VCA
xxv. ProAcoustics PRS-SD4
xxvi. Soundtube CM5001
xxvii. Soundtube CM62-EZ
xxviii. Soundtube CM82-EZ
xxix. Soundtube SM4001
xxx. Tannoy CMS501 BM
xxxi. Tannoy CMS501 DC BM
xxxii. Tannoy CMS601 DC DM
xxxiii. Tannoy CMS6012 BM
xxxiv. Tannoy CVS 4
xxxv. Tannoy CVS 5
xxxvi. Tannoy DI5
xxxvii. Tannoy DI5 DC
xxxviii. Cancel

b. *Room EQ Cut/Boost* (Default Value is 0)

i.	Adjust Bass	+/- 10 dB
ii.	Adjust Band 2	+/- 10 dB
iii.	Adjust Band 3	+/- 10 dB
iv.	Adjust Band 4	+/- 10 dB
v.	Adjust Band 5	+/- 10 dB
vi.	Adjust Band 6	+/- 10 dB
vii.	Adjust Treble	+/- 10 dB

c. *Room EQ Parameters*
   i. Filter 1
      1. Filter 1 Freq (low frequency shelving)
         a. 52Hz/104Hz/ 208Hz/260Hz
   ii. Filter 2
      1. Filter 2 Type
         a. high pass, low shelf, peak, notch, disable
      2. Filter 2 Freq
         a. 80Hz/120Hz/180Hz/220Hz/300Hz
      3. Filter 2 Q
         a. 0.2/0.4/0.6/0.8/1.0/1.5/2.0

iii. Filter 3
  1. Filter 3 Type
    a. peak, notch, disable
  2. Filter 3 Freq
    a. 220Hz/300Hz/400Hz/600Hz/800Hz
  3. Filter 3 Q
    a. 0.2/0.4/0.6/0.8/1.0/1.5/2.0

iv. Filter 4
  1. Filter 4 Type
    a. peak, notch, disable
  2. Filter 4 Freq
    a. 600Hz/800Hz/1.2kHz/1.6kHz/2.2kHz
  3. Filter 4 Q
    a. 0.2/0.4/0.6/0.8/1.0/1.5/2.0

v. Filter 5
  1. Filter 5 Type
    a. peak, notch, disable
  2. Filter 5 Freq
    a. 600Hz/800Hz/1.2kHz/1.6kHz/2.2kHz
  3. Filter 5
    a. 0.2/0.4/0.6/0.8/1.0/1.5/2.0

vi. Filter 6
  1. Filter 6 Type
    a. low pass, high shelf, peak, notch, disable
  2. Filter 6 Freq
    a. 4kHz/6kHz/8kHz/10kHz/12kHz
  3. Filter 6 Bandwidth
    a. 0.2/0.4/0.6/0.8/1.0/1.5/2.0

vii. Filter 7
  1. Filter 6 Freq (high frequency shelving)
    a. 5.2kHz/7.3kHz/ 10.4kHz / 15.6kHz

d. Quit and Keep Changes
e. Quit and Undo Changes

5. Back

Return to Top of Customization Tree

B. *Paging*
1. *Paging Volume*
  a. +/- 18 dB
  b. Off
2. *Page Ducking* from Paging input
  a. None
  b. Low (-12db)

c. Medium (-18db)
d. High (-max)

3. *Ducking* from 6–2V input
   a. None
   b. Low (-12db)
   c. Medium (-18db)
   d. High (-max)
4. Up

Return to Top of Customization Tree

C. *Microphones*

1. *Low Battery Beep*
   a. *On*
   b. *Off*
2. *IR Link Beep*
   a. *On*
   b. *Off*
3. Button Disable
   a. On
   b. Off
4. Mic Auto Off
   a. On
   b. Off
5. *Low Battery LED*
   a. On
   b. Off
6. Aux *Vol Control*
   a. *On* Mute
   b. Disable
7. *Aux Ducking*
   a. None
   b. Low (-6db)
   c. Medium (-12db)
   d. High (-18db)
8. *Soft Button Short*
   a. *Aux mute*
   b. *GPI*
   c. *Master Volume*
9. *Soft Button Long*

a. *Aux mute*
b. *GPI*

10. RM IR Loss T.O. (RM to Microphone IR Link Loss Timeout in seconds)
    a. 2 sec
    b. 60 sec
    c. NONE
11. Up

D. *Auto Select*
1. *On*
2. *Off*

Return to Top of Customization Tree

E. *CU Input Trims*

1.	*Aux 1 Trim*	-10db / 0db	(Default value is 0)
2.	*Aux 2 Trim*	-10db / 0db	(Default value is 0)
3.	*Aux 3 Trim*	-10db / 0db	(Default value is 0)
4.	*Aux 4 Trim*	-10db / 0db	(Default value is 0)
5.	*T-con Trim*	-10db / 0db	(Default value is 0)
6.	*Bal Input Trim*	-10db / 0db	(Default value is 0)

