

 **LENCORE**
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USER
MANUAL
MPI-2 LOCAL RACK UNIT
(Model G1505)

MPI-2 Local Rack Unit

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Overview

The Local MPI-2 rack unit is Lencore's music and page interface (MPI) to be used for i.Net systems. The MPI-2 is capable of zoned or all-call paging as well as background music. Paging can be made via any telephone on the network or a microphone. The MPI-2 has the ability to page up to 99 individual zones for paging using standard DTMF tones through a POTS appearance telephone line. The system is also programmed for all-call and emergency broadcast paging. Background music can be added from any line-level source. The Local MPI-2 rack unit also has the ability to play break tones, pre-recorded messages, and doorbell chimes. The Local MPI-2 rack is designed to fit into a standard 19" rack.

IMPORTANT SAFETY INSTRUCTIONS



**RISK OF ELECTRIC SHOCK- DO NOT OPEN THE UNIT.
THERE ARE NO SERVICABLE COMPONENTS INSIDE.**

- 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 are 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) 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.
- 14) **WARNING** To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture and do not expose to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus

MPI-2 Rack Unit

Lencore's Music Page Interface (MPI) Rack Unit replaces all the bulky headend equipment that is associated with music and paging systems. With the MPI, there is no need for additional cable home runs, amplifiers, separate equalizers, special switching equipment or matching vendors for compatible product interfaces. The MPI's technology is so sophisticated that it can allow zone additions, modifications, deletions and other changes to the paging system on the fly, without rewiring. This eliminates the need for running multiple home runs back to the electrical closet or through building risers to create separate or additional zones. The MPI allows the ability to use up to 99 individual zones for paging using standard DTMF tones through a POTS telephone line. When the MPI is connected to the i.Net's web appliance, programming can be set for up to 1.5 million square feet of space through a single device.

The Local MPI-2 Rack Unit completes the i.Net system for local communication. i.Net is THE most sophisticated sound masking system in the industry.

Features and Capabilities

- Front panel LEDs. Various front panel LEDs indicate various functions and activity of the unit.
- Analog phone input.
- Built-in speaker for testing/troubleshooting.
- Audio Test button. The Audio Test button is used to play pre-recorded music for testing/troubleshooting the paging lines.
- Single turn pot to adjust the paging and music input signals levels.
- Ability to connect a Global MPI.

Inputs

- Power input.
- Analog phone line input (RJ11).
- Ground 2-pos terminal block (screw terminals).
- Microphone inputs (individual wires and RCA).
- Music inputs (RCA).
- Global MPI (RJ45).
- Data from the head-end (RJ45).
- Break tones 4-pos terminal block (screw terminals).
- Doorbell 4-pos terminal block (screw terminals).
- Message Triggers 6-pos terminal block (screw terminals).

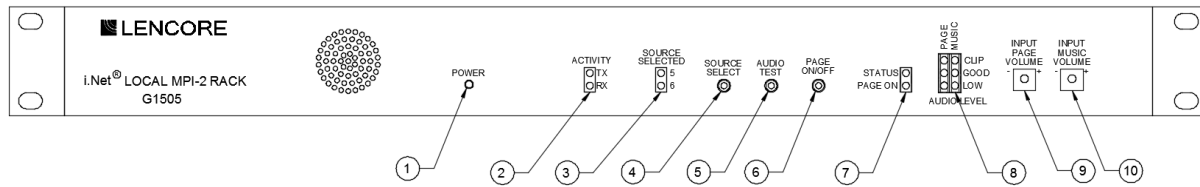
Output

- Data output to Operating Platform (s) (OP) (RJ45) with two audio sources.

LEDs

- Power – solid when the unit is powered.
- Status – blinks during boot-up and audio test, solid when paging or IR remote button is pressed.
- Page On – solid during an active page.
- Audio input level – two sets of three LEDs for paging and music input level detection. Yellow = low or no input. Green = good audio level. Red = audio input too high.
- Activity - Rx – blinks when Neuron is receiving data Tx – blinks when Neuron is transmitting data.

Front Panel



1. Power LED

The power LED indicates power to the unit.

2. Activity LEDs

The activity LEDs indicate LON activity.

