# Operations Manual

Last Updated: 11/10/2013

# P Squared Ltd

# Limited Warranty

## Definitions

'the Company' means P Squared Ltd and where relevant includes companies within the same group of companies as P Squared Limited.
'the Goods' means the goods or any part thereof supplied by the Company and where relevant includes: work carried out by the Company on items supplied by the Purchaser; services supplied by the Company; and software supplied by the Company.
'the Purchaser' means the person or organisation who buys or has agreed to buy the Goods.
'the Price' means the Price of the Goods and any other charges incurred by the Company in the supply of the Goods.
'the Contract' means the quotation, these Conditions of Sale and any other document incorporated in a contract between the Company and the Purchaser.
This is the entire Contract between the parties relating to the subject matter hereof and may not be changed or terminated except in writing in accordance with the provisions of this Contract. A reference to the consent, acknowledgment, authority or agreement of the Company means in writing and only by a director of the Company.

## Warranty Returns

Please contact P Squared to obtain a returns authorisation prior to returning any goods for warranty repair.

## Returns Contact:

Returns
P Squared Ltd
1-2 Maritime House
Livingstone Road
Hessle
East Riding Of Yorkshire
HU13 0EG

Telephone: +44 1482 350700
Fax: +44 1482 350701

Email: support@psquared.net
Web: www.psquared.net

## This Warranty Does Not Affect Your Statutory Rights

If you need to return goods to P Squared Ltd, for whatever reason, please contact P Squared Ltd beforehand to receive a returns reference number.

## Warranty and Liability

**Important: the purchaser is advised to read this clause**
(a) The Company agrees to repair or (at its discretion) replace Goods which are found to be defective (fair wear and tear excepted) and which are returned to the Company within 12 months of the date of despatch provided that each of the following are satisfied:
(i) notification of any defect is given to the Company immediately upon its becoming apparent to the Purchaser;
(ii) the Goods have only been operated under normal operating conditions and have only been subject to normal use (and in particular the Goods must have been correctly connected and must not have been subject to high voltage or to ionising radiation and must not have been used contrary to the Company's technical recommendations);
(iii) the Goods are returned to the Company's premises at the Purchaser's expense;
(iv) any Goods or parts of Goods replaced shall become the property of
the Company;
(v) no work whatsoever (other than normal and proper maintenance) has been carried out to the Goods or any part of the Goods without the Company's prior written consent;
(vi) the defect has not arisen from a design made, furnished or specified by the Purchaser;
(vii) the Goods have been assembled or incorporated into other goods only in accordance with any instructions issued by the Company;
(viii) the defect has not arisen from a design modified by the Purchaser;
(ix) the defect has not arisen from an item manufactured by a person other than the Company. In respect of any item manufactured by a person other than the Company, the Purchaser shall only be entitled to the benefit of any warranty or guarantee provided by such manufacturer to the Company.
(b) In respect of computer software supplied by the Company the Company does not warrant that the use of the software will be uninterrupted or error free.
(c) The Company accepts liability:
(i) for death or personal injury to the extent that it results from the negligence of the Company, its employees (whilst in the course of their employment) or its agents (in the course of the agency);
(ii) for any breach by the Company of any statutory undertaking as to title, quiet possession and freedom from encumbrance.
(d) Subject to conditions (a) and (c) from the time of despatch of the Goods from the Company's premises the Purchaser shall be responsible for any defect in the Goods or loss, damage, nuisance or interference whatsoever consequential economic or otherwise or wastage of material resulting from or caused by or to the Goods. In particular the Company shall not be liable for any loss of profits or other economic losses. The Company accordingly excludes all liability for the same.
(e) At the request and expense of the Purchaser the Company will test the Goods to ascertain performance levels and provide a report of the results of that test. The report will be accurate at the time of the test, to the best of the belief and knowledge of the Company, and the Company accepts no liability in respect of its accuracy beyond that set out in Condition (a).
(f ) Subject to Condition (e) no representation, condition, warranty or other term, express or implied (by statute or otherwise) is given by the Company that the Goods are of any particular quality or standard or will enable the Purchaser to attain any particular performance or result, or will be suitable for any particular purpose or use under specific conditions or will provide any particular capacity, notwithstanding that the requirement for such performance, result or capacity or that such particular purpose or conditions may have been known (or ought to have been known) to the Company, its employees or agents.
(g) (i) To the extent that the Company is held legally liable to the Purchaser for any single breach of contract, tort, representation or other act or default, the Company's liability for the same shall not exceed the Price of the Goods.
(ii) The restriction of liability in Condition (g)(i) shall not apply to any liability accepted by the Seller in Condition (c).
(h) Where the Goods are sold under a consumer transaction (as defined by the Consumer Transactions (Restrictions on Statements) Order 1976) the statutory rights of the Purchaser are not affected by these Conditions of Sale.

## Table of Contents

## Contents

# Introduction

The SRM is a small, fixed format broadcast audio mixer designed to provide a versatile and robust mixing solution for small and medium scale radio stations.

We set out to design a mixer that would combine key broadcast radio features with a layout that would appeal to novice and broadcast professionals alike. The result is a mixer that includes many features we felt were lacking in the alternatives but still retains simplicity and clarity to the end user.
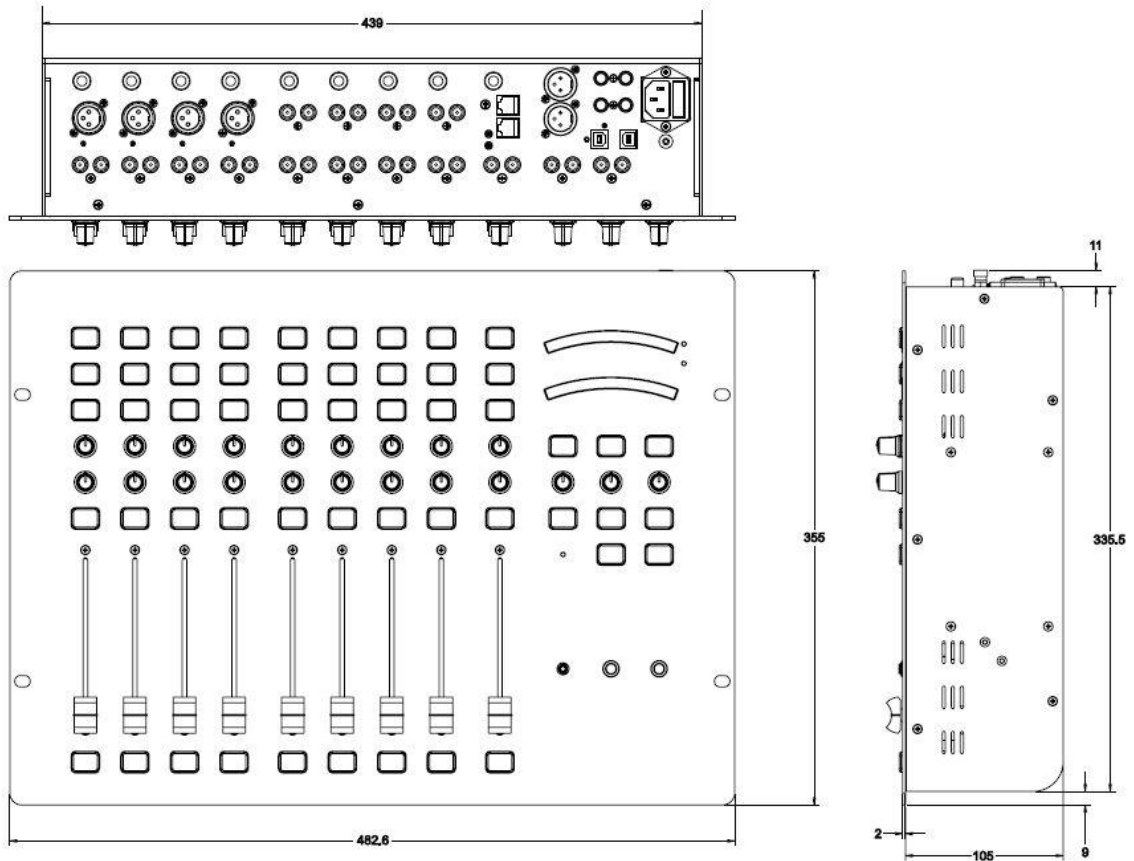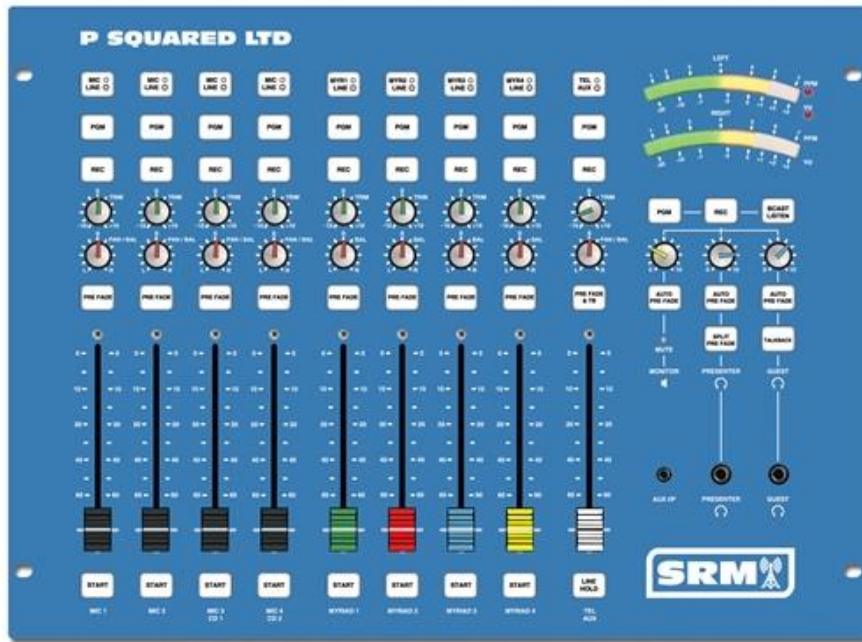
The SRM was also designed to work with the Myriad radio playout software. The Myriad Intelligent Interface provides a consistent data link between the SRM mixer and your Myriad playout system providing un-paralleled levels of interactivity between the two systems and blurring the lines between software and broadcast hardware.

