AUDIOARTS ENGINEERING

DML-12 Radio Console

LYRIC

TECHNICAL MANUAL

January, 2025

Attention!

Federal Communications Commission (FCC) Compliance Notice:
Radio Frequency Notice

NOTE: 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 when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This is a Class A product. In a domestic environment, this product may cause radio interference, in which case, the user may be required to take appropriate measures.

This equipment must be installed and wired properly in order to assure compliance with FCC regulations.

Caution! Any modifications not expressly approved in writing by Wheatstone could void the user's authority to operate this equipment.

Attention!

IMPORTANT SAFETY INSTRUCTIONS

THIS PRODUCT IS INTENDED FOR INDOOR USE ONLY

When using an electrical appliance, basic safety precautions should always be followed.

DANGER - To reduce risk of electric shock read all instructions before using this power supply.

WARNING - To reduce risk of burns, fire, electric shock or injury to persons or animals:

1. Use this power supply only for its intended use as described below.
2. Do not use outdoors.
3. Do not allow to be used as a toy. Pay close attention when this power supply is used by, or near to, children.
4. Use only attachments recommended by the manufacturer.
5. Never operate this power supply if it has a damaged cord or plug, if it has been dropped or damaged or if it has fallen into water. In such cases return the power supply to an authorized dealer or service center for examination or repair.
6. Never drop or insert an object into any openings.
7. Do not operate where aerosol (spray) products are being used or where oxygen is being administered.
8. This power supply should be located near a convenient and easily accessible mains socket.

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Introduction to the DML LYRIC

Installation and Power

Console Overview

The DML LYRIC Radio Console is a fully digital, twelve-channel self-contained radio console. It is meant to be used stand-alone; it does not require Wheatstone Blades in order to function.

The console has the following components:

Fader Channels—There are twelve fader channels on the DML LYRIC. Each has three PGM bus assign buttons, ON and OFF buttons and a button to assign the fader channel to the CUE bus. The first four channels are mono analog inputs designed to be used for microphones. Channels 5-9 are AES3 digital inputs. Channels 10 and 11 are USB channels, ideal for connecting computers such as a VoxPro computer, playout system or an internet PC for

example. Channel 12 is a special “Bluetooth/Caller” channel (also AES3), designed to interface to a telephone hybrid or Bluetooth device to allow for recording and airing phone calls.

Monitor Controls—The DML LYRIC includes level contols for the Control Room and Studio monitor speakers, headphones and cue; CR and Studio Monitor Source selectors, Bluetooth/MXM Talkback button, Studio Talkback button and Bluetooth Pairing button.

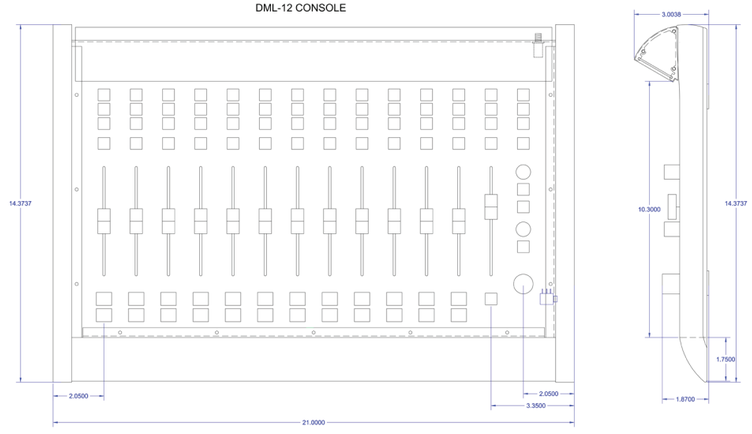
Audio Busses—The DML LYRIC has three Program Busses and a mix-minus (MXM) bus that can be fed to the phone hybrid. The MXM bus also feeds any connected Bluetooth device.

Outputs—The DML LYRIC features outputs for the PGM 1, 2 and 3 and MXM busses. There are outputs for control room speakers, studio speakers, a 1/8” stereo jack for headphones, and an output for an external cue speaker. Logic outputs are included for an On-Air light tally signal and remote starts for channels 5, 6, 10 and 11.

Meter Bridge—The DML LYRIC’s meter bridge features three stereo LED meters, each displaying audio levels for one of the three PGM busses. The third meter can be switched to display the console’s EXT (external) instead of PGM3 via a button on the Studio Control panel. The console has a built-in cue speaker which is located at the far left side of the meter bridge.

Console Measurements

The overall length of the DML LYRIC console is 21” (53.34 cm). Depth (front to back) is 14.37” (36.5 cm) including the wrist rest at the front. The meter bridge extends slightly behind the back panel of the console.



Unpacking and Installing the DML LYRIC

Unpack the console, removing all the packing materials and store these in the box for future use. Inside the box you will find the DML LYRIC console and power supply (with cable) as well as a Documentation page with a QR code and link. Save this colored sheet of paper as this is where you’ll go to download manuals and any other documentation or software related to the DML LYRIC console.

Carefully place the console on your countertop. The rubber feet on the bottom keep the console from being too easily moved when placed on the counter.

Avoid proximity to electromagnetic fields such as large power transformers, motors and floures-cent fixtures to avoid interference with the mic input channels.

Power Supply

The DML Console is powered by the Wheatstone HPS-516 multipurpose power supply. The power supply provides +16 VDC to the DML LYRIC via a supplied cable with two DC power connectors. The HPS-516 is a half-rack-width unit that can be rack-mounted using the RU1-K rack mount kit.