3. Source Selected LEDs

The source selected LEDs indicate which source has been selected to play on the internal speaker.

4. Source Select pushbutton

Used to select the audio source to play on the internal speaker (source 5 for music, source 6 for paging).

5. Audio Test pushbutton

Used to start and stop the audio test on the paging lines.

6. Page On/Off

Used to start and stop a page for audio connected to the MIC input.

7. Status/Page On LEDs

The Status LED will flash while the unit is booting up and on when a page is active. The Page LED will be on during a page.

8. Audio Level LEDs

The audio level LEDs indicate the audio input level for paging and music.

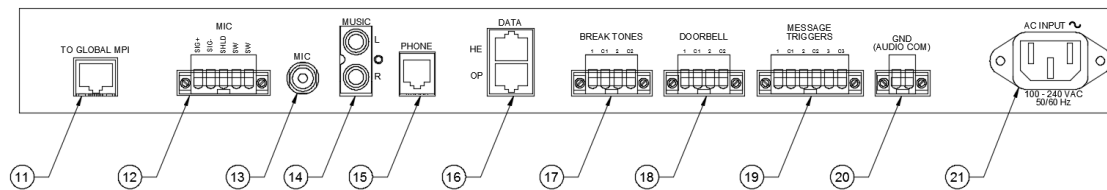
9. Input Page Volume

The input page volume adjustment is used to increase the page volume.

10. Input Music Volume

The input music volume adjustment is used to increase the music volume.

Rear View



11. To Global MPI

Connect an RJ45 cable to the optional Global MPI.

12. MIC

The 5-position MIC input is for a microphone input.

13. MIC

The RCA MIC input is for a line-level microphone input.

14. Music

The RCA music input is for line-level music.

15. Phone

The RJ11 phone input is for a POTS appearance phone line.

16. Data

The RJ45 data connector "HE" connects to the Head-End "To OP" connector while the "OP" connects to the OP "Data In" connector.

17. Break Tones

The break tones input is used to trigger break tones.

18. Doorbell

The doorbell input is used to trigger doorbell tones.

19. Message Triggers

The message triggers input is used to trigger pre-recorded messages.

20. GND (Audio Com)

Connect a single ground wire to the Head-end ground connector.

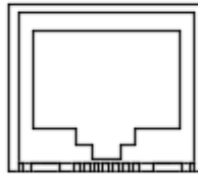
21. Power Input

Power cord connector (IEC 60320) 100-240VAC.

Wiring

To Global MPI

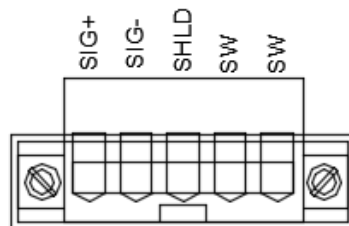
TO GLOBAL MPI



The addition of a Global MPI-2 is optional. The Global MPI-2 allows the user to page all buildings with a Global MPI-2 simultaneously. The “To Global” MPI connector is for communicating to the Global MPI. Wire the “TO GLOBAL MPI” to the Global MPI’s “TO LOCAL MPI” connector using an RJ45 cable.

Microphone Input

MIC



The microphone input is for a dynamic microphone.

Connect a microphone to the “MIC” connector using individual wires from the microphone.

SIG+/SIG- = MIC audio

SHLD – MIC shield

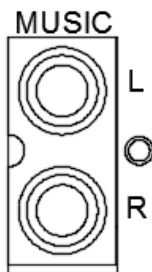
SW/SW = MIC key switch

Microphone RCA Input



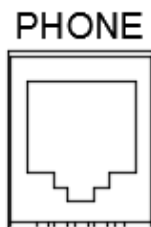
The Microphone RCA input allows a line-level microphone input to be used for paging.
Connect a **line-level** microphone signal to the MIC RCA connector using an RCA cable.

Music Input



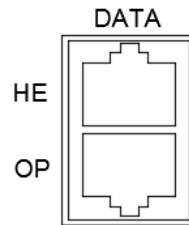
The Music input is for background music.
Connect a **line-level** music source to the MUSIC input using an RCA cable. The left (L) and right (R) inputs are summed together internally.