7. Up

Return to Top of Customization Tree

F. *Input Names*
1. *Aux-1*
    a. CD
    b. TV
    c. PC 1
    d. PC 2
    e. Cable
    f. iPod
    g. MP3
    h. Video
    i. DVD
    j. Mixer
    k. AUX-1
    l. User Defined

i. Alpha/numeric changeable
ii. Scroll through all fields
iii. Keep changes
1. Yes
2. No
3. Cancel

m. Up

2. *Aux-2*
   a. CD
   b. TV
   c. PC 1
   d. PC 2
   e. Cable
   f. iPod
   g. MP3
   h. Video
   i. DVD
   j. Mixer
   k. AUX-2
   l. User Defined
      i. Alpha/numeric changeable
      ii. Scroll through all fields
      iii. Keep changes
         1. Yes
         2. No
         3. Cancel
   m. Up
3. *Aux-3*
   a. CD
   b. TV
   c. PC 1
   d. PC 2
   e. Cable
   f. iPod
   g. MP3
   h. Video
   i. DVD
   j. Mixer
   k. AUX-3
   l. User Defined

i. Alpha/numeric changeable
ii. Scroll through all fields
iii. Keep changes
1. Yes
2. No
3. Cancel

m. Up

4. *Aux-4*
   a. CD
   b. TV
   c. PC 1
   d. PC 2
   e. Cable
   f. iPod
   g. MP3
   h. Video
   i. DVD
   j. Mixer
   k. AUX-4
   l. User Defined
      i. Alpha/numeric changeable
      ii. Scroll through all fields
      iii. Keep changes
         1. Yes
         2. No
         3. Cancel
   m. Up
5. *Teleconferencing*
   a. Teleconference
   b. User Defined
      i. Alpha/numeric changeable
      ii. Scroll through all fields
      iii. Keep changes
         1. Yes
         2. No
         3. Cancel
6. *Balanced Input*
   a. Balanced Input
   b. User Defined
      i. Alpha/numeric changeable

ii. Scroll through all fields
iii. Keep changes
1. Yes
2. No
3. Cancel

7. Up

Return to Top of Customization Tree

G. *Optional Module*
1. This space left intentionally blank

Return to Top of Customization Tree

H. *GPI*
1. GPI
a. Latching
b. *200ms* Pulse
c. *400ms* Pulse
d. *600ms* Pulse
2. Relay Trigger
a. 6-12V
b. Mic
c. Either
3. Up

Return to Top of Customization Tree

I. *Password Management*
1. *Set password / numeric fields*
2. Keep changes
a. Yes
b. No
c. Cancel

Return to Top of Customization Tree

J. *Language*
1. *English*
2. *Espanol*
3. *Duetsch*

4. *Francais*
5. Italian

Return to Top of Customization Tree

K. *Screen*

1. *Contrast*
   a. +/- 15 (Default value is 0)
2. *Backlight Delay* (Default value is 15 seconds)
   a. On
   b. Off
   c. 5 seconds
   d. 15 seconds
   e. 60 seconds
3. *Orientation* (Default value is normal)
   a. Normal
   b. Invert
4. Inactive Mode (Default value is Aux)
   a. Master Volume
   b. Auxiliary Volume
   c. Status Only
5. Inactive Period (Default value is 2 minutes)
   a. 1 minute
   b. 2 minutes
   c. 5 minutes
   d. 10 minutes
   e. 15 minutes
   f. 30 minutes
   g. 60 minutes
   h. None
6. Back

Return to Top of Customization Tree

L. *System Reset*

1. *Reset to defaults*
   a. Yes
   b. No

Return to Top of Customization Tree

M. *About*
   1. CU serial #
   2. CU SW ver.
   3. RM serial #
   4. RM SW ver.

N. Done

Return to Top of Customization Tree

Return to Customization Guide Condensed

ListenPoint™ Customization Instructions

Speaker Control

Adjusting the Amplifier trim (volume):
You may adjust the output level for each amplifier output in the room. There are four amplifiers in the powered versions of the *RM*. If a speaker is too loud for a particular portion of the room or if a certain speaker needs to have more level, the trim for that particular speaker or zone can be adjusted. The trim may be adjusted down to -18db or up to +2db in one db steps. Please keep in mind that adjusting the trim of a particular zone may cause feedback if it is turned up too loud. Normally these trims are left at 0.