The power supply should be placed near the console and plugged into an outlet that provides “clean” AC power; that is, an AC source that only provides power to control room audio gear. (See next section “Energizing” before connecting the power supply to the outlet.) An outlet on a circuit that also powers lighting, HVAC or other machinery is not acceptable for powering the DML. Ensure that the third pin (ground wire) of the AC power connector is tied to the central system ground point of the radio station.

Energizing

Before connecting the power supply to the AC outlet, connect the power supply to the rear panel of the console using the supplied DC power cable. Ensure that the connectors on each end are securely hand-tightened. Now plug the power supply into the AC outlet and the console will power up and assume factory-default settings. Note that it can take up to about 25-30 seconds after power is applied for the console to become active.

Once you have confirmed that the console powers up correctly, remove the power and proceed to begin making your audio and control connections.

IMPORTANT

Never de-energize the console by disconnecting the power connector from the rear panel of the console. Always disconnect from the AC power mains first, then remove the power cable from the console if necessary.

Audio and Control Wiring

All audio I/O connections are made via RJ-45 and USB connectors on the rear panel of the console, and Phoenix connectors on the Mic Preamp section.

Wiring Diagrams

Audio Connections

At right is a wiring diagram for the RJ-45 audio connections. These connections use standard RJ-45 connectors and CAT5e or better twisted pair ethernet cable. It’s the tight twist in the cable pairs that rejects noise in this arrangement, which allows the use of this cable for balanced audio.

STUDIOHUB+ WIRING	
RJ45 PIN (WIRE)	**SIGNAL**
1 (WHT/ORG)	Left + or AES +
2 (ORG)	Left - or AES -
3 (WHT/GRN)	Right +
6 (GRN)	Right -
4,5,7,8	No Connection

The console’s four microphone inputs are wired as shown in the diagram at left. Use shielded microphone cable to connect to the two Phoenix terminal blocks provided with the console. The diagram shows the pinout of the connector on the rear of the console. Note the pins are numbered from right to left when viewing the connector on the rear of the console. See “Connecting Audio Inputs and Outputs” on page 11 for more details.

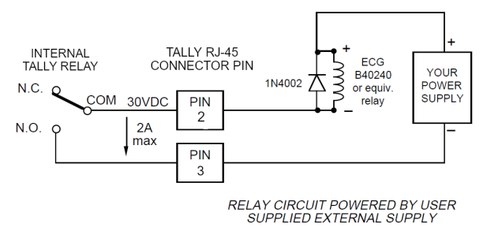
Tally/Logic Connections

Logic connections for the DML LYRIC include the following outputs and are made using CAT5e or better cable with an RJ-45 connector:

RJ-45 Pin	Signal
1	Ground
2	Tally
3	Tally
4	AES1 Machine Start Cmd
5	AES2 Machine Start Cmd
6	USB1 Machine Start Cmd
7	USB2 Machine Start Cmd
8	+5VDC

TYPICAL MONITOR ON-AIR TALLY CIRCUIT

USER-SUPPLIED RELAY TRIGGERED BY CONSOLE MONITOR MUTE CIRCUIT



RELAY CIRCUIT POWERED BY USER SUPPLIED EXTERNAL SUPPLY

All machine start outputs are open collector and are active low. The tally signal is an opto-isolated set of “contacts” that can be used to drive a user-supplied low-voltage relay to control

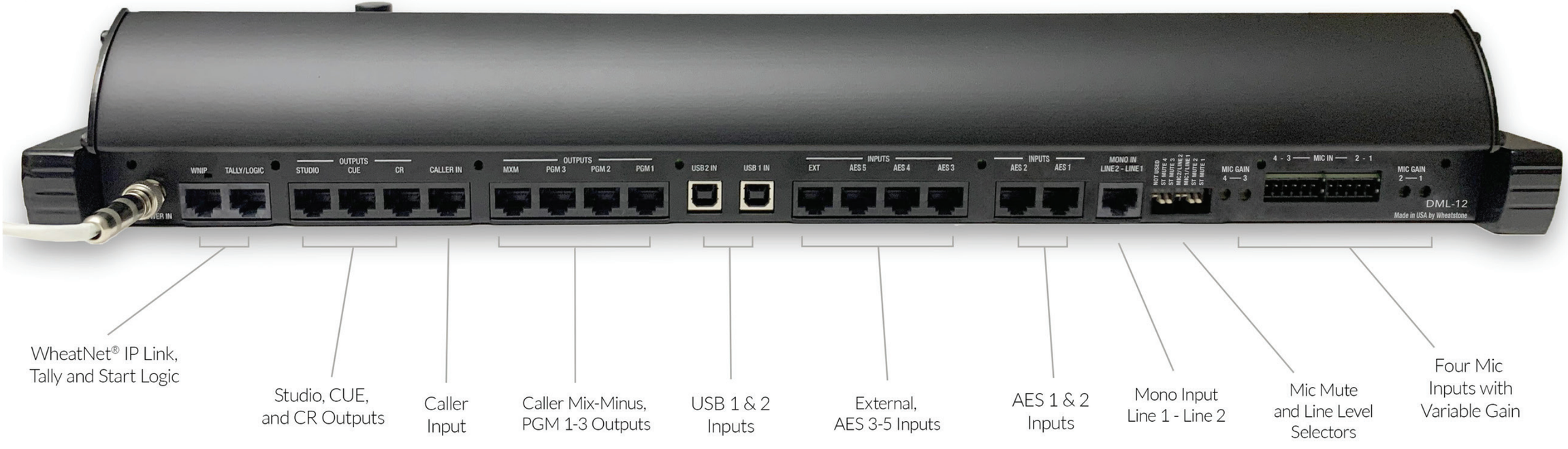
one or more on-air lights.The Tally “closure” becomes active when a mic channel is turned ON. It follows the TALLY LED on the console’s meter bridge. Use this closure to drive an external user-provided relay. Do not bring any on-air light AC connections directly to the console tally output. See typical wiring diagram above.