Phone input

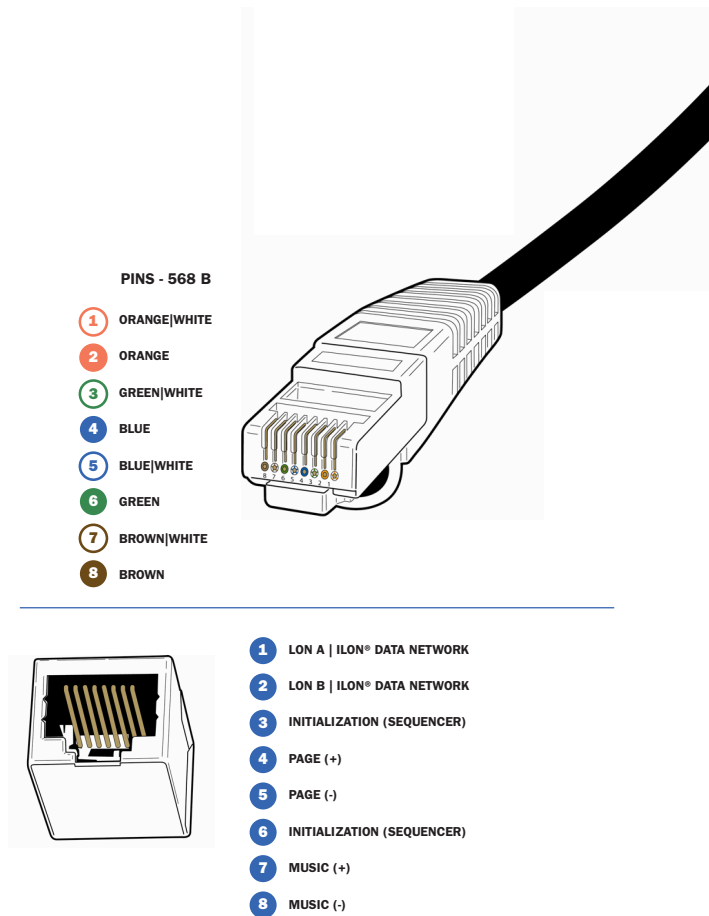


The Phone input is for phone paging.
Connect a POTS appearance phone line to the PHONE connector using an RJ11 cable.

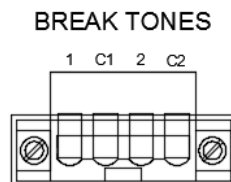
Data



The Data connector is used for communicating to the head-end and to the OP. Connect the "HE" to the head-end "TO OP" connector using an RJ45 cable. Connect the "OP" to the OP Data In connector using an RJ45 cable.



Break Tones Input



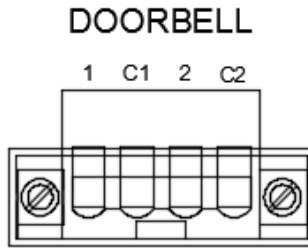
The Break Tones input connector is used to trigger one of two break tones. Connect a normally open dry contact to "1" and "C1" for break tone #1 and/or "2" and "C2" for break tone #2 using 16 AWG wire. The break tones are on zones 91 and 92. Alternatively, using a phone, pick up the handset, wait for the confirmation tone then dial:

83# to play break tone 1 on zone 91

84# to play break tone 2 on zone 92

* to stop break tone

Doorbell

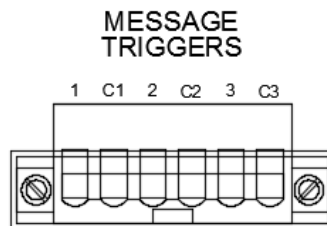


The Doorbell input connector is used to trigger one of two doorbell chimes. Connect a normally open dry contact to “1” and “C1” for doorbell chime #1 and/or “2” and “C2” for doorbell chime #2 using 16 AWG wire.

Doorbell 1 on zone 93

Doorbell 2 on zone 94

Message Triggers



The Message Triggers input connector is used to trigger one of two pre-recorded messages. Connect a normally open dry contact to “1” and “C1” for message #1 and/or “2” and “C2” for message #3 and/or “3” and “C3” for message stop using 16 AWG wire. The messages are all-call only .