Recall EQ:
The ListenPoint™ system can save equalization presets for future use. Saving the preset will allow your settings to be recalled when needed. There are four designated slots where the settings can be saved – User *EQ* 1-4. If a User *EQ* is recalled, it will override both the Speaker *EQ* and Room *EQ* settings. Once you have successful set up your *EQs*, you should save the settings to a User *EQ*, which if the settings are accidentally changed you can recall your preferred setting.

Adjust EQ:
Your ListenPoint™ system has two independent equalization circuits; *Speaker EQ and Room EQ*. *Speaker EQ* is a set of predefined equalization curves for specific industry standard loudspeakers.

The second equalization circuit is designed for Room equalization. This is helpful when you have specific room induced anomalies, such as bass buildup or ringing. The *Room EQ* circuit consists of 7 bands of equalization.

Speaker EQ:
You may select any of the available speaker models. These are predefined and you cannot edit them. If the speakers you are using are not in the list, you can use one of the "Generic" speakers in the list or use the "Flat" setting and then utilize the Room EQ to adjust your speakers. The ListenPoint™ Room Speaker library is part of the firmware and as such can be updated via a PC. Listen adds speaker models via firmware updates.

Room EQ Cut/Boost:
You can adjust the 7 bands of Room Equalizer via the Room *EQ* Cut/Boost graphical display. You have two tone controls and five parametric bands –as follows, Tone controls; Bands 1 (Bass) and 7 (Treble), the bass is set at 250Hz and the treble is set at 7.3kHz. Bands 2 through 6 are fully parametric equalizers. The Room *EQ* Cut/Boost graphical interface allows you to increase or decrease the gain of any of the 7 bands (as long as they are not disabled). To select the filter type or other parametric settings use the Room *EQ* Parameters menu.

Room EQ Parameters:
These bands (2 through 6) allow you to select the *type of filter* (Peak/dip, Notch, Shelving, and Band pass), the *center frequency*, and the *bandwidth* of the equalization curve. You can also "Disable" a filter, disabling a specific band with cause that band to have no effect on the sound. It effectively takes that band out of the circuit.
The ListenPoint™ parametric *EQ* is a highly versatile equalizer and will allow you to fine tune a room for maximum sound clarity. It is highly recommended that users seek the assistance of qualified sound professional when setting up their system.

Go back to Customization Guide Speaker Control

Paging

Paging Volume:
The ListenPoint™ system allows for a facility's paging system to be connected into the ListenPoint™ system via the Paging Input. An internal jumper in the *RM* allows you to set the paging input to 8 ohm, 25 volt, 70 volt, or 100 volt paging input (this requirement depends on your existing paging system). If you choose to have your ListenPoint™ system pass the pages to your ListenPoint™ speakers in addition to or instead of the existing paging speakers the volume of the page may be raised or lowered by 18 dB. If Paging Volume is set to "Off" the pages will not pass through the ListenPoint™ system. However you may still have an external page duck the ListenPoint™ system via Page Ducking. Use Paging Volume to adjust the level of facility pages in your ListenPoint™ system, or to turn them off.

Page Ducking:
Page ducking will lower the volume of the current room audio (microphones and auxiliary inputs) from the ListenPoint™ system to allow for a page to come through the ListenPoint™ system, or a separate paging system. The amount of ducking can be changed to either none, low (-6 dB), medium (-12 dB), or high (-18 dB). The higher the Page Ducking setting, the lower the volume from the ListenPoint™ microphones and auxiliary inputs during a page.

In order for an external page to duck the ListenPoint™ audio, the system must know when a page is happening. There are two different options for a page to be sensed – both are inputs that are located on the *RM,* and can be set separately, to allow for two different levels of ducking.

1. **Paging Ducking Audio:** The system will detect a page on the Paging Input, when paging audio is detected the ListenPoint™ system will either duck the system audio and pass the page through or not depending on the settings in Paging Volume setting. When a signal is present at the Paging input, the system audio will be ducked according to this setting.
    a. none
    b. low (-6 dB)
    c. medium (-12 dB)
    d. high (-18 dB)
2. **Page Ducking 6-12V:** When a signal is present at the GPI input, the system audio will be ducked according to this setting.
    a. none
    b. low (-6 dB)
    c. medium (-12 dB)
    d. high (-18 dB)

    Note: Contact a professional installer for assistance with interfacing to existing paging systems.

RM Back Panel

Microphones

The microphones have many parameters or features that may be set either locally or globally. Global features apply to all microphones, and Local features apply to all microphones but may be reconfigured locally on the microphone itself. This is helpful when you want one or more microphones to behave differently than the others. The first four features are Local features. To

read more about how to reconfigure Local features on the microphone see the Microphone Customization section.

Low Battery Beep:

When the battery in the microphone transmitter drops to a predetermined level, the microphone can be programmed to beep to indicate the battery status.