Output pins 4 through 7 will go low for .5 sec when the ON button for the AES1, AES2, USB1 or USB2 channels is pressed. These outputs are provided so that a Machine Start function can be implemented for whatever audio device is connected to these inputs. The connected device must support the Machine Start function and must accept a contact closure or active-low signal.

It is expected that a computer will be connected to the USB inputs, thus some provision must be made to get the Machine Start signals into the computer in a way that can be read by the audio software that you are using on the computer. There are many switchers and logic I/O devices that you can choose from to turn the logic signal output from the DML LYRIC into a start command for your audio playout software or your VoxPro audio editing system.

Getting to Know the DML LYRIC

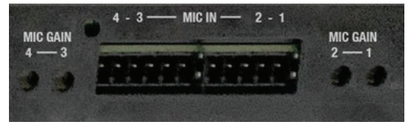
As mentioned, the DML LYRIC Console has twelve inputs, all digital except for the four micro-phone inputs. In this section, we will discuss each type of input and output individually. Refer to the photo below or your DML LYRIC for the following discussion.



Console Inputs

Microphone Inputs

The first four inputs are microphone-level analog inputs. Connections are made via a 12-position Phoenix connector. Use a small straight-blade screwdriver to secure these connections.



The DML LYRIC includes four microphone preamps and the inputs are factory trimmed at approximately -54dBu. There is a gain trim pot for each microphone input next to the mic input connectors. This will allow you to adjust for varying levels of output depending on the microphones you are using. Inputs 1 and 2 may be switched from mic level to line level via DIP switches (page 17), thus allowing them to use external voice processors such as the AudioArts VOICE 1 rather than the built-in mic processors, which do not have any processing functions. See below.

Mono Input (Line 1 - Line2)

The first two mic channels can be switched between Mic and Line levels via the DIP switches next to the Mic inputs on the back of the console. If set to “Line” level, the Mono Input Line 1- Line 2 input connector should be used for these inputs. Use the “Left” pair for Mic 1 and the “Right”

pair for Mic 2. If only one of the two is set to Line level, use this connector for that one and the terminal block input for the mic level signal. When set to “Line,” these inputs are still analog.

AES3 Digital Inputs

Inputs 5 through 8 are stereo digital (AES3) inputs. The input connections use the standard StudioHub wiring scheme shown in the Wiring Diagrams section above. As these are AES3 inputs, only one pair is required to be connected (pins 1 and 2) but you may use straight-through ethernet cables that use all conductors if desired. See the section “Wiring Diagrams” on page 4 for wiring information.

The first two AES Digital inputs include machine start capability to send a .5 second pulsed “Start” logic signal to an external device such as a CD player. Machine Start pulses appear on the Tally/Logic RJ-45 connector on the DML LYRIC’s rear panel. See “Tally/Logic Connections” on page 4 for details on wiring the remote start logic.

Bluetooth/Caller Channel

Input 12, the Bluetooth/Caller Channel, is designed to make it easy to interface a telephone hybrid with the DML LYRIC Console. Simply connect the AES3 output of your telephone hybrid to this channel, and connect the console’s MXM (mix minus) output back to the hybrid‘s input and you are ready to air phone calls. See the section called “Working with the Bluetooth/Caller Channel” on page 12 for more info on how this channel helps you take callers live to air, record callers and talk to them off the air.

Bluetooth connectivity onboard is useful for playing audio directly from a Bluetooth-enabled PC or cell phone. It also makes it easy to take a cell-phone call to air.

The console’s MXM (Mix Minus) bus is automatically sent to the connected Bluetooth device and to a hybrid connected to the MXM output. This allows a call to be put on the air live and ensures the caller will not hear the caller audio coming back with a delay. See “Working with the Bluetooth/Caller Channel” on page 12 for more on how the MXM output works. If you won’t be using a hybrid or Bluetooth, this channel can be used just like any other input on the DML LYRIC.

USB Channels

Inputs 10 and 11 are USB channels. You can connect a computer to a USB Type B port on the DML LYRIC and the console will act as a “sound card” for that computer, eliminating the need for an expensive internal or external USB sound interface. These channels are bi-directional.

The USB channels feature a machine start logic signal. If you are running music playout software or an application such as Wheatstone’s Voxpro editing system, you can start playback remotely from the console’s “ON” button if you connect the machine start output on the Tally/Logic connector to an interface connected to your computer that is recognized by the playout or other audio application. See page 4 for connection details.

Audio playback from the computer will appear on the USB channel without any additional cabling; only the USB A (computer end) to B (console end) cable is required. The computer connected to the USB1 channel will receive an audio output from the console’s PGM2 bus. The computer connected to the USB2 channel will receive a special split feed optimized for recording callers. See the section on “USB Outputs” on page 10 for more information on this split feed.