The SRM is a fixed format, nine channel broadcast mixer boasting the following key features:

- User friendly broadcast mixer
- Clear, simple layout with no jargon
- Designed for school & community radio
- Nine multi-function channel mixer
- Built in telephone interface
- Built in headphone volume limiter
- Large, simple LED volume display
- Remote output for fader starts
- Speaker muting when 'Mics' are on
- External mic-light switching output
- 'Program' and 'record' outputs
- 'Aux' input for iPod or MP3 players
- Four microphone/line channels
- Four Myriad channels
- Switchable telephone/AUX channel
- Connects to Myriad via USB cable
- Start buttons for Myriad Cart Players
- Channel lights show Myriad Cart status
- Rack or flush mountable
- Guest headphone 'talkback'
- Reliable, low cost mixing solution

For more detail on The SRM mixer, please visit www.thesrm.co.uk

## Layout & Dimensions



**Dimensions**
Width: 482.6mm
Height: 355.0mm
Depth: 107mm

Layout & Dimensions | Copyright © P Squared  Ltd 2013

# Channel Overview

**4 x Mic / Line Channels**
Selectable microphone or stereo line inputs.

Phantom power (48v) optionally available in 'mic' mode.

Hardware output available for 'remote start' when in 'line' mode.

Selectable PGM and REC outputs.

**4 x Myriad / Line Channels**
Selectable Myriad or stereo line inputs.

When in Myriad mode, channel status is controlled by Myriad via USB connection. Start buttons also control Cart Players in Myriad.

Hardware output available in 'Line' mode for remotely starting external devices.

Selectable PGM or REC outputs for flexibility.

**1 x Telephone / AUX Channel**
Select between telephone interface mode and stereo 'AUX' inputs.

When in telephone, you can connect an analogue telephone line to the SRM to allow you to make and receive phone calls through the mixing desk (standard handset required).

The 'AUX' stereo input provides a convenient additional input for external devices such as MP3 players.

**Monitoring & Headphones**
The built in LED volume meters can be set to display output in PPM (default) or VU modes which are selectable via the SRM Setup Mode. The LED meters can be switched to display volume for either PGM (Program Output Bus), REC (Record Output Bus) or Broadcast Listen (external input used for 'off air' monitoring).

The SRM includes built in headphone limiting to limit the maximum volume for presenter and guest headphones. Guest headphone 'talkback' is also provided to allow the presenter to talk via the guest headphones using Microphone Channel 1.

The Monitor volume control is used to control the speaker volume level in the studio.

## Microphone / Line Channels (Channels 1-4)

### Channel Layout & Function

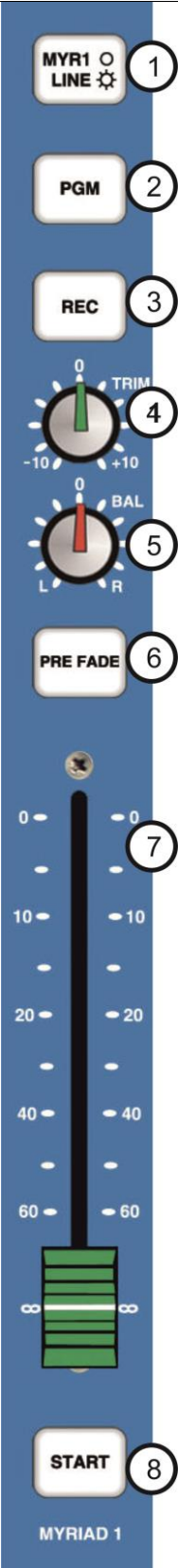| Channel Layout | Description |
|---|---|
|  | **1 - Mic / Line Button:** This button allows you to switch the channel between the Microphone input and the stereo line level inputs (see rear of the channel below). In addition, when in Mic mode, raising the channel fader will operate the Light Control logic which can be connected to an external 'Mic Live' light. When in Line mode, raising the fader will send a signal out from the Remote Output (see rear of panel) for starting remote devices such as CD players.<br><br>Button is illuminated when in Line Mode. Please note that this button can be disabled using the SRM Setup Mode. |
| | **2 – PGM Button (Program Bus) –** This button allows you to select whether the output of the channel should be mixed into the Program Bus Output. The Program Bus Output is the main mixing desk output which would normally be connected to your transmission or encoding system. The reason for this function is to allow you to de-select channels to be included in main Program Bus Output but still use the channels (for recording etc). Button illuminates when selected. |
| | **3 – REC Button (Record Bus) –** This button allows you to select whether the output from the channel should be mixed to the Record Bus Output which would normally be connected to your Myriad system (or other playout system). This function allows you to select which channels Myriad should record, which is very useful when, voice tracking or recording telephone calls (when live on air etc). Button illuminates when selected. |
| | **4 - Trim:** The Trim control allows you to adjust the overall volume level for the channel when the fader is in the upmost position. Basically, this allows you to set how loud the channel should be when the fader is fully up. This is very useful for setting relative levels between channels with different source volumes. |
| | **5 - PAN / BAL (Balance):** This control has two functions depending on whether you are in Mic or Line mode. In Mic mode the control acts as a PAN control which allows you to set the input bias for the channel to either be left channel input or right channel input. In PAN mode, if you rotate the knob all the way to the left then the right channel input will effectively turned off.<br><br>The control switches to BAL (balance) mode when Line is selected which does the same thing (i.e. allows you to alter the left / right bias) but turning the know fully to the left will still allow some of the right hand channel to be heard, it will not mute it fully as in PAN mode. |
| | **6 - Pre Fade:** The button allows you to select the Pre-Fade mode for the channel. The Pre-Fade mode allows you to listen to the channel without it actually being sent to the PGM or REC outputs (see above) which is essential if you want to check something prior to it going 'on-air'. To use this feature, first pull the fader right down (otherwise it will be broadcast anyway), then press the Pre-Fade button. You will now be able to hear |

anything playing through your headphones (providing the Auto-Prefade option in the monitor section is set – see Monitor Section) but it will not be heard 'on-air'.

This is an essential tool for radio. Let's say you have a guest in the studio. You need to check that their mic levels are ok and adjust the Trim on their mic channel if they are too quiet or too loud. Simply pull down their mic fader, press the Pre-Fade button and ask them to speak into the mic. You will be able to hear them through your headphones but crucially you can also see their 'mic levels' on the LED Meter (bar graph) so you can adjust the channel Trim accordingly. Once you are happy, de-select the Pre-Fade button and don't forget to put their fader up when you want them to be able to speak.

**7 - Fader:** The Fader is a linear volume control for the channel. By moving the fader up or down, you will alter the volume of the audio source the channel is connected to.

**8 - Start Button:** This button is only operational when in Line mode and it is used to send a start signal to compatible external devices (such as some CD players) via the Remote Start Output (see rear of channel).

## Rear Panel Layout & Function

| Channel Layout | Description |
|---|---|
|  | **1 - Line Input:** This RCA ( phono) input allows you to plug in a stereo source that will be used by the channel when in Line mode. The source should be domestic level (unbalanced) as found on most CD players and hi-fi equipment. If you need to plug in a balanced source then you should consult support@psquared.net for more information. |
| | **2 - Mic Trim:** This small screw adjuster allows you to alter the base amplification level for microphones plugged into the channel. This is in addition to the Trim control on the channel itself. This control should only be adjusted by a competent audio engineer. |
| | **3 - Mic Input –** This XLR input is used to plug in a standard microphone cable. The SRM can support both dynamic (un-powered) and condenser (powered using 48v phantom power) microphones but you will need to activate the phantom power option when using a condenser microphone (see SRM Setup Mode for more detail). |
| | **4 - Remote Output:** This output is only used when the channel is switched to Line mode and it is used to send a 'start' signal to compatible external devices such as some CD players. This Remote Output is effectively a closing contact between the tip of the ¼" jack and the sleeve. |