On:

1. Enabling this feature will cause the internal beeper to sound when the battery has about 10% of its charge left. At 10% the beeper will sound once every 15 seconds, when the battery is down to 5% of its charge the beeper will sound once every 5 seconds. The microphone can also be programmed to have an LED blink for low battery indication. The user may cancel these beeps by press the Multifunction button twice quickly.

Off:

2. The *Mic* will not beep with when low battery becomes low.

IR Link Beep:

If the Loss of IR Link feature is enabled, it will cause the beeper to sound when the microphone loses its link with the *RM* e.g. when you walk out of the room while wearing a microphone. You can turn this feature On or Off.

On:

1. When the I/R link between the microphone and the *RM* is lost for more than the number of minutes set in the *CU* Customization Menu (Mic Signal Loss Timeout) the beeper will sounded once every 10 seconds. The duration of lost signal can be set globally via the *CU* software configuration setup from none, 2 min., 60 min. seconds (MIC SIG LOSS TO).
2. After the Timeout duration setting the microphone beeps five (5) times every 10 seconds for two (2) minutes and then goes to sleep
3. The user may cancel the beep by touching the M.F. button once.
4. Once the signal is reacquired, the Mic Signal Loss Timeout timer is reset.

Off:

1. After the Timeout duration setting the microphone waits two (2) minutes and then goes to sleep.
2. Once the signal is reacquired, the Mic Signal Loss Timeout timer is reset.

Button Disable:

It is possible to disable the buttons of the microphone. This feature is handy when you want to keep students from having access to control or volume settings. Note the Mute button is not disabled with this feature. You can turn this feature On or Off.

Mic Auto Off:
If Mic Auto Off is enabled, whenever a microphone is placed into a battery charging platform or connected to a charger, it will automatically power down and start a standard charging cycle. When a microphone is removed from a battery charging platform or unplugged from a charger, it will automatically power up.

Low Battery LED:
The LED of the microphone transmitter can be programmed to blink when the battery is low. At 10% the LED will blink red twice per second. When the battery is down to 5% of its charge the LED will blink red four times per second. The microphone can also be programmed to have its Beeper beep for low battery indication.

Aux Vol Control:
The microphone has individual and master volume control functionality. Using the CU, the microphone can be programmed to raise the level of the master control, its own individual microphone, or the currently active auxiliary input.

1. **On Mute:** This allows the volume buttons to control the microphone, but when you mute the microphone, the volume buttons will now control the currently active auxiliary input.
2. **Disable:** Disabling the microphone buttons means that only the Mute function of the microphone will function. This is helpful in situation when you have a pass around microphone and you do not want students to control the level. This feature may be set globally for all microphones or locally on an individual microphone.

Note: For additional volume control information see "Multifunction Button"

Aux Ducking:
The Aux ducking settings allows the microphone to duck the auxiliary inputs when someone is talking into the microphone. This is helpful when a presenter wants to talk over a DVD or other auxiliary input. The amount of ducking can be set to low (-6 dB), medium (-12 dB), or high (-18 dB), or Off. The higher the Aux Ducking setting, the lower the volume from the auxiliary inputs while someone is talking into a microphone.

Soft Button:
The 'Soft Button' or Multifunction Button may be programmed to control one of three different functions. The soft button has two operational modes, short or long. If you press the Soft Button for more than 30ms (about a third of a second) it will send a 'Short' command, if you press the Soft Button for more than 4 seconds it will send a 'Long' command. You can set the 'Short' and 'Long' commands separately.

Soft BTN Short:

1. Aux Mute – when the 'Short' command is sent, all the Auxiliary inputs will be muted, when the 'Short' is resent, all the Auxiliary inputs will be un-muted. Note: the T-Con input is not controlled by this command.
2. GPI – when the 'Short' command is sent the GPI relay will be activated or deactivated, depending on its settings in the GPI Relay setup. The yellow LED blinks while the microphone is in the Master Volume mode i.e. until the button is pushed again.
3. Master Volume – when the 'Short' command is sent the Volume + and Volume – buttons will control Master Volume instead of the normal microphone mode. The yellow LED blinks while the microphone is in the Master Volume mode (until the button is pushed again)

Soft BTN Long

1. Aux Mute – when the 'Long' command is sent, all the Auxiliary inputs will be muted, when the 'Short' is resent, all the Auxiliary inputs will be un-muted. Note: the T-Con input is not controlled by this command.
2. GPI – when the 'Long' command is sent the GPI output will be activated or deactivated, depending on its settings in the GPI Relay setup. The yellow LED blinks while the microphone is in the Master Volume mode i.e. until the button is pushed again.