External Input

The External Input is an AES input for monitoring an external source such as an off-air radio receiver or Sim Air/Fake Air from an audio processor. It could also be used to monitor audio from a satellite receiver or another control room or production room. Whatever your on-air jock or board-op might need to monitor from time to time can be connected here and can be quickly monitored on the control room speakers or the third meter on the DML LYRIC’s meter bridge.

Console Outputs

Program Bus Outputs

The DML LYRIC has three program bus outputs and a “MXM” output, which is a mix-minus that can be connected to a telephone hybrid. These outputs are AES3 digital outputs. The console also has three analog outputs: A mono Cue bus output (for driving an external powered speaker), an analog stereo CR Out, for driving a speaker amplifier or powered Control Room speakers and a Studio out for driving speakers in a separate studio, such as a talk studio.

The three Program Busses are designated PGM1, PGM2 and PGM3. Each fader channel on the DML LYRIC has three Program bus assign buttons near the top of the channel labeled 1, 2 and 3. Pressing these buttons will add the channel to the selected busses and the buttons will light up to indicate which Program busses have been selected for that channel. Audio assigned to each bus will appear on that bus’s output connector on the rear of the console.

The PGM1 bus is expected to be used as the “on air” bus. It is the console’s primary bus and can be fed to the input of your air chain.

The PGM2 bus is similar to PGM1, but it also feeds any device connected to USB1. (USB2 has a special split feed that will be discussed below.) The PGM3 bus is a little different.

PGM3 is special because it has multiple purposes. It is an independent program bus just like PGM1 and PGM2, with an associated output on the back of the console. Any input assigned to PGM3 will appear on the PGM3 output, respecting the input channel’s ON status and fader level. PGM3 also determines the mic inputs that will be included in the feed to the computer connected

to the console's USB2 input. And the PGM3 buttons determine the sources that will be included in the mix-minus that is fed to the telephone hybrid when the Bluetooth/Caller channel is turned off. See "Working with the Bluetooth/Caller Channel" on page 12.

Mix Minus Output

A Word About Mix Minus

It might seem to make sense to just select the PGM1 console output to send to the phone hybrid and Bluetooth connection, since that contains everything that's on the air and we probably want the caller to hear all of those things.

However, when the caller is on the air live, we have a bit of a problem with that scenario. The problem is that the caller is also on the air and thus will hear himself coming back to his ear across the phone line, but with a disconcerting bit of delay due to the nature of both landline and cellular phone systems, which are mostly VOIP and suffer from latency issues.

To solve the problem described above, we have created a Mix Minus signal which includes all the sources selected to PGM1 EXCEPT the bluetooth/caller audio. This special output, called the MXM Output, is the one that should be connected to the telephone hybrid's audio input. All faders that are placed into the PGM1 bus are included in the Mix Minus output except the caller channel itself. The PGM1-based Mix-minus is fed to the MXM output when the Bluetooth/Caller Channel is ON. When it is off, the hybrid and/or Bluetooth device receives a special "off line" mix based on the PGM3 bus. See "Working with the Bluetooth/Caller Channel" in the next section and "Console Outputs" on page 8.

The MXM output is designed specifically for use with a phone hybrid or bluetooth connection, so if you need another mix minus (for example to use a computer running Zoom on the air) you will need to use the PGM2 or PGM3 bus to build your own mix minus. See the previous discussion for information on how the PGM2 and PGM3 busses differ.

CR Output

The CR, or Control Room Output is an analog stereo, line level output designed to drive an outboard speaker amplifier or powered speakers. The RJ-45 uses the same Studio Hub wiring scheme as described elsewhere in this manual, with the first pair (pins 1 and 2) being the left channel output and the second pair (pins 3 and 6) carrying the signal for the right channel output. The source connected to the CR Output can be any of the three program busses or an external

input as decribed in the Console Inputs section. Use the buttons on the monitor section of the console labeled "CR SOURCE" to make the selection. Note that you cannot connect regular unpowered speakers to this output.

The CR Output mutes when any of the four microphone inputs are turned on or placed in Cue, based on the position of the "Mute" DIP switches. See "DIP Switches" on page 17.

Studio Output

The Studio Output is an analog stereo, line level output designed to drive an outboard speaker amplifier or powered speakers. The RJ-45 uses the same Studio Hub wiring scheme as described elsewhere in this manual, with the first pair (pins 1 and 2) being the left channel output and the second pair (pins 3 and 6) carrying the signal for the right channel output.

The source connected to the Studio Output can be any of the three program buses. Use the buttons on the monitor section of the console labeled "ST SOURCE" to make the selection. The Studio Output does not mute when the "Mute" DIP switches for any of the four Mic inputs are set.

Cue Output

The Cue Output is a mono analog, line level output designed to drive an outboard speaker amplifier or powered speaker. The RJ-45 uses the same Studio Hub wiring scheme as described elsewhere in this manual, but as this signal is mono you only need to connect the first pair (pins 1 and 2). Note that you cannot connect a regular unpowered speaker to this output. The Cue speaker and cue output mute when any of the four microphone inputs are turned on or placed in Cue, based on the position of the "Mute" DIP switches.