## Myriad / Line Channels (Channels 5-8)

### Channel Layout & Function

| Channel Layout | Description |
|---|---|
|  | **1 - MYR / Line Button:** This button allows you to switch the channel between the Myriad input and the stereo line level inputs (see rear of the channel below). In addition, when in MYR (Myriad) mode, the channel will also interact with a correctly configured Myriad playout system via the Myriad Intelligent Interface (USB) connection. This will alter the Start button functionality to allow you to Play / Pause the corresponding Cart Player in Myriad. The status of the Cart Player in Myriad will also be displayed as colour changes on the Start button.<br><br>Button is illuminated when in Line Mode. Please note that this button can be disabled using the SRM Setup Mode. |
| | **2 – PGM Button (Program Bus) –** This button allows you to select whether the output of the channel should be mixed into the Program Bus Output. The Program Bus Output is the main mixing desk output which would normally be connected to your transmission or encoding system. The reason for this function is to allow you to de-select channels to be included in main Program Bus Output but still use the channels (for recording etc). Button illuminates when selected. |
| | **3 – REC Button (Record Bus) –** This button allows you to select whether the output from the channel should be mixed to the Record Bus Output which would normally be connected to your Myriad system (or other playout system). This function allows you to select which channels Myriad should record, which is very useful when, voice tracking or recording telephone calls (when live on air etc). Button illuminates when selected. |
| | **4 - Trim:** The Trim control allows you to adjust the overall volume level for the channel when the fader is in the upmost position. Basically, this allows you to set how loud the channel should be when the fader is fully up. This is very useful for setting relative levels between channels with different source volumes. |
| | **5 - BAL (Balance):** This control allows you to alter the bias for the channel between the left and right inputs. When central, both left and right inputs will be equal but turning the knob to either the left or the right will alter the bias for the channel in favour of the selected direction. |
| | **6 - Pre Fade:** The button allows you to select the Pre-Fade mode for the channel. The Pre-Fade mode allows you to listen to the channel without it actually being sent to the PGM or REC outputs (see above) which is essential if you want to check something prior to it going 'on-air'). To use this feature, first pull the fader right down (otherwise it will be broadcast anyway), then press the Pre-Fade button. You will now be able to hear anything playing through your headphones (providing the Auto-Prefade option in the monitor section is set – see Monitor Section) but it will not be heard 'on-air'.<br><br>This is an essential tool for radio. Let's say you have a guest in the studio. You need to check that their mic levels are ok and adjust the Trim on their |

mic channel if they are too quiet or too loud. Simply pull down their mic fader, press the Pre-Fade button and ask them to speak into the mic. You will be able to hear them through your headphones but crucially you can also see their 'mic levels' on the LED Meter (bar graph) so you can adjust the channel Trim accordingly. Once you are happy, de-select the Pre-Fade button and don't forget to put their fader up when you want them to be able to speak.

**7 - Fader:** The Fader is a linear volume control for the channel. By moving the fader up or down, you will alter the volume of the audio source the channel is connected to. When in MYR mode, the corresponding Cart Player will be switched to 'Preview' mode when the fader is fully closed (down position).

**8 - Start Button:** This button has different functions depending on whether you are in Line or MYR modes.

When in Line mode it is used to send a start signal to compatible external devices (such as some CD players) via the Remote Start Output (see rear of channel).

When in Myriad mode, it is used to control the corresponding Cart Player in Myriad and also to display the status of the Cart Player by changing the colour and illumination state. The following list outlines the possible states for the Start button when in Myriad mode:

- Not illuminated – The corresponding Cart Player in Myriad is empty.
- Solid Red – Cart is cued in Cart Player (or paused) and is ready to start playback.
- Solid Green – Cart is playing in Cart Player.
- Flashing Orange – Cart has reached the final 10 seconds of playback (before Extro point).
- Flashing Red – Cart has reached final 5 seconds of playback (before extro point).
- Solid Orange – Cart has reached extro point but is still in Cart Player.

Please note that pressing the Start button will have the following effects:

- Press Start When Cart Is Cued / Paused (solid orange) – This will start playback of the Cart Player in Myriad.
- Press Start When Cart Is Playing (solid green) – This will pause the Cart Player in Myriad.

You will also see that if the Fader is closed then the corresponding Cart Player in Myriad will switch to 'Preview' mode.

## Rear Panel Layout & Function

| Channel Layout | Description |
|---|---|
|  | **1 - Myriad Input:** This RCA (phono) input allows you to plug in to the corresponding soundcard output on your Myriad playout system. So If Cart Player 1 is configured to use soundcard outputs 1&2 then these are the outputs that should be plugged into Myriad Channel 1 Inputs. |
| | **2 x Line Input:** This RCA (phono) input allows you to plug in a stereo source that will be used by the channel when in Line mode. The source should be domestic level (unbalanced) as found on most CD players and hi-fi equipment. If you need to plug in a balanced source then you should consult support@psquared.net for more information. |
| | **Remote Output:** This output is only used when the channel is switched to Line mode and it is used to send a 'start' signal to compatible external devices such as some CD players. This Remote Output is effectively a closing contact between the tip of the ¼" jack and the sleeve. |

## Telephone / AUX Channel (Channel 9)

### Channel Layout & Function

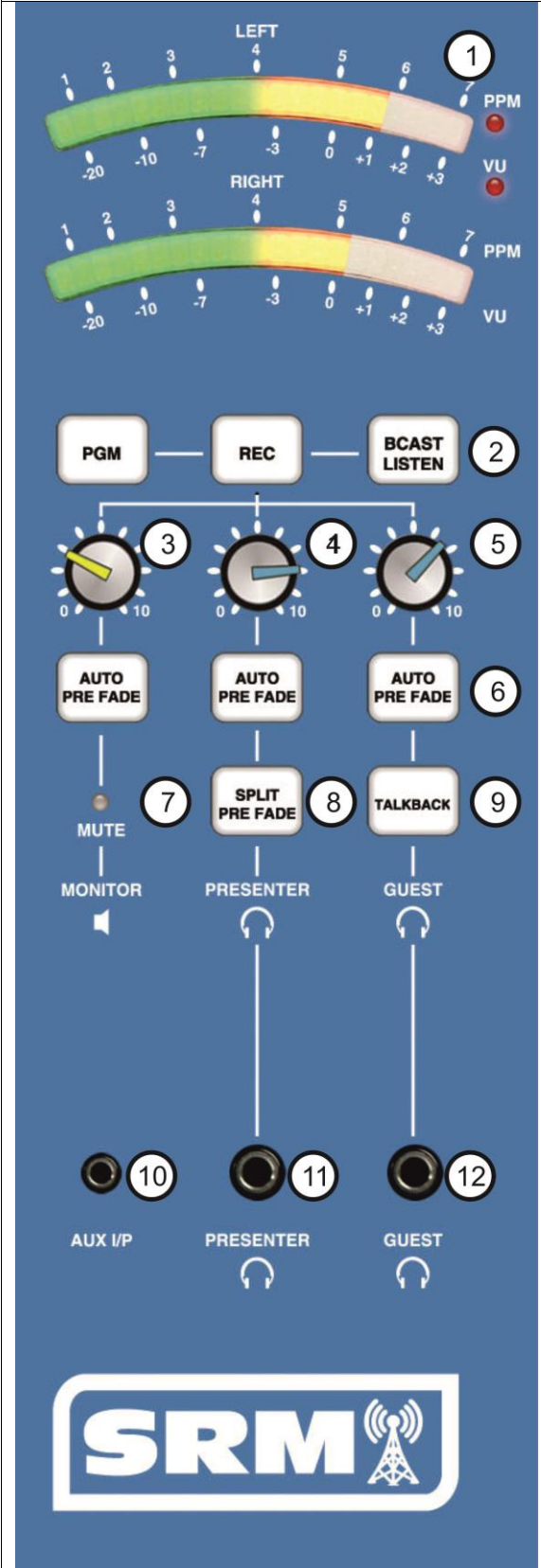| Channel Layout | Description |
|---|---|
|  | **1 - TEL / AUX:** This button allows you to switch the channel between TEL (Telephone) mode and AUX input mode. When TEL mode is selected, the channel switches to Telephone mode and enables the built in telephone interface (see rear of panel). The function of several buttons is also altered when in Telephone mode.<br><br>When in AUX mode, the channel uses the stereo input from either the AUX input on the rear of the mixer or the small AUX jack input located on the mix face in the Monitoring section.<br><br>Button is illuminated when in AUX Mode. Please note that this button can be disabled using the SRM Setup Mode. |
| | **2 - PGM Button (Program Bus) –** This button allows you to select whether the output of the channel should be mixed into the Program Bus Output. The Program Bus Output is the main mixing desk output which would normally be connected to your transmission or encoding system. The reason for this function is to allow you to de-select channels to be included in main Program Bus Output but still use the channels (for recording etc). Button illuminates when selected. |
| | **3 – REC Button (Record Bus) –** This button allows you to select whether the output from the channel should be mixed into the Record Bus Output which would normally be connected to your Myriad system (or other playout system). This function allows you to select which channels Myriad should record, which is very useful when, voice tracking or recording telephone calls (when live on air etc). Button illuminates when selected. |
| | **4 - Trim:** The Trim control allows you to adjust the overall volume level for the channel when the fader is in the upmost position. Basically, this allows you to set how loud the channel should be when the fader is fully up. This is very useful for setting relative levels between channels with different source volumes. |
| | **5 - PAN / BAL (Balance):** This control has two functions depending on whether you are in TEL or AUX mode. In TEL mode the control acts as a PAN control which allows you to set the input bias for the channel to either be left channel or right channel. In PAN mode, if you rotate the knob all the way to the left then the right channel input will effectively turned off.<br><br>The control switches to BAL (balance) mode when AUX is selected which does the same thing (i.e. allows you to alter the left / right bias) but turning the knob fully to the left will still allow some of the right hand channel to be heard, it will not mute it fully as in PAN mode. |