RM IR Loss Time Out

This is the Time out setting used by the IR Link Loss setting. It can be set to the following lengths (in minutes)
None, 2 minutes, or 60 minutes

Go back to Customization Guide Microphone

Auto Select

Auto Select:

Auto Select allows the *CU* to automatically detect the currently active input. This allows for the system to make some intelligent decisions about how to operate. When the microphone controls are set to mic + aux, Auto Select allows the microphone to control the level of the currently active aux input. Also when the Master *CU* control is disabled, Auto Select selects the aux input to be control by the control wheel by default.

On:

1. The *CU's LCD* display will always show the currently active aux input in the window for level adjustment. Also if the microphone's Aux Vol Control is enabled, and the *mic* is muted the volume controls on the microphone controls currently active aux input.

Off:

1. The *CU's LCD* display with always show the last adjust aux input in the window for level adjustment. Also if the microphone's Aux Vol Control is enabled, and the *mic* is muted the volume controls on the microphone controls all aux levels equally.

Go back to Customization Guide Auto Select

CU Input Trims

Aux Trim 1-4:

You can trim the level of each auxiliary input on the *CU*. The control unit will allow you to compensate for the volume differences by change the adjusting the trim of the individual input. Each input can be trimmed -10 to 0 dB.

T-con Trim:

You can trim the level of the T-con input on the *CU*. The control unit will allow you to compensate for the volume differences by change the adjusting the trim of the individual input. Each input can be trimmed -10 to 0 dB.

Balanced Trim:

You can trim the level of the balanced input on the *CU*. The control unit will allow you to compensate for the volume differences by change the adjusting the trim of the individual input. Each input can be trimmed -10 to 0 dB.

Go back to Customization Guide Level Controls

Input Names

Auxiliary name changing:

Your ListenPoint™ system allows you to customization the name or label for any aux input. Each input can be named from one of preset inputs labels or can be user defined. The presets names are:

1. AUX-1
2. Cable
3. CD
4. DVD
5. iPod
6. Mixer
7. MP3
8. PC 1
9. PC 2
10. TV

11. Video
12. User defined

If you select User Defined, you will be able to enter up to 14 letters or numbers to personalize the label.

Teleconferencing:
Your ListenPoint™ system allows you to customization the name or label for you Teleconferencing input, you will be able to enter up to 14 letters or numbers to personalize the label.

Balanced input:
Your ListenPoint™ system allows you to customization the name or label for you Balanced input, you will be able to enter up to 14 letters or numbers to personalize the label.

Go back to Customization Guide Input Names

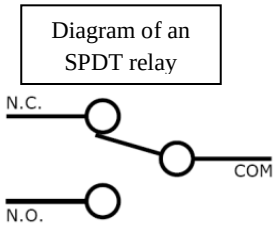
Optional Module (TBD)

This area left intentionally blank

Go back to Customization Guide Optional Module

GPI Relay

The General Purpose Interface *(GPI) relay* may be activated via the microphone (see microphone settings). The *GPI Relay* parameters control how the relay behaves. The relay can be set to latching, or momentary. The duration of the momentary contact may be adjusted as well.



1. **Latching**: When the relay is activated it will latch ‘active’, causing the N.O. contacts to be closed, and the N.C. contacts to be open. The relay will remain active until it is deactivated by second pulse or the unit is powered down. Example (link to examples)
2. **200ms Pulse**: When the relay is activated it will latch ‘active’ for 200ms, causing the N.O. contacts to be closed, and the N.C. contacts to be open for 200ms. Example (link to examples).
3. **400ms Pulse**: When the relay is activated it will latch ‘active’ for 400ms, causing the N.O. contacts to be closed, and the N.C. contacts to be open for 400ms. Example (link to examples).
4. **600ms Pulse**: When the relay is activated it will latch ‘active’ for 600ms, causing the N.O. contacts to be closed, and the N.C. contacts to be open for 600ms. Example (link to examples)

Go back to Customization Guide GPI Relay

Password Management

Adding password:

For added security of your system, a password can be added. The password must consist of a combination of four letters, numbers or symbols. To set the password, enter the password screen, rotate the Control Dial to the desired letter, press the Control Dial to enter that letter, and it will move you to the next space. Once you complete all four letters, you'll have an option to save or cancel.

Go back to Customization Guide password Management

Language

Changing language of the *CU* menu:

You may select different languages to operate the *CU* menu in.

1. English
2. Spanish
3. German
4. French
5. Italian

Go back to Customization Guide Language

Screen

The screen has several adjustments to make it easy for the user to operate.