USB Outputs

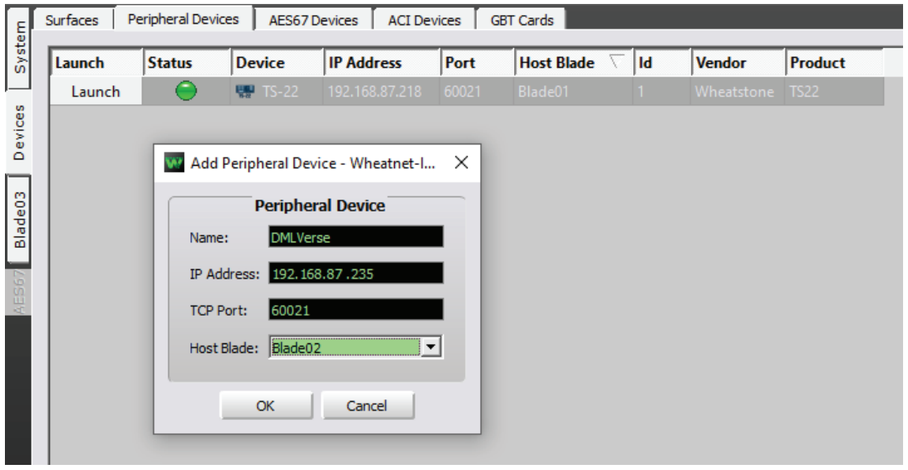
The DML LYRIC has two USB interfaces, both of which can be used to play audio from a computer through the USB channels on the console. But the outputs from the console are different for each USB interface.

The output to the USB1 interface is derived directly from the PGM2 bus. Any source placed in PGM2 and turned on and up will appear on the record input for a computer connected to the USB1 interface. See "Recording On a Computer (Using USB1)" on page 14.

The output to the USB2 interface is a special split feed designed for recording phone calls. It features mic audio on the left channel, and Bluetooth/Caller audio on the right channel. Each mic and the caller channel need to be placed into the PGM3 bus in order to appear on the computer's record input, but they do not need to be turned on. These sources are pre-switch, post fader so simply put the channels in PGM3 and turn the faders up on the channels you want to record. See "Recording a Caller (Using USB2)" on page 14 for a detailed example.

WNIP Output

The WNIP Output is an optional feature that provides a multicast stream output that you can use with your WheatNet-IP blade audio system. If you purchased this option, connect the RJ-45 connector (marked WNIP) just to the left of the power input on the rear of the DML LYRIC console to your WheatNet-IP network. There is an LED above the RJ-45 connector that will light when an ethernet link is established. To enable the WNIP output, the DML LYRIC must be added as a Peripheral Device in Navigator, the program you use to control your WheatNet-IP system.



The default IP address of the DML LYRIC is 192.168.87.235. See the Blade-3 or Blade-4 manual for information on adding a device to the Peripheral Devices tab. When enabled, all three PGM busses are capable of simultaneously streaming from the DML LYRIC into the WNIP network.

Connecting Audio Inputs and Outputs

The inputs and outputs are accessed on the rear panel of the DML LYRIC console via RJ-45 connectors, using the Studio Hub wiring standard. The wiring diagram was presented earlier but we'll reproduce it here and discuss it a little more.

STUDIOHUB+ WIRING	
RJ45 PIN (WIRE)	**SIGNAL**
1 (WHT/ORG)	Left + or AES +
2 (ORG)	Left - or AES -
3 (WHT/GRN)	Right +
6 (GRN)	Right -
4,5,7,8	No Connection

CAT5+ cable is most notable for its use in ethernet connectivity, but its ability to transport audio signals with superior noise rejection (due to the tight twist of the cable pairs) has made it the default choice for many manufacturers of both consumer and professional broadcast equipment for decades. It allows for much higher connector density, thus smaller

equipment packages. The DML LYRIC console uses RJ-45 connections for all audio and logic except the microphone-level inputs, which require a larger gauge wire that can't be inserted into an RJ-45 connector.

For the DML LYRIC's AES inputs and outputs and the mono CUE output, you will only need to use the first pair, connected to pins 1 and 2 on the RJ-45 plug. The other wires can be trimmed away. For the analog mic inputs, use a standard shielded microphone cable. For the CR speaker output, which is an analog stereo output, you'll use CAT5+ on pins 1, 2, 3 and 6 for the left and right outputs.

At least one manufacturer produces a single-pair and a two-pair CAT 5E cable that is very flexible and easy to work with if you'd like to make your own connecting cables. You'll just need a bag of connectors and a quality RJ-45 crimping tool. We recommend using a pass-through type of RJ-45 connector as it is much easier to create cables with this type of connector. The pass-through connectors require a special pass-through-type RJ-45 crimping tool.

There are also numerous sources for adapters that will allow you to use off-the-shelf XLR and 1/4" TRS cables, along with standard ethernet cables, to connect your audio devices to the DML LYRIC. See "The bank of seven DIP switches on the back of the DML LYRIC controls the Control Room speaker mic muting and the Mic/Line status of the first two inputs of the console." on page 17 for information on ordering these adapters from Wheatstone.

Working with the Bluetooth/Caller Channel

About the Bluetooth/Caller Channel

The Bluetooth/Caller channel is designed specifically for phone calls. When there is an audio connection from a hybrid telephone interface plugged into the channel, it is used in the same way as in most other broadcast audio consoles. When using Bluetooth to take a call from a cell phone, the caller audio comes from the phone via the BT channel. The feed back to the hybrid (and also to the Bluetooth device) is the MXM Output and is based on the PGM 3 bus when the channel is off, and the PGM 1 bus when it's on. The Bluetooth connection is not designed to be used for playing music from a cell phone.