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|---|---|
| | **6 - Pre Fade & TB:** The button allows you to select the Pre-Fade mode for the channel. The Pre-Fade mode allows you to listen to the channel without it actually being sent to the PGM or REC outputs (see above), which is essential if you want to check something prior to it going 'on-air'). To use this feature, first pull the fader right down (otherwise it will be broadcast anyway), then press the Pre-Fade button. You will now be able to hear anything playing through your headphones (providing the Auto-Prefade option in the monitor section is set – see Monitor Section) but it will not be heard 'on-air'.<br><br>When the fader is switched to Tel mode, the Pre-Fade option also enables Talk Back (TB) to the caller on the telephone. This special feature allows you to talk to your caller using Microphone Channel 1 without having to open the Microphone 1 fader.<br><br>So once you have a caller, you can use the Pre-Fade & TB button to listen to them and talk to them prior to opening their fader and putting them on air.<br><br>**Caution:** Remember when you push this button, they can hear you also through the main presenter mic so be careful what you say! |
| | **7 - Fader:** The Fader is a linear volume control for the channel. By moving the fader up or down, you will alter the volume of the audio source the channel is connected to. |
| | **8 - Line Hold:** This button is only operational when in TEL mode and it is used to connect and disconnect the telephone line via the mixing desk. Think of this as pickup or putting down the receiver in a traditional phone.<br><br>Please note that the button will flash when a phone call is received and will illuminate when the desk is connected to the call. See section on Telephone Interface for more detailed operation. |

## Rear Panel Layout & Function

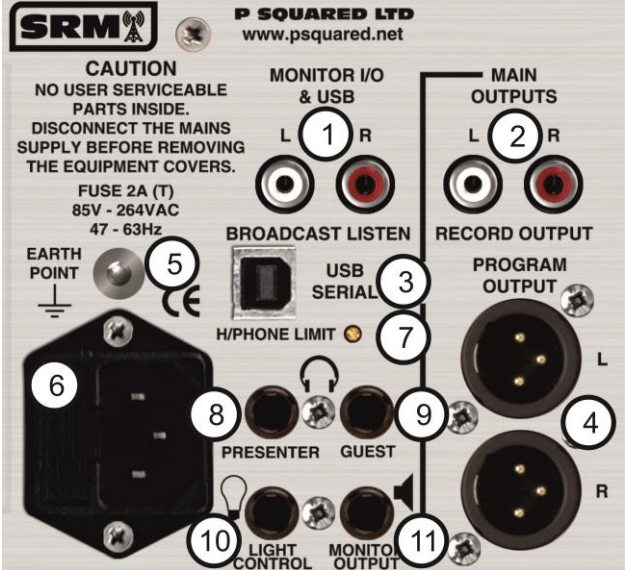| Channel Layout | Description |
|---|---|
|  | **1 - Aux Input:** This RCA (phono) input allows you to plug in a stereo source that will be used by the channel when in AUX mode. The source should be domestic level (unbalanced) as found on most CD players and hi-fi equipment. If you need to plug in a balanced source then you should consult support@psquared.net for more information.<br><br>Please note that there is a small jack AUX input on the Monitor Section of the mixer face. These two inputs are effectively the same. |
| | **2 - R-BAL (Resistor) & C-BAL (Capacitor):** These small screw adjuster are for adjusting the signal levels on the telephone interface. These are factory set against a standard BT line and should not need adjusting under normal circumstances. |
| | **3 - Line (phone) –** This allows you to connect the SRM to a standard BT analogue phone line. You will need an RJ11 (male) to BT (male) cable to connect from your BT phone socket to the SRM.<br><br>Please note that you will need a true analogue phone line socket similar to one you would need for a standard fax machine. If you have a digital phone exchange, you will need to talk to your supplier about analogue phone socket provision. |
| | **4 - Handset:** This is used to connect a standard analogue telephone handset to the SRM to allow you to dial outgoing calls which can then be transferred to the mixer for use 'on air'.<br><br>You will need an RJ11 (male) to RJ11 (male) cable to connect to most handsets. |
| | **5 - Remote Output:** This output is only used when the channel is switched to AUX mode and it is used to send a 'start' signal to compatible external devices such as some CD players. This Remote Output is effectively a closing contact between the tip of the ¼" jack and the sleeve. |

## Monitor Section

### Layout & Function

| Channel Layout | Description |
|---|---|
|  | **1 - LED Meter Lights:** The LED Meter Lights provide a visual representation of the audio levels passing through the selected SRM output bus. The LED's are colour coded so you can see quickly when things are too loud:<br>• Green – Level ok (target for music)<br>• Yellow – Level still ok but getting louder (target for speech)<br>• Red – Level too high and likely to lead to distortion<br>The LED Meters can be switched to display in PPM or VU modes (see SRM Setup Mode) with PPM set as the default. In PPM mode, the display shows an average volume of a short time period so the display is more consistent and easier to work with. In VU mode the display shows all volume peaks and so is more accurate but also more erratic. We recommend sticking with PPM mode.<br><br>The LED Meter section can be set to display the current volume for any of the following:<br>• PGM – The LED shows the volume for the Program Output Bus (main desk output)<br>• REC – The LED shows the volume for the REC Output Bus<br>• BCAST LISTEN (Broadcast Listen) – The LED shows the volume for the Broadcast Listen input which is commonly used to monitor a 'post process' or 'off air' source to ensure what you are playing is actually being broadcast.<br>• Pre-Fade – When you activate the Pre-Fade mode on any channel, the LED display switches to showing the volume for all Pre-Fade enabled channels. |
| | **2 - PGM / REC / BCAST LISTEN Butons:** These buttons are used to select the output bus that you want the LED Meter to display (see above) plus is sent to the studio MONITORS (speakers) and PRESENTER & GUEST HEADPHONE. To switch to PGR, REC or BCAST Listen, just press the button. The bus that the LED Meter is currently displaying is indicated by the button being illuminated. One of these options will be selected at all times.<br><br>Please note that when you press a Pre-Fade button |

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|---|---|
| | on any channel, the LED Display switches automatically to display the volume on all channels that have Pre-Fade selected. |
| | **3 - Studio Speaker Volume:** This is the left hand volume knob (with the yellow top - follow the line down from the knob and you will see a speaker icon).<br><br>Use this knob to adjust the volume of your studio speakers. |
| | **4 - Presenter Headphone Volume:** The middle volume knob (blue top) is used to control the volume of the main presenters headphones.<br><br>Please note that the SRM has an adjustable headphone limiter which prevents the volume of the headphones from going too high. Once the volume limit has been reached, turning the headphones higher will result in distortion but no additional volume. |
| | **5 - Guest Headphone Volume:** The right hand volume knob (blue top) is used to control the volume of the guest headphones.<br><br>Please note that the SRM has an adjustable headphone limiter which prevents the volume of the headphones from going too high. Once the volume limit has been reached, turning the headphones higher will result in distortion but no additional volume. |
| | **6 - Auto Pre-Fade Buttons:** There are Auto Pre-Fade button for the Speakers, Presenter Headphones and Guest Headphones and they are used to select whether Speakers / Presenter Headphone / Guest Headphones will automatically switch to listening to Pre-Fade channels when one or more channels have Pre-Fade selected.<br><br>As outlined in the Pre-Fade sections on the channels, pressing the Pre-Fade button on a channel allows you to listen to the audio on the channel without having the Fader up. This allows you to preview items and to check audio levels.<br><br>The Auto Pre-Fade buttons allows you to select who will hear the Pre-Fade once activated.<br><br>&bull; Speaker – The studio speakers will automatically switch to playing Pre-Fade |

| | once activated. |
|---|---|
| | - Presenter – The presenter's headphones will automatically switch to playing Pre-Fade once activated. |
| | - Guest's – The guest's headphones will automatically switch to playing Pre-Fade once activated. |
| | You can have any or all of these options activated. Selected options are illuminated. |
| | **7 - Mute:** The Mute light switches on when a Microphone Channel fader is opened and indicates that the volume to the studio speakers has been cut to prevent feedback. This can also be reflected by an external 'Mic Live' light connected to the Light Controller output on the rear panel. |
| | **8 - Split Pre-Fade:** This option allows you to set the SRM to play Pre-Fade audio to the left side of the presenters headphones and PGM / REC / BCAST Listen (whichever is selected) to the right hand side of the headphones. This is useful if you need to preview something but also want to keep an ear on what is being broadcast. |
| | **9 - Talkback:** The Talkback button allows you 'talk' to the Guest Presenter via their headphones. If you hold down this button and then talk into the microphone plugged into Microphone Channel 1 (with the fader down of course) then your voice will be mixed into whatever the Guest Headphones are listening to. This is great if your guest is located away from you or if you just want to warn them the song is coming to an end. |
| | **10 - AUX I/P (AUX Input):** This mini-jack input allows you to easily plug in external devices such as iPods and phones etc.<br><br>To access this input you will need to switch the TEL / AUX channel (channel 9) to AUX mode.<br><br>Please note that there is also an AUX Input on the rear panel but it is just a parallel of this input. |
| | **11 – Presenter Headphones:** Allows you to plug in your main presenter headphones.<br><br>Please note that this connector is also available on the rear panel. |
| | **12 – Guest Headphones:** Allows you to plug in your main presenter headphones.<br><br>Please note that this connector is also available on the rear panel. |