Alternatively, using a phone, pick up the handset, wait for the confirmation tone then dial

81# to play message 1 (all-call only)

82# to play message 2 (all-call only)

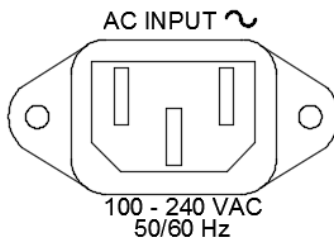
* to stop message

GND (Audio Com)



The GND (Audio Com) connector is the audio return for the system. Connect a single 16 AWG wire from the GND (Audio Com) to the head-end GND and to the OP GND (Audio Com).

AC Input



Connect the supplied IEC power cord to the AC Input. The unit is rated at 100-240VAC.

Using the System

Power LED



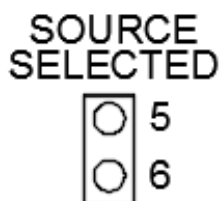
The Power LED indicates power to the MPI.

Activity



The activity LEDs indicate LON activity. The LEDs will be flickering under normal activity. LON is the communication protocol for the i.Net system.

Source Selected



The Source Selected LEDs indicate which source (5 for music, 6 for paging) has been selected to be played through the internal speaker. If no source has been selected, neither LED will be on.

Source Select Push Button



The Source Select push button selects which source (5 for paging, 6 for music) will be played through the internal speaker. Press the Source Select button once for source 5, twice for source 6, and a third time for off.

Audio Test Push Button



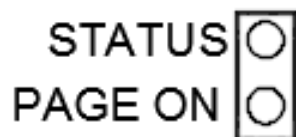
The audio test push button is used to play a pre-recorded music clip over the paging lines. This is used for testing and troubleshooting purposes. Press the Audio Test button one and the Status LED will blink while a pre-recorded sound clip plays over the speakers using the paging lines. Note that the paging volume for the speaker channels must be turned on using System Manager prior to initiating the test.

Page On/Off Push Button



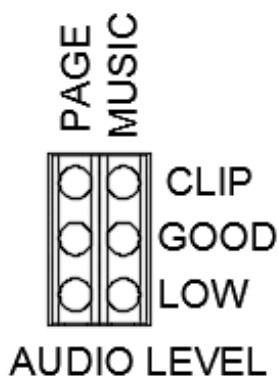
The page on/off push button is used to toggle the page on and off command. This is used for testing and troubleshooting purposes. Press the Page On/Off once to initiate a page and a second time to turn the page off. The Page On LED will stay on until the page is manually turned off indicating that a page is in process.

Status/Page On LEDs



The Status LED indicates that the internal microprocessor is functioning normally. The Page On LED indicates an active page is in progress.

Audio Level (Page/Music) LEDs



The Audio Level LEDs indicate the audio level input for the paging and music signals. Low (yellow) indicates a low audio level, Good (green) indicates a good audio level, and Clip (red) indicates an audio level that is too high, and clipping is occurring.

Input Page Volume Potentiometer



The Input Page Volume potentiometer allows the page input to be adjusted to maintain a good page level indicated by a green LED for the Audio level LEDs. Adjustments can be made by a small flat blade screwdriver. The potentiometer is a single-turn potentiometer. Turning the potentiometer clockwise increases the input page signal while counterclockwise decreases the input page signal.

Input Music Volume Potentiometer



The Input Music Volume potentiometer allows the music input to be adjusted to maintain a good music level indicated by a green LED for the Audio level LEDs. Adjustments can be made by a small flat blade screwdriver. The potentiometer is a single-turn potentiometer. Turning the potentiometer clockwise increases the input music signal while counterclockwise decreases the input music signal.

Operation

Plug the power cable into the MPI-2. The Power LED will be on and solid while the Status LED will blink for approximately 10 seconds. When the Status LED stays off, the MPI-2 is ready to use.

Phone Paging:

1. Plug the analog phone line (RJ11) into the MPI-2 Phone input.
2. Dial the extension of the phone line. The Status LED will turn on.
3. Wait for a tone from the MPI then press 00# for an all-call page or the zone number followed by the "#". Pressing the "*" will hang-up after pressing the "#."
4. Wait for a tone from the MPI then make the page. Hang up the phone receiver when the page is complete. The Status LED will turn off.