When the Bluetooth/Caller Channel is turned OFF:

Any input that is assigned to the PGM3 bus is also included in the MXM output on a *pre-fader, pre-switch* basis. This essentially creates an "off line" bus that is fed to the telephone hybrid via the MXM output. It allows the board op to easily talk to the caller off-air, as well as to feed any audio source that is in PGM3 (don't put the caller's own audio in PGM3) to the caller while off air. See "Talking to a Caller Off the Air" on page 13.

When the Bluetooth/Caller Channel is turned ON:

When the caller channel is in the On mode, the connected hybrid will receive a mix-minus signal based on the PGM1 bus. This signal includes every input assigned to PGM1, *post-fader and post-switch*, except the caller channel itself.

Bluetooth Pairing

The Bluetooth module is located in the console's meter bridge. The BLUETOOTH PAIR button on the Studio module is a toggle action function. It acts as an on/off button for the Bluetooth interface. When the button is lit, the blue backlight LEDs on the meter bridge below the timer display are also lit to indicate the BT module is powered up and ready to pair.

When pairing mode is on, a scan of Bluetooth devices from a phone or other Bluetooth-enabled device should show a device named *AudioArts #* where # is a unique number assigned at the factory so that multiple consoles can be distinguished from each other. Select the device for pairing. You may be prompted on your phone to confirm the pairing request. Depending on how your phone's bluetooth works, you may need to forget the DML and re-pair each time you connect.

When pairing is complete and a phone call is in progress, audio from the phone or other device will be present at the MXM output connector. This audio will be mixed with the audio from all faders that have been assigned to the PGM 1 bus, EXCEPT the caller audio when the Caller channel is ON. If the AES Caller channel is OFF, it will receive the special "off line" mix described earlier.

When the BLUETOOTH PAIR button on the Studio toggles off, the button's LED goes out immediately. After 20 seconds or so the blue LEDs on the meter bridge will go out to indicate that BT module is powered down and has cleared its connection.

If the power is simply turned off to the console while BT is active, then the normal clearing operation doesn't take place. In that case, when the console is powered up again, the BT module will pair with any active, in-range device in its internal device table.

Talking to a Caller Off the Air

When the bluetooth/caller channel (Input 12) is Off, the hybrid (or connected Bluetooth device) will receive the Mix-minus derived from the console's PGM3 audio bus. Remember, all channels that are assigned to PGM3 are included in the MXM output in pre-on, pre-fader mode so they are hot to the caller at all times. Typically, only the Mic channels will be in PGM3 so that the host and co-host can talk to the caller when his line is active on the hybrid. The board-op can feed other audio to the caller by simply putting that audio's channel in PGM3.

If the board-op has a caller punched up on the hybrid but does not want the caller to hear him, he can simply remove his Mic channel from PGM3. To hear the caller while conversing off-air,

the caller channel should be placed onto the Cue bus by pushing the Cue button on the caller channel. The caller's audio will now be audible through the console's internal cue speaker, a powered speaker connected to the DML LYRIC's cue output or the headphones (if the Split Cue button is activated—see page 16).

If the mic channels are removed from the PGM3 bus, the board-op can still talk to the caller by pressing the BT Caller TB button (under the Control Room fader). This is found on the Master Section of the console (the two rightmost "strips"). When pressed, the normal audio output to the phone hybrid is interrupted and the Mic 1 audio is routed to the input of the hybrid and the Bluetooth output.

Putting a Caller On the Air

To put a caller on the air live, press the ON button on the bluetooth/caller channel and adjust the fader appropriately. Assuming the caller channel is in PGM1, the caller will now be on the air, subject to the position of the Input 12 fader. The caller will no longer hear the PGM3-based offline mix-minus, but rather the Mix Minus created based on the PGM1 bus as described in the section "Mix Minus Output" on page 9. When the caller speaks, his audio will be added to the PGM1 bus and go on the air. The caller will hear everything that is in the PGM1 bus except his own audio.

While the caller channel is ON, the board-op can still talk to the caller by pressing the BT Caller TB button. As mentioned previously, this will interrupt the audio feed to the caller (which at this point is the PGM1-based mix-minus) and replace it with the Mic audio.

Recording On a Computer (Using USB1)

The DML LYRIC's USB1 channel provides the PGM2 bus to the connected computer. The connection is simply a USB A-to-B cable connected from the DML LYRIC's Channel 10 (USB1) input to a standard USB port on the conencted computer. This feed contains all the audio that you have assigned to the PGM2 bus, assuming those channels are turned on and potted up. This is a stereo feed. When recording via USB1, you will need to ensure that fader 10 is all the way down, or that the channel is turned off to avoid potential feedback.

To feed a source to a computer or other device connected on the USB1 channel, put that source into PGM2. Sources in PGM2 will be fed to the computer if the channel is turned ON and potted up. So anything you want to feed to the device should be in PGM2 and turned on & up, but if you don't want it to also be on the air, remember to remove it from PGM1.