## Rear Panel Layout & Function

| Channel Layout | Description |
|---|---|
|  | **1 – Broadcast Listen:** This is an RCA (phono) input that can be listened to via the monitoring section. The primary use for this input is to allow you to monitor a 'post process' or 'on-air' feed to ensure what you are playing is what you are broadcasting. |
| | **3 – Record Output:** This is an RCA (phono) output that includes a mix of all the channels that have the REC buttons selected (and the faders up). This is usually connected to your Myriad (or other) playout system's recording soundcard input. |
| | **3 – USB Serial:** This is the Myriad Intelligent Interface USB port which should be connected to your Myriad playout PC. |
| | **4 – Program Outputs:** This is a balanced XLR output that includes a mix of all the channels that have the PGM buttons selected (and the faders up). This is usually connected to your main transmission system or encoder PC (if streaming). |
| | **5 – Earth Point:** This allows you to 'earth' your mixer to a common 'earth' in your studio which is common practice for electrical safety and noise suppression. |
| | **6 – Power Socket & Fuse Carrier:** This is where you plug in the supplied IEC power lead. There is also a user accessible fuse carrier to the left of the power socket to allow you to replace a damaged or blown fuse. |
| | **7 – Headphone Limit:** This small screw adjuster allows you to adjust the level at which the headphone limiting in the SRM applies. If you find that the headphone limiting is cutting in too early or if you feel the headphones can be turned too loud, you can use this screw to adjust the level at which the SRM will start to limit |

| | |
|---|---|
| | headphone output.<br><br>Remember that once the limit threshold is met, audio will distort but will not get any louder. |
| | **8 – Presenter Headphone Socket:** This provides an alternative place to plug in the presenter headphones (see Monitor Section for other location). |
| | **9 – Guest Headphone Socket:** This provides an alternative place to plug in the guest headphones (see Monitor Section for other location). |
| | **10 – Light Control:** This ¼" jack output provides a signal to an external 'mic live' light whenever a Microphone Channel fader is opened.<br><br>Please note that this output provides a closure between the 'tip' and the 'Sleeve' of the ¼ jack and is for logic switching only.<br><br>**CAUTION: Never pass voltage through the light control output. Doing so will result in serious damage to the mixer and will invalidate your warranty.** |
| | **11 – Monitor Output:** This is a ¼" jack output (wired stereo unbalanced) which is used to feed the speakers in your studio. The Monitor Output feed is muted whenever a Microphone Channel fader is opened.<br><br>This output can be fed to an amplifier or directly to powered studio speakers. |

# Setting Up The Myriad Intelligent Interface (MII)



## What Is MII?

The Myriad Intelligent Interface (MII) is a data link between the SRM mixer and the Myriad professional radio playout system. The MII is established by a standard USB data connection and requires only a few minutes to setup on the SRM and the Myriad playout software.

The benefits of MII are listed below:

- The SRM becomes aware of the status of corresponding Cart Players in Myriad and can indicate the status of Cart Players via the 'Start' button on the mixer.
- Myriad becomes aware of the status of the SRM mixer and is able to provide visual 'on screen' indications of certain events in the mixer such as when a 'mic' channel is open or when a Myriad playout channel is closed.
- Cart Players can be controlled directly by the 'Start' buttons on the SRM providing a convenient and intuitive control method.

The MII is intended for use in a typical Myriad studio environment. It is assumed that your Myriad system is setup to use four Cart Players and that the Cart Players are connected to Myriad Channels 1-4 on the SRM. This means that when you drop a Cart in to Cart Player 1 on Myriad, the Start button on Myriad Channel 1 on the SRM will illuminate. You can press this Start button to begin playback in Myriad and you can also pause playback by pressing the button again.

As Carts in Myriad reach the final 10 seconds (before the extro), the on screen Cart Player changes colour to warn the user that the Cart will be finishing shortly. At the same time, the SRM Start button on the corresponding channel will change colour and begin to flash. At 5 seconds from the end, the Myriad Cart Players alter the colour. Again, the SRM will also change the colour of the Start button to reflect this change in status and warn the presenter that the Cart is about to finish.

## Start Button Colour Status Key

When MII is activated and configured to work with your Myriad system the Start buttons are used to indicate the status of the corresponding Cart Player in Myriad. The key below outlines the various status that the Start button could be in and what that means in terms of your Myriad system.

- Not illuminated – The corresponding Cart Player in Myriad is empty.
- Solid Red – Cart is cued in Cart Player (or paused) and is ready to start playback.
- Solid Green – Cart is playing in Cart Player.
- Flashing Orange – Cart has reached the final 10 seconds of playback (before Extro point).
- Flashing Red – Cart has reached final 5 seconds of playback (before extro point).
- Solid Orange – Cart has reached extro point but is still in Cart Player.

Please remember that these colour change status only apply to the four Myriad / Line Channels and only when they are switched to Myriad mode (and you are connected to a Myriad playout system).

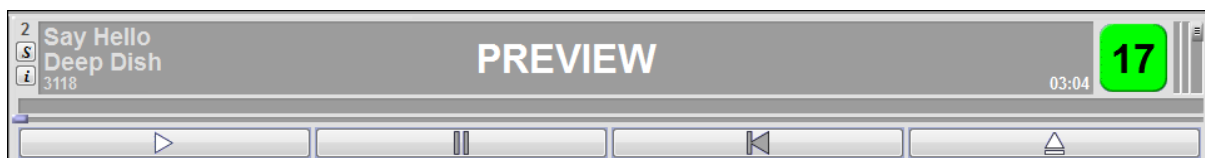## Starting & Stopping Playback In Myriad From The SRM

In addition to indicating Cart Player status, the Start buttons on the Myriad Channels on the SRM can also be used to start playback on a corresponding Cart Player and to pause playback once the Cart Player is playing.

The list below shows the function of pressing the Start button in relation to the corresponding Myriad Cart Player:

- Press Start When Cart Is Cued / Paused (solid red) – This will start playback of the Cart Player in Myriad.
- Press Start When Cart Is Playing (solid green) – This will pause the Cart Player in Myriad.

## Preview Cart Player Mode

In addition to the functionality described above, MII also enables the Myriad Cart Players to check that the fader on the corresponding channel on SRM is in the open of closed position. If the fader is in the closed position (i.e. all the way down to the bottom) then the Cart Player will automatically switch into 'Preview' mode and this will be represented on screen with 'Preview' written across the Cart Player.



If this mode is enabled, Myriad will not log the item as 'played' when compiling 'on-air' Play Log reports or Copyright reports – see Myriad documentation for more detail.

## Virtual Mic Live Light

As well as all the functionality above, the SRM also informs Myriad whenever a Microphone Channel fader is opened and Myriad can display this information as a virtual 'on air' light which is displayed in the right hand corner of Myriad beside the Record Cart Player.
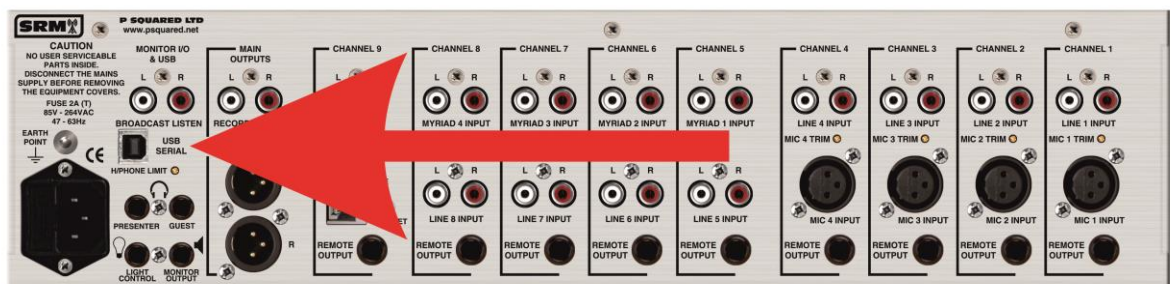
The indicator remains on screen at all times but only 'lights up' when a 'mic' fader on the SRM is opened.

## Setting Up The Myriad Intelligent Interface

Setting up the SRM to interact with Myriad via the MII Is very simple, the steps below will guide you through the whole process.