Note: The zones must be configured with Lencore's System Manager software.

The telephone input requires a POTS appearance line using an RJ11 connector.

The basic specification for a POTS appearance line is below:
A CO (central office) POTS line is a 2-wire analog appearance.

- 1) It is a 2 wire (Tip and Ring) analog appearance.
- 2) It is configured to be loop start.
- 3) Battery voltage is 48 Volts.
- 4) Loop current of 23 milliamps.
- 5) Must have DTMF signaling capability.
- 6) Must have hang-up (winking) supervision.

Generally, the use of an FXS card (Foreign Exchange Station) or an ATA card (Analog Telephone Adapter) is required not an FXO (foreign exchange office) card.

Assign an extension to the port. Calling the extension will activate the paging system.

MIC Paging:

Direct MIC connection

1. Connect a microphone to the MIC input.
2. Press the MIC key to make a page.

3. Release the MIC key when the page is complete.

Microphone RCA connection

1. Connect a MIC to Lencore's MIC pre-amplifier (sold separately).
2. Connect the audio output of the MIC pre-amp to the MIC RCA audio input of the MPI-2.
3. Press the MIC key and make the page.
4. Release the MIC key when the page is complete.

The page input can be adjusted for the proper level by turning the Page potentiometer CW or CCW. Using a flat-blade screwdriver, turn the adjustment CW to increase the input level and CCW to decrease the input level. The ideal audio input level can be adjusted so the green LED on the Audio Level (Page) LEDs is on or flickering. Increase the level if only the yellow LED is on. Reduce the level if the red LED is on.

Paging Priorities:

- MIC RCA (all-call) has priority over phone.
- Telephone and MIC paging will duck music.

Music input

The MPI includes one music input for a line-level audio source using an RCA cable. The audio input can be adjusted for the proper level by turning the Music potentiometer CW or CCW. Using a flat-blade screwdriver, turn the adjustment CW to increase the input level and CCW to decrease the input level. The ideal audio input level can be adjusted so the green LED on the Audio Level (Music) LEDs is on or flickering. Increase the level if only the yellow LED is on. Reduce the level if the red LED is on.

Audio Test button:

Pressing the Audio Test button plays a short audio clip over the paging (source 6) lines. After pressing the Audio Test button, the Status LED will flash indicating that the audio clip is playing. Pressing the Audio Test button again, will stop the audio clip from playing and the Status LED will stop flashing and turn off.

Internal Speaker Source Select:

The push button selector switch can select the audio source to play over the internal speaker. Press the push button until the Source Selected LED indicates the source to play over the internal speaker. Source 5 is the paging line and source 6 is the music line. No LED indicates that neither source will play over the internal speaker.

Page On/Off Button:

Pressing the Page on/off button enables a page from audio source 6. The status LED will be on and solid during the page. Pressing the Page on/off button again stops the page and the Status LED will turn off. This can be used for trouble-shooting purposes.

Break Tones inputs:

The Break Tones inputs can be used to play one of two break tones. Closing Break Tones input 1 or dialing 83#, triggers the first break tone. Closing Break Tones input 2 or dialing 84#, triggers the second break tone.

Doorbell

The Doorbell input can be used to play one of two doorbell chimes. Closing Doorbell input 1, triggers the first doorbell chime. Closing Doorbell input 2, triggers the second doorbell chime.

Message Triggers

The Message Triggers can be used to play one of three pre-recorded messages. Closing Message Triggers input 1 or dialing 81#, triggers the first message. Closing Message Triggers input 2 or dialing 82#, triggers the second message. Closing Message triggers input 3 or pressing * on the phone will stop any playing message.

Adding a Global MPI-2.

A Global MPI-2 can be added by connecting the Local MPI-2 "To Global" to the MPI-2 Global "To Local" using an RJ45 cable. A single conductor ground wire is also required from the MPI-2 Local GND to the MPI-2 Global GND. The Global MPI-2 adds a second all-call only phone page input and a second all-call MIC page input to the system. The Global MPI-2 is used to page to multiple buildings at the same time while the Local MPI-2 allows in-building paging. The Global MPI page has top priority over the local MPI.

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