Recording a Caller (Using USB2)

For the purpose of this discussion, we'll assume you have a computer running Wheatstone's Voxpro editing system on Input 11, the console's USB2 input. The connection is simply a USB

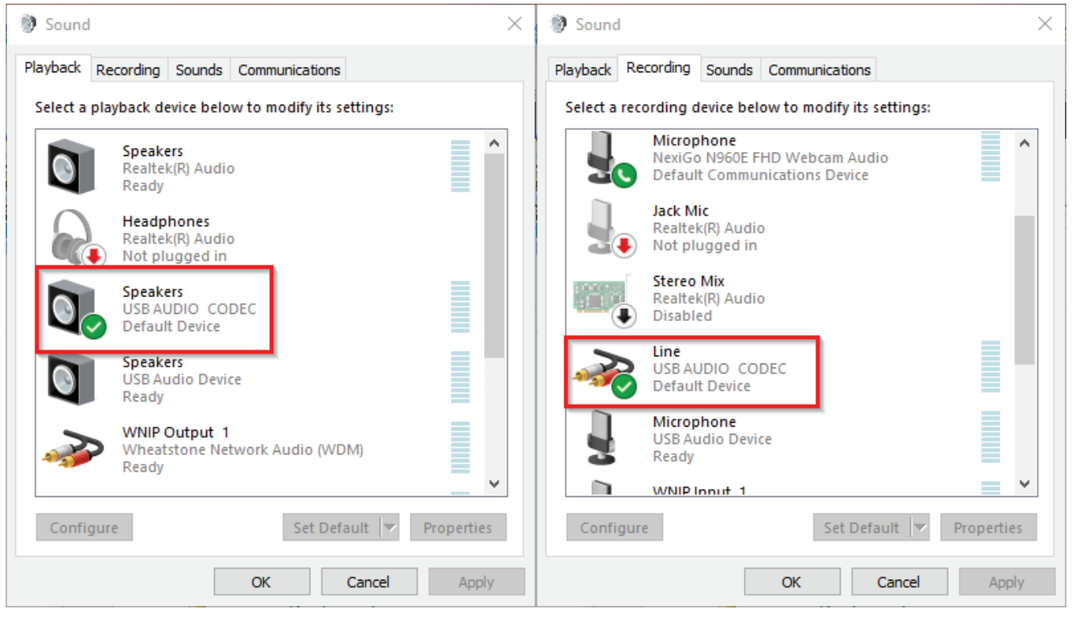
A-to-B cable connected from the DML LYRIC's Channel 11 input to a standard USB port on the Voxpro computer. You can record an interview with a caller while you are also on the air.

Configuring Windows Sound for DML LYRIC

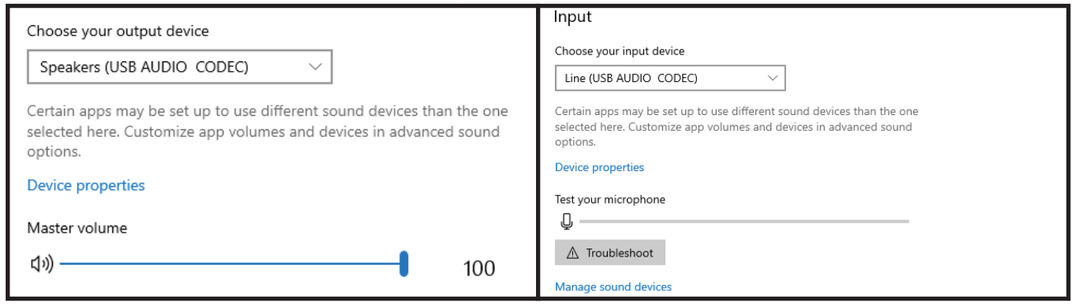
The DML LYRIC, when connected to a computer via USB, will appear in the Windows Sound Control Panel as "USB Audio Codec" both in the Playback and Record tabs. On the Playback tab it will show as "Speakers." On the Recording tab it will appear as "Line." See next page.

Make sure you right-click on the USB Audio Device in both tabs and select "Defaul Device." You'll also need to take a look at the Advanced sound properties and ensure that the sample rate is configured properly (44.1 kHz for a standalone console). If you'll be using the DML LYRIC's WNIP output, the sample rate should match that of your WheatNet-IP system. For Windows 10 and 11 systems, you'll also want to search Settings for "Microphone Privacy" and make certain this is set to "Allow access to the microphone on this device."

The Windows Control Panel is being deprecated by Microsoft. If you no longer have Control Panel, you will need to go to **Settings | Sound** in Windows to find the DML's USB devices.



Above graphics show how the console will appear in the "old school" Windows Control Panel. If you no longer have Control Panel, you will need to go to **Settings | Sound** in Windows to find the DML's USB devices. The new settings windows are shown below:



The DML's USB2 channel provides a specially-provisioned *split feed* to the connected computer. This feed provides caller audio **only** on the right channel, and a mix of all mic channels which have been assigned to PGM3 **only** on the left channel. To be included in this special mix, the mic faders and caller audio fader must be up (though they don't need to be turned on). Recording a split feed in this way makes it easy to edit recorded calls when you don't want to have the host and caller talking over each other. With the different signals on separate channels of the stereo output, they will be easy to separate, if desired, in the Voxpro or other recording program.

Assign the mic channels that you want to be included in the recording to PGM3. Pot these up to a usable level. You'll also need to put the Bluetooth/Caller channel in PGM3 and pot it up. Remember, these don't need to be turned on, only potted up. You should now be able to see levels on the VoxPro computer. Adjust the microphone and caller levels until they are roughly equal on the destination computer's meters and begin recording.

To edit the recorded call, put the Voxpro computer's channel (Channel 11) in cue or bring it up in PGM2 or PGM3 on the monitor speakers and start cutting.

You can use any audio recording program with the console's USB2 connection, not just Wheatstone's VoxPro system.

Split Cue

This button, found near the middle of the Studio module, puts a mono sum of the currently-selected Control Room source in the left headphone channel, and the Cue bus in the right channel. (When active, the button's LED will be lit.) This allows you to monitor a source in cue while still monitoring your on-air bus. The cue volume control does not affect the cue level in the split cue signal in this mode. To leave Split Cue mode, press the Split Cue button again and its LED will extinguish, putting your headphone audio back to normal.