*Please note that installation process outlined using a Windows 7 Professional PC but MII has also been tested on Windows XP Pro computers. You will also need to be running Myriad v3.6.1 or higher to use MII.*
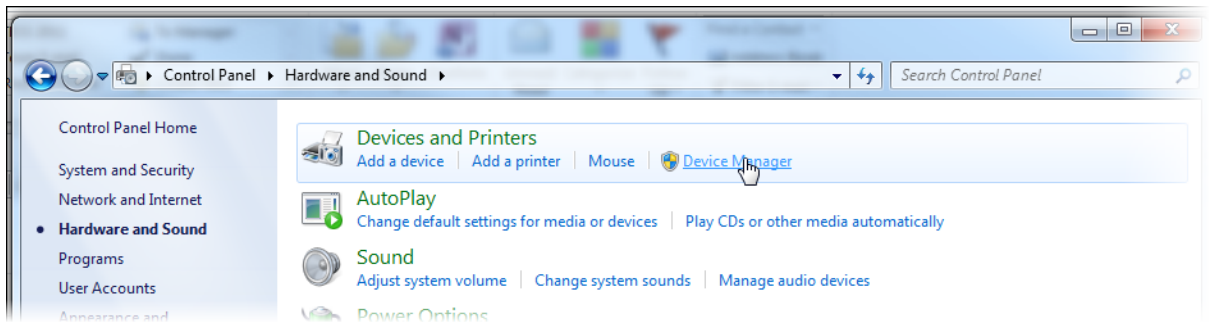
1. Plug a standard USB A to B cable in to the back of the SRM mixer (see below) and plug the other end into your Myriad playout PC.
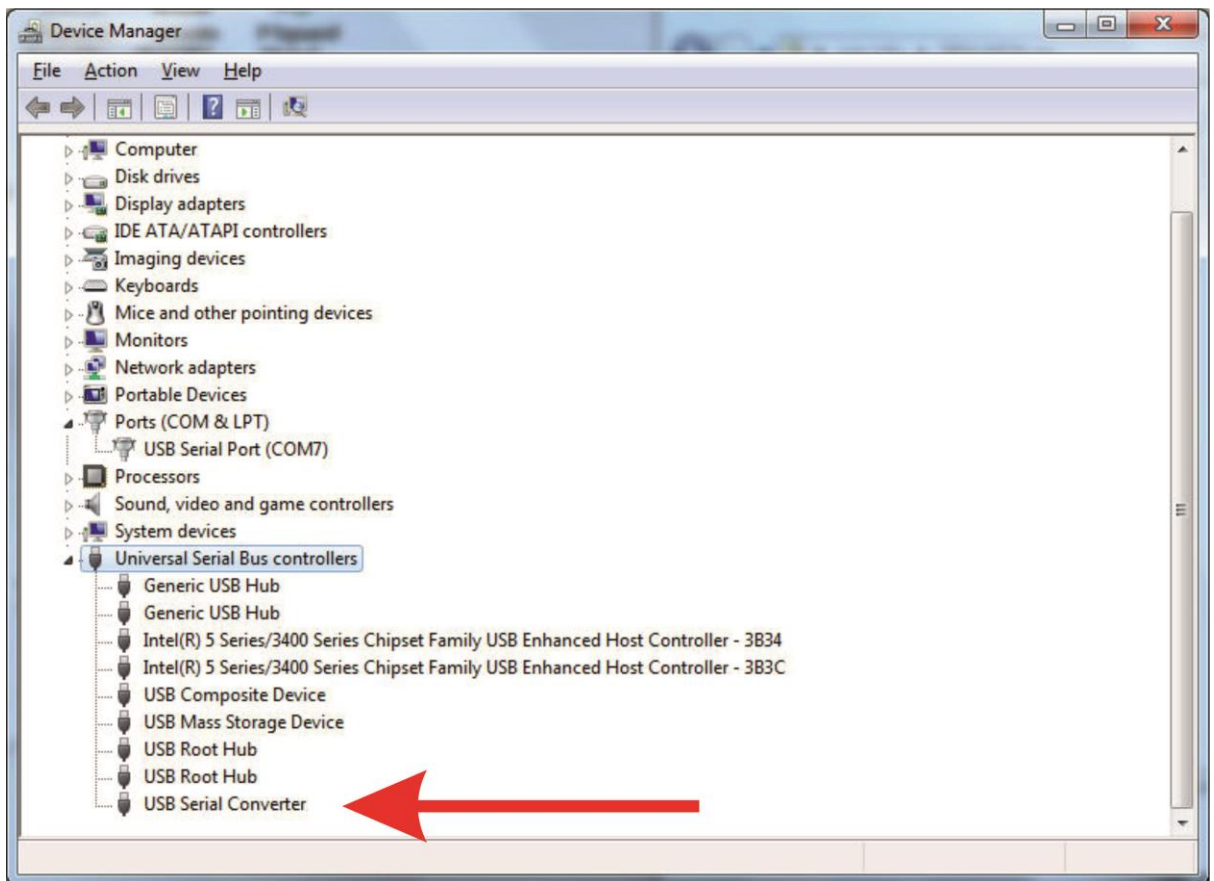


2. Plug in and power on the SRM.
3. Your Myriad playout PC should recognise a new USB hardware device and install support software automatically. Please note that there is no driver that needs to be installed. After a few minutes, you should see a popup message (bottom right hand corner of the start bar) confirming that the hardware has been installed correctly.

   The SRM installs as USB Serial Converter. It is recommended that you check that it has installed correctly by looking in Device Manager.

To access Device Manager (Windows 7), click on the Windows Start button and select Control Panel. Next click on the Hardware and Sound option and finally select Device Manager from the Device & Printers section.



Once Device Manager has loaded, expand the Universal Serial Bus Controllers section and you should see USB Serial Converter listed. This is the SRM.
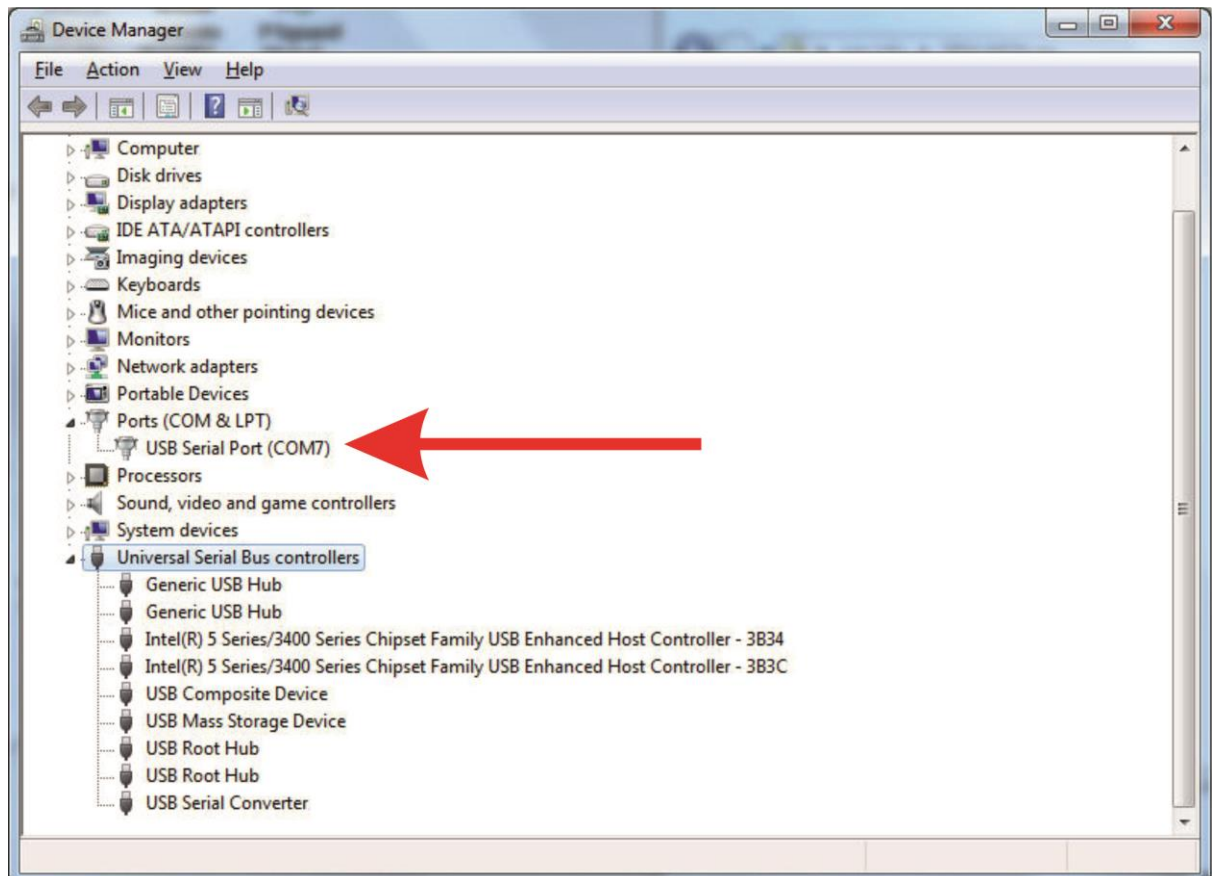


Don't shut this window as you also need it for the next step.

4. The next stage is to identify the virtual COM port that the SRM is using to communicate with the PC.

For this you will need to use the Device Manager window opened in the previous step. Hopefully it is still open but if not then follow the instructions in step 3 to re-open the Device Manager window.
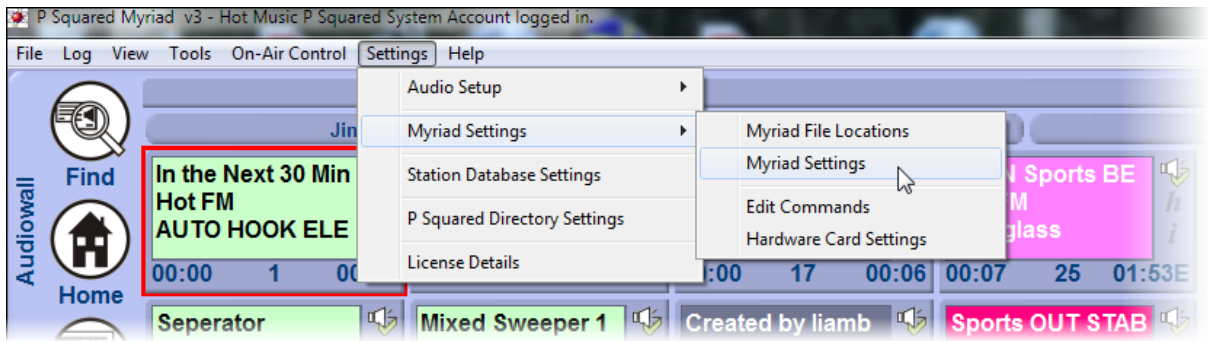
Once you have Device Manager open, you need to expand the Ports (COM & LPT) section and look to see which COM port the USB Serial Device is assigned to.



In the above example, the USB Serial Port is using COM7. You need to make a note of the COM number (it is randomly assigned) so that you can set which COM port Myriad should use to communicate with the SRM.

We have finished with the Device Manager window now so it can be shut down.

5. Next run Myriad v3.6.1 or higher (N.B. previous versions do not support MII).
6. Login to Myriad as a User that has access right to allow you to edit the Myriad Settings menu.
7. Click on the Settings Menu > Myriad Settings > Myriad Settings option.