1. Contrast: The contrast of the display can be changed for better off axis viewing
2. *Backlight delay*: The backlight has a timeout delay.
    a. On: The backlight remains on whenever the unit is powered up
    b. Off: The backlight does not come on.
    c. 5: The backlight will turn off after 5 seconds
    d. 15: The backlight will turn off after 15 seconds
    e. 60: The backlight will turn off after 60 seconds
3. *Orientation:*
    a. Normal – The display will have normal orientation
    b. Inverted – The display will have an inverted orientation (useful when you mount the *CU* on a wall or under a desk i.e. upside down)
4. Inactive Mode*:*
    a. Master Volume - When the Control Dial has not been moved for x seconds, the display will revert to the Master Volume window and the Control Dial will control the overall level of the system.
    b. Aux Volume - When the Control Dial has not been moved for x seconds, the display will revert to the currently active aux input volume window and the control dial will control the level of the currently active aux input.

   c. Status Only – When the Control Dial has not been moved for x seconds the LCD display will revert to the Status display.
5. *Inactive Period:* Time in minutes before the LCD Display reverts back to the setting as defined in "Inactive Mode".
   a. 1 minute
   b. 2 minutes
   c. 5 minutes
   d. 10 minutes
   e. 15 minutes
   f. 30 minutes
   g. 60 minutes

Go back to Customization Guide Screen

System reset

Reset to defaults:

The unit can be reset back to factory defaults. Resetting the unit back to defaults will erase all of the memory stored by *the CU*.

Go back to Customization Guide System Reset

About

About:

Selecting the about menu item will display the model numbers and software versions for both *the CU* and *RM*.

Go back to Customization Guide About

Microphone Customization

The M1 microphone has several unique features that can be programmed locally (on the microphone) or globally (via *the CU* for all microphones).

There are four (4) features you can control via microphone customization.

1. Low Battery indicator using the beeper
   a. Enabling this feature will cause the internal beeper to sound when the battery has about 10% of its charge left. At 10% the beeper will sound once every 15 seconds, when the battery is down to 5% of its charge the beeper will sound once every 5 seconds.
2. Loss of IR Link using the beeper
   a. If the Loss of IR Link feature is enabled, it will cause the beeper to sound when the microphone loses its link with *the RM* e.g. when you walk out of the room.

   b. When the I/R link between the microphone and *the RM* is lost for more than the number of seconds set in the *CU* Customization Menu (Mic Signal Loss Timeout) the beeper will sounded once every 10 seconds. The duration of lost signal can be set globally via the *CU* software configuration setup from 2, 15, 30, 60, 90, 120 seconds (MIC SIG LOSS TO).
   c. After the Timeout duration setting the microphone beeps five (5) times every 10 seconds for two (2) minutes and then goes to sleep
   d. The user may cancel the beep by touching the M.F. button once.
   e. Once the signal is reacquired, the Timeout timer is reset.
3. Button Disable
   a. On will disable all the buttons except the Mute button on the microphone.
4. Mic Auto Off
   a. On will make the microphone turn off when it is plugged into a battery charger and turn on automatically when the microphone is unplugged from the charger.

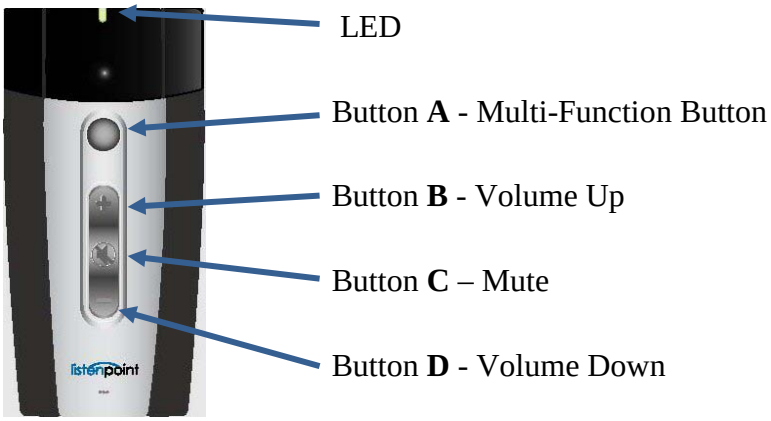
These features are set in the *CU* Customization menu, but can be changed locally. You can enter the Local Programming mode on a single microphone and make changes to that microphone, or you can have the microphone copy the global settings from the system via its IR link using the Microphone Initialization mode. If you want to reset the microphone to the Global settings in the *CU*, use the Microphone Initialization mode. This mode will copy the settings from the *CU* into the microphone and reset the microphone with the global settings.

To learn more about settings these features in the *CU*, refer to x section.

The following sections will explain how to program your microphone either locally or globally.

Local Microphone Customization

There are four customizable options in the M1 microphone. These are referred to as “local programming”
Use the following button designations to control local programming.