Voice Tracking

We'll use Input 10 (USB1) as our Voice Tracking example. For Voice tracking, you need three things:

- You need to hear the audio coming from the Voice Track module of your playout system computer
- You need to route your mic audio to the playout system computer so that the voicetrack can be recorded
- You need to be able to hear your own mic audio

Here's the setup:

Take everything out of PGM2 and PGM3. Then let's take Mic 1 out of PGM1 (so you won't be on the air as you are testing and perfecting your voicetracks) and put it in both PGM2 and PGM3. Next, ensure that the voicetrack computer is assigned to the PGM3 bus only. Lastly, switch your CR monitor speakers/headphones to PGM3.

At this point, the only thing in PGM2 should be the mic you are going to use to voicetrack. Recall that PGM2 is the bus that outputs to the computer plugged into the USB1 connector on the back of the DML LYRIC. The only things in PGM3 are the mic and the playout system, so this is what you'll hear. Turn the mic and playout computer channels on and up. Since you're now hearing PGM3 in your headphones you can hear both your mic and the voicetrack system audio. And since the USB computer isn't in PGM2, it won't cause a feedback issue on the recording. All that's going to be fed to the computer is your mic. If you have a device that you use to play drops or stingers, you can bring that device's channel on and up in PGM2 and those sound effects will be recorded on your voice track as well.

DIP Switches

The bank of seven DIP switches on the back of the DML LYRIC controls the Control Room speaker mic muting and the Mic/Line status of the first two inputs of the console.

Position	Function
1	ON Mic channel 1 MUTES CR
2	ON Mic channel 2 MUTES CR
3	ON Input 1 is MIC level, OFF it is LINE level
4	ON Input 2 is MIC level, OFF it is LINE level
5	ON Mic channel 3 MUTES CR
6	ON Mic channel 4 MUTES CR
7	Unused

All switches are on (down position) when you receive your console. Note that as you view the DIP Switch bank from the rear of the console, it appears upside down.

User-Replaceable Parts and Accessories

Part Name	Part #	Part Name	Part #
HPS-516 Power Supply	007600	Power Cable	007507
HPS-516 Dual Rack Face	007609	Black Fader Knob	520141
15mm Cue Knob	520162	20mm HPDN Knob	520149
Button Cap	530414	RJ-45 to XLR M Adapter	920241
RJ-45 to XLR F adapter	920242	Phoenix Conn. for Mics (2 req'd)	265014

Warranty Information

Limited Warranty by Wheatstone Corporation

1 All equipment sold and shipped to final destinations within the USA and its possessions warranted for one (1) full year from the date of purchase against defects in material and workmanship. All equipment sold and shipped to final destinations outside the U.S.A. and its possessions warranted for one (1) full year from the date of purchase against defects in material and workmanship. All repairs to maintain the unit at original specification will be made at no charge to the original purchaser, except for shipping and insurance costs to be prepaid by the owner to the factory in the event the unit cannot be serviced by an authorized Wheatstone Corporation dealer.

2 This Warranty is subject to the following restrictions and conditions:

a) The owner must have registered the product at Wheatstone's official web site; or at the time of servicing the owner must provide proof of purchase from an authorized Wheatstone Corporation sales engineer, distributor or dealer.

b) This Warranty is valid for the original purchaser on the unit. Parts used for replacement are warranted for the remainder of the original warranty period. Repair or replacement is in the discretion of Wheatstone Corporation and is the exclusive remedy hereunder.

c) This Warranty DOES NOT apply to damage or defects resulting from abuse, careless use, misuse, improper installation, electrical spikes or surges, or alteration, repair, or service of the unit or equipment by anyone other than Wheatstone Corporation or its authorized dealer.

d) This Warranty is void if the serial number has been removed, altered or defaced.

e) This Warranty DOES NOT cover loss or damage, direct or indirect, arising out of the use or inability to use this unit or for shipping or transportation to any dealer.

f) Wheatstone Corporation reserves the right to modify or change any unit in whole or in part at any time prior to return delivery in order to incorporate electronic or mechanical improvements deemed appropriate by the Wheatstone Corporation but without incurring any responsibility for modifications or changes of any unit previously delivered or to supply any new equipment in accordance with any earlier specifications.

g) THERE ARE NO OTHER WARRANTIES, EXPRESSED, IMPLIED, OR STATUTORY, INCLUDING ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IF FOR ANY REASON ANY IMPLIED OR STATUTORY WARRANTY CANNOT BE DISCLAIMED, THEY ARE LIMITED TO THIRTY (30) DAYS FROM THE DATE OF PURCHASE. WHEATSTONE CORPORATION IS NOT RESPONSIBLE FOR ELECTRICAL DAMAGE, LOSS OF USE, INCONVENIENCE, DAMAGE TO OTHER PROPERTY, OR ANY OTHER INCIDENTAL OR CONSEQUENTIAL, WHETHER DIRECT OR INDIRECT, AND WHETHER ARISING IN CONTRACT, TORT, OR OTHERWISE. NO REPRESENTATIVES, DEALERS, OR WHEATSTONE PERSONNEL ARE AUTHORIZED TO MAKE ANY WARRANTIES, REPRESENTATIONS, OR GUARANTIES OTHER THAN THOSE EXPRESSLY STATED HEREIN.