8. Once the Myriad Settings window loads, select the Intelligent Int. tab (should be on the right hand side of the top row of tabs).
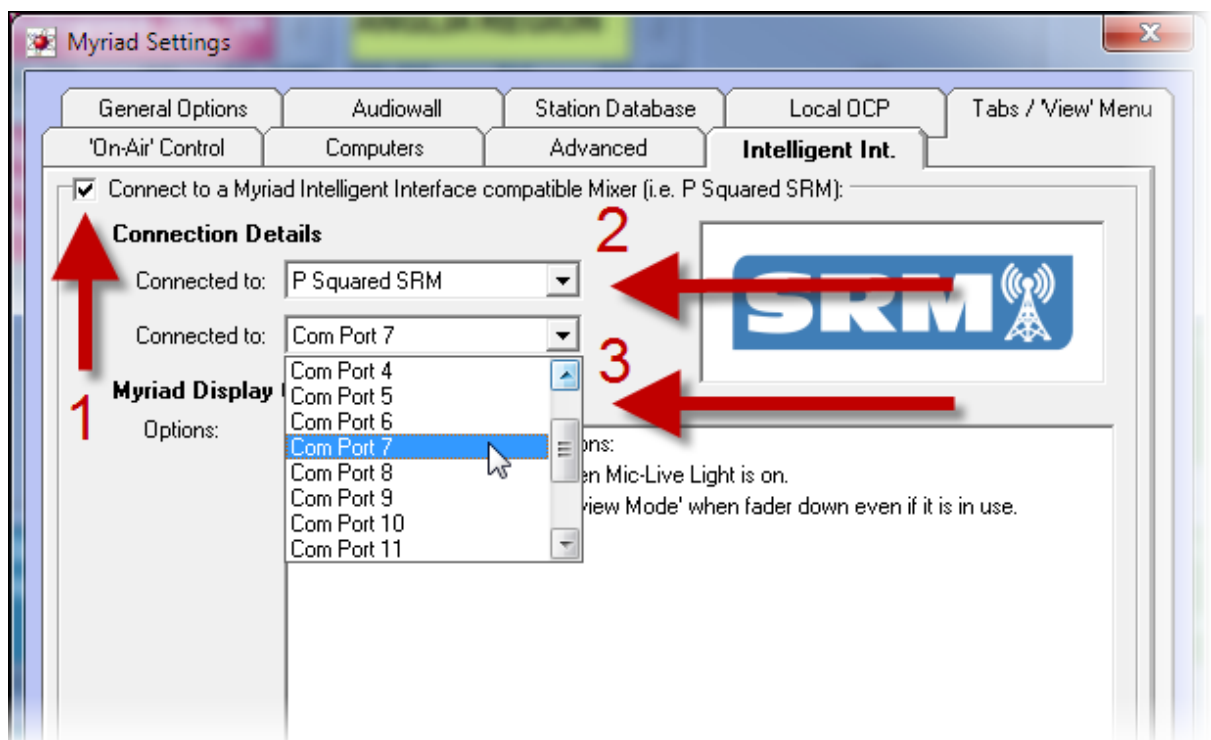


This tab allows you to setup MII and configure the Myriad MII options.

9.  Next we need to set the MII connection details to allow Myriad to communicate with the SRM.

    1.  Tick the 'Connect To A Myriad Intelligent Interface Compatible Mixer' option to enable the Connection Details section.
    2.  Select P Squared SRM from the 'Connected To' drop down list. You will see the SRM logo displayed to the right of the list. Please note that P Squared SRM may be the only listed mixer.
    3.  Select the COM Port number that was noted in step 4 from the 'Connected To' drop down list. In this example, we would select Com Port 7.



10. Finally, tick the Myriad Display Options that you wish to use.

The options are:

- **Show An Indicator When Mic-Live Light Is On:** Myriad will display a virtual 'Mic Live Light' in the bottom right hand side of the screen (next to the Record Cart Player). This graphic will appear to illuminate whenever a Microphone Channel on the SRM has a fader opened.

- **Change Player To Preview Mode When Fader Down Even If It In Use:** If this option is ticked, the Myriad Cart Players will switch to preview mode when the corresponding faders on the SRM are in the down position. This will still allow playback but Myriad will tag them as in preview mode in the playlogs.

  *Please note that preview mode caused by SRM fader position will not prevent playout from the Cart Player when in Live Assist, Auto or AutoFade modes although obviously, with the faders down no one will hear!*

Click on the OK button to save the MII settings. Your Myriad system should now be communicating with your SRM mixer via MII.

## Trouble Shooting MII

We have extensively tested MII between the SRM and Myriad playout system with very positive results. The follow troubleshooting sections should help you to resolve any problems that you encounter.

### Myriad Reports 'Invalid Port Number' On Start-up



If you see the above error message as Myriad starts up or if the message appears while you are using Myriad then it means that Myriad has lost communication with the SRM.

The most common cause for this message is if Myriad is configured to use MII and is started on the computer when the SRM is not connected or is not powered up. The steps to resolve this error message are:

a. Check that the SRM mixer is powered up.
b. Check that the USB cable linking the SRM to the Myriad PC is fully plugged in at both ends.
c. Use Device Manager (see Setting Up The MII above for more details) to ensure that the USB Serial Converter device is listed and working correctly. If the USB Serial Converter appears in the list with an exclamation mark beside it, it means that it is not working. In this scenario, the best thing to do is to unplug the SRM, wait for 30 seconds and then plug it back in again. In most cases, this will resolve the situation.
d. If all of the above appear ok, check the Com Port Number for the USB Serial Port (see step 5 above) and make sure it is the same as the Com Port Number selected in Myriad.
e. If all of the above appears ok but it is still not working then you will need to contact support@psquared.net for further instructions.

## Using The Telephone Interface

The Telephone Interface built into the SRM allows you to plug a standard analogue telephone line and telephone handset into the SRM and then you can route telephone calls through the SRM mixing desk allowing you to perform telephone interviews, broadcast requests or host 'phone in' style shows.

### What You Will Need

In order to use this facility you will need the following:

- Analogue BT telephone line (standard BT domestic phone socket). Many places now have digital or VOIP phone systems in which case you will need to talk to your telephone provider

to arrange for a suitable analogue circuit to be added to your studio. Basically you need the type of analogue line you would have for a traditional fax machine.

- Standard analogue telephone handset, the kind of thing you can buy for £20 from any high street shop. It is worth spending a little more to get a handset with a visual 'ringing' indicator and one that you can mute the ring volume on.
- Male RJ11 to BT phone plug (male) cable to connect from the SRM to the BT phone socket on the wall. (Tip: You should get one of these with your telephone handset).
- Male RJ11 to male RJ11 cable to plug from the SRM to your telephone handset

Please note that P Squared offer a Telephone Handset kit which includes a suitable analogue handset and a complete cable set (as above) so all you need to organise is the actual phone line. The Handset Kit is available from P Squared for £30+VAT.

## Connecting The Telephone Equipment To The SRM

Once you have all the equipment and cables that you need, it is a very simple job to connect them to the SRM.

Use the RJ11 to BT Plug cable to connect the 'Line' socket on the SRM (Channel 9 rear panel) to the BT analogue phone line socket on your wall.

Use the RJ11 to RJ11 cable to connect from the Handset socket on the SRM to the socket on your handset (usually on the side, rear or bottom of the handset).

That is the basic setup complete. You can test your connections by listening to the receiver on the phone handset, you should get a dial tone just like any other phone. If you can hear a dial tone then it should all be connected correctly.
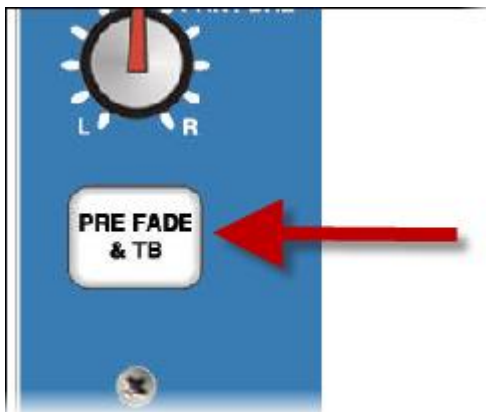
## Using The Telephone Interface

Once connected, you can use the telephone interface on the SRM to route telephone calls through the mixing desk with the phone call being routed by the TEL/Aux Channel ( channel 9) on the mixer.

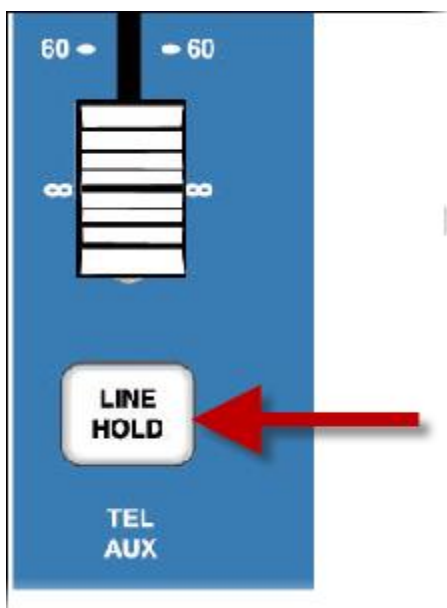## Procedure For Making A Call And Routing It Through The Mixing Desk

1. Use the TEL/Aux button on the TEL/Aux channel (channel 9) to select Telephone Interface mode. The button should not be illuminated when in Telephone Interface mode.