To enter the local programming mode on a microphone

1. Power up microphone (does not need to be linked to a *RM)*
2. Press and hold buttons A & D for five (5) seconds.
3. The LED will flash Red, Yellow, and Green LED alternately– you are now in the local programming mode.
4. By touching the following buttons you can turn on/off the associate local modes.

Button to push	Feature
A	Beeper – Low Battery - On/Off
B	Beeper - IR Link Loss – On/Off
C	Button Disable - On/Off
D	Mic Auto Off – On/Off

5. Push and hold (for 1 second) the button assigned to the function you want to toggle on or off.
    a. Four quick Green flashes of the LED indicate the feature in ON
    b. Four quick Red flashed of the LED indicates the feature is OFF
6. To exit the local the local programming mode press button A & D for three (3) seconds, the microphone will return to its normal operational mode
7. If you do nothing for 30 seconds the microphone will return to normal operation mode by itself

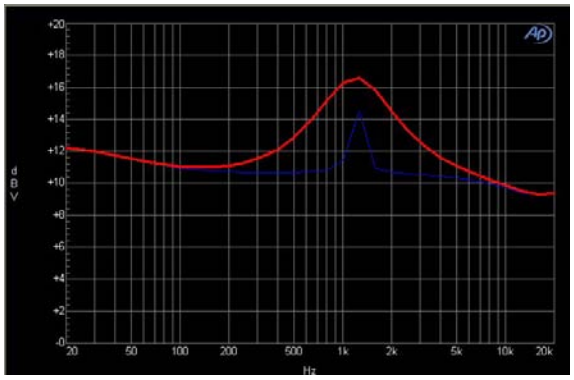
Microphone Initialization – Downloading Global Settings

1. To enter the Microphone Initialization Programming mode
    a. Power up the microphone
    b. Wait for the microphone to link with the *RM*
        i. Indicated by the solid green LED
        ii. Yellow indicates the microphone has not linked yet
    c. Press the B & D buttons simultaneously for 5 seconds
    d. The LED will flash Yellow
    e. You are now in the Microphone Initialization mode.
        i. The microphone will load the global settings as set in the CU into the microphone.
            1. MIC LOW BAT BEEP
            2. MIC IR LINK BEEP
            3. MIC BUTTON DISABLE
            4. MIC AUTO OFF
        ii. Once the initialization is complete the LEDs will stop flashing and the microphone will return to normal operational mode.

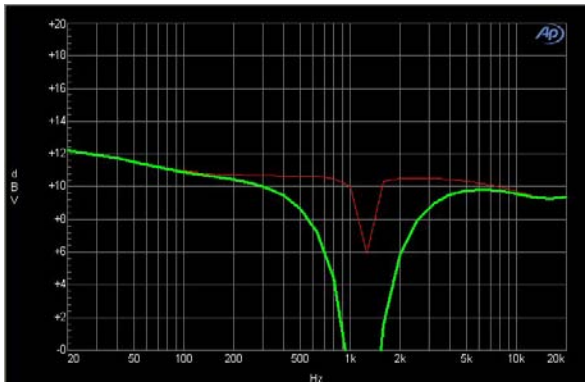
Glossary

***Parametric Equalizers*:** Parametric equalizers allow you to control the three primary parameters of sound, which is amplitude, center frequency, and bandwidth. Typically parametric equalizers can be configured to shape the room in many different ways. Below is a listing of the EQ types that are available in your ListenPoint™ system. Only the Peak filter takes advantage of all three parameters. Typically you will work to reduce feedback with this EQ. Each of your 5 bands of parametric EQ can be set up to operate in any of the following modes.

Peak: With a Peak/Dip filter you will be able to select the frequency you want to control (Center Frequency), set how broad or narrow you want the control to be (Bandwidth) and then adjust how much you want to cut or boost that frequency (Amplitude). Your ListenPoint™ Filters have 5 overlapping frequency sets that allow you to fine tune each room for the best possible sound.

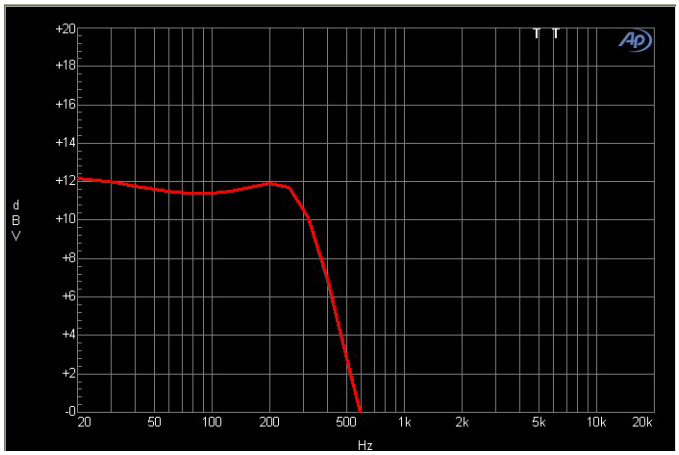


Notch: With a Notch filter you only control the frequency you use to notch. There is no bandwidth or 'how much' control, as you only Notch. The notch is preset at a very narrow bandwidth and is a very deep cut. The Notch filter is very effective for reducing room resonances and eliminating feedback.

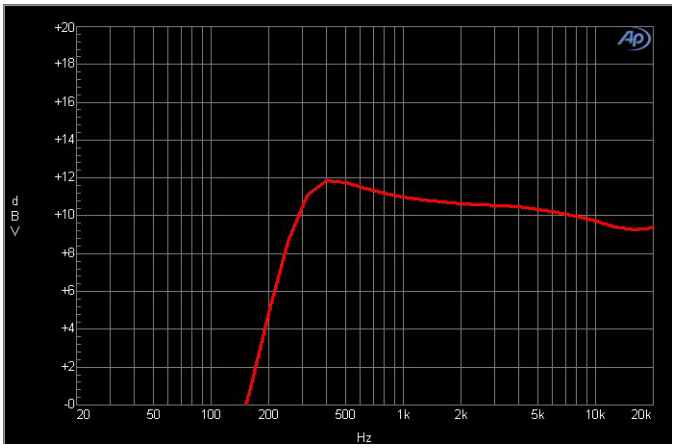


Low pass: The Low pass filter is used to attenuate higher frequencies. As with the Notch filter, you only control the frequency however with the Low pass filter, all the frequency above the

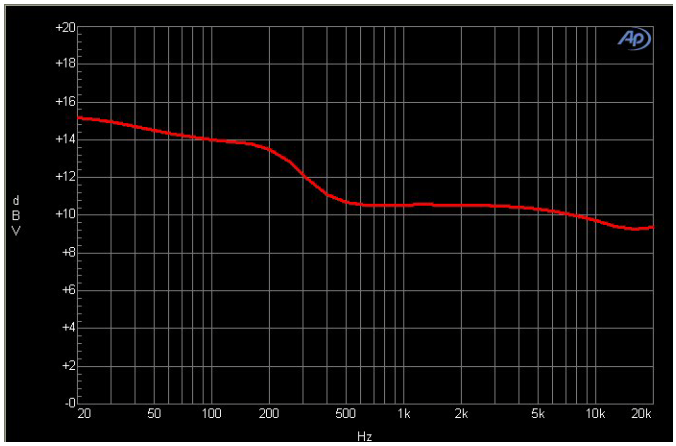
frequency you select will be attenuated. This is useful when you have too much high frequency noise from a playback source.



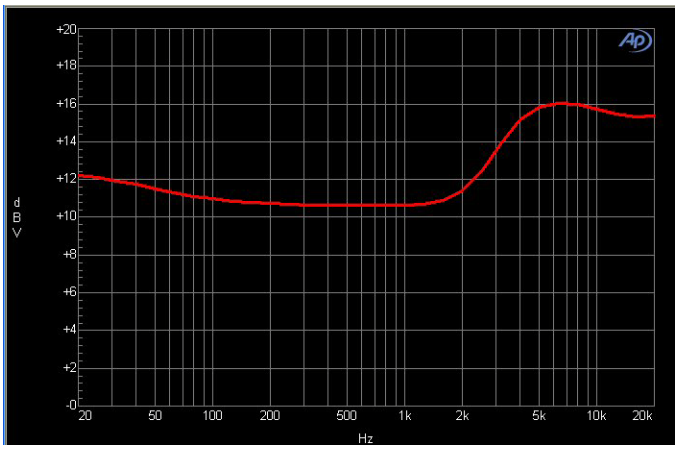
High pass: The High pass filter is used to attenuate unwanted lower frequencies such as air conditioning noise, handling noise and other environmentally induce sound The High pass filter works just the opposite of the Low pass filter, it attenuates al the frequencies below your selected frequency. Low frequency rumble or noise is not reproduced by the speakers, so it is good practice to eliminate these sounds so the amplifiers do not waste energy trying to amplify these sounds that the speakers cannot reproduce. A good setting to start with is about 80Hz



Low Shelf: The Low Shelf filter allows you to move all the lower frequency up or down together below your selected frequency. This allows you to either increase or decrease the bass response.



High Shelf: The High Shelf filter allows you to move all the higher frequencies up or down together above your selected frequency. This allows you to either increase or decrease the bass response.



References

List our LPT Application notes
Install speaker et al
www.synaudcom.com/speakerplacementsoftware