2. Pickup the telephone handset and dial the number you wish to call.
3. Once the person you have called has answered you can use the handset to talk to them if you wish.
4. When you are ready to transfer them to the SRM, pull down the TEL/Aux fader and press the PREFADE & TB button. This will allow you to hear the person on the phone and for them to hear you but for it to not be broadcast via the PGM or REC bus outputs.



This will also automatically activate the LINE HOLD button (at the bottom of the channel) which will connect the phone call to the SRM. The LINE HOLD button will also illuminate to show the call is connected.
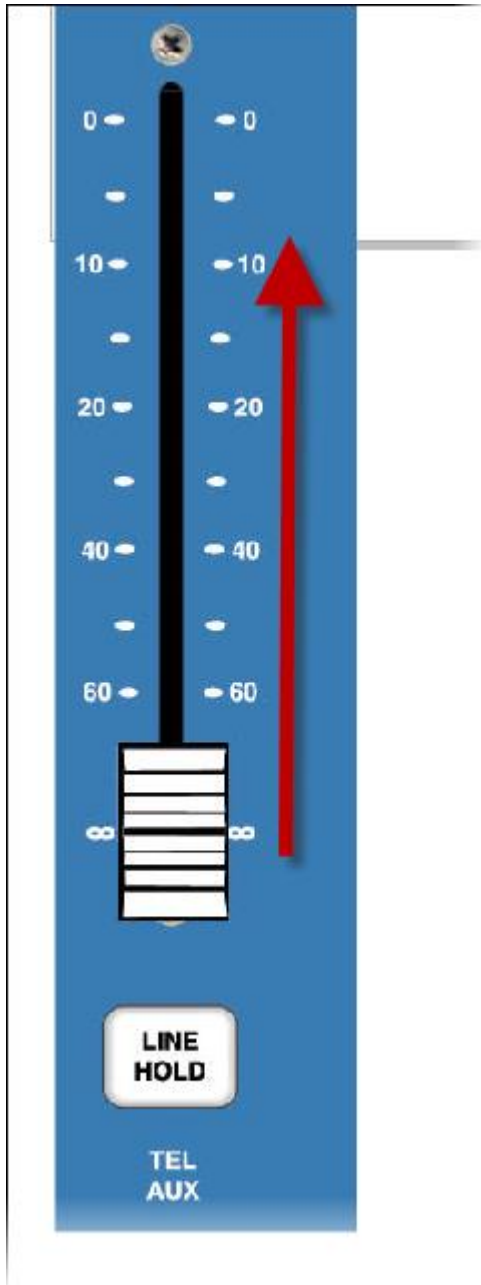
5. The call is now being routed via the SRM mixer and talkback to the caller is enabled via the microphone connected to Microphone Channel 1. With your headphones on and by talking into the microphone connected to Microphone Channel 1 you should be able to hear your caller and they should be able to hear you.

You can safely replace the handset receiver at this stage but you should leave the handset off the phone cradle if you wish to talk to the caller at the end of broadcast session.

Please note that you can use the TRIM knob on the TEL/AUX channel if you need to turn the caller's volume up at all.

Caution: As soon as you have pressed the Pre-Fade & TB button and the Line Hold button, the caller will be able to hear you so watch what you say!

6. When you are ready to put the caller to 'air' simply raise the fader on the TEL / AUX channel to the top.

7. When you are ready to finish your phone call, simply pull the fader back down on the TEL/Aux channel and press the Line Hold button to terminate the call. This will have the same effect as 'hanging up'.

### Recording A Telephone Call While You Are 'On Air', For Broadcasting Later

The SRM also makes it possible to record a telephone call to your Myriad playout system (or other recording equipment) when you are 'on air' without the listeners hearing your telephone call.

This is possible because you can use the PGM and REC Output Bus options to select which Output Buses each channel will be mixed into.

The procedure for recording a phone call while being 'on air' is identical to the one above until you reach step 7.

Steps 1 to 6 – As above

7.  With both the TEL/AAU and Microphone Channel 1 faders fully down, deselect the PGM Button (light should be off) and make sure the REC Button is selected (light should be on).



In this configuration, the output from the Microphone 1 Channel and the TEL/Aux Channel will be sent to the REC Output bus (which Myriad is using for recording) but not to the PGM Output bus (which is feeding your live output).

Obviously if you need to use any other channels (like guest mic etc) then you should set them up the same.

**Important:** Make sure the REC button is de-selected (not illuminated) on all channels that you do not want to include in your recording (including the channels that are playing 'on-air').

8.  You will also need to press the REC button in the Monitoring section. This will switch both the LED Meter display and the selected speakers and headphones to 'listen' to the REC Output Bus (and not what you are broadcasting using the PGM Output Bus.

9. Start your Myriad system recording.
10. Put the faders up on the microphone and TEL/Aux channels as above.
11. When you have finished, stop recording in Myriad (press the record button on the Record Cart Player again) and then press the Line Hold button to 'hang up' the phone call.

## Trouble Shooting

### Reducing Noise Using The R-BAL and C-BAL Adjustments

The Telephone Interface on the SRM is factory setup to work with a standard BT telephone line and in most circumstances, should not need adjusting in any way. Occasionally the electronic characteristics of telephone lines can vary and this may lead to unwelcome 'noise' when making calls through the SRM.

To counter this variation in phone lines, the SRM includes adjustment for Resistance and Capacitance of the telephone interface to allow you adjust these characteristics.

In order to adjust these settings, you need to connect to SRM to a dummy telephone line that emulates a BT line. You can then alter the settings to fine tune to electronic balance of the system.

We can supply a simple circuit that you can build to do this but it is recommended that is left to a professional engineer.

## SRM Setup Mode

The SRM comes pre-setup for most common applications but there are a number of additional programming options that can be adjusted to meet your individual needs.

The SRM can be setup using a combination of buttons on the mixer to enter the special Setup Mode, and once in Setup Mode, additional button combinations can be used to adjust the mixers basic programming.

**Please Note:** We do not recommend that you use Setup Mode unless advised to by P Squared. We also recommend that you do not attempt to reprogram your SRM until you are fully familiar with the procedures outlined below.

**Never unplug your SRM while reprogramming the system as it could lead to permanent damage to the hardware and require a return to P Squared for repair.**

## Restore Factory Defaults

If you need to return your SRM back to its factory defaults, please follow the follow procedure.

1. Unplug the SRM.
2. Ensure all faders are closed.
3. Hold MONITOR REC and MONITOR AUTO PREFADE and PRESENTER AUTO PREFADE and GUEST AUTO PREFADE buttons all at the same time.
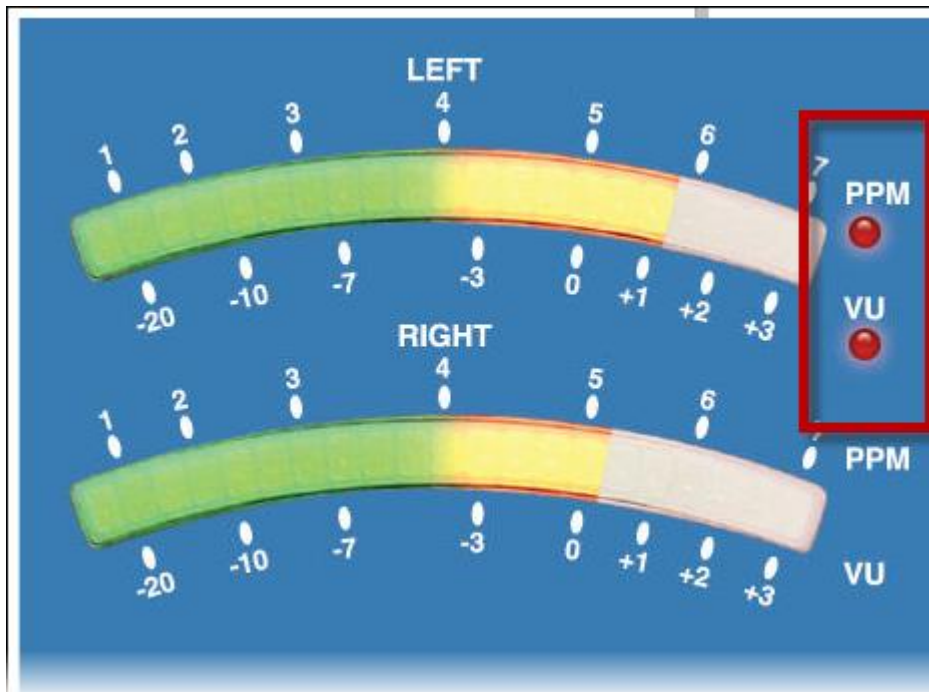4. Plug the power back in.

A single meter sweep indicates cycle started – buttons can be released at this stage. A dual meter sweep indicates cycle complete.

## Change LED Meter Between PPM & VU Modes

The LED Meters can be switched to display in PPM or VU modes with PPM set as the default. In PPM mode, the display shows an average volume of a short time period so the display is more consistent and easier to work with. In VU mode the display shows all volume peaks and so is more accurate but also more erratic. We recommend sticking with PPM mode.

If you do want to switch between PPM and VU modes for the LED Meter, use the following procedure:

1. Ensure all the faders are closed.
2. Hold MONITOR PGM button and Press MONITOR BROADCAST LISTEN button.
3. The LED Meter mode will toggle between PPM and VU modes.



The current mode is displayed via the PPM or VU LED to the right of the main LED Meter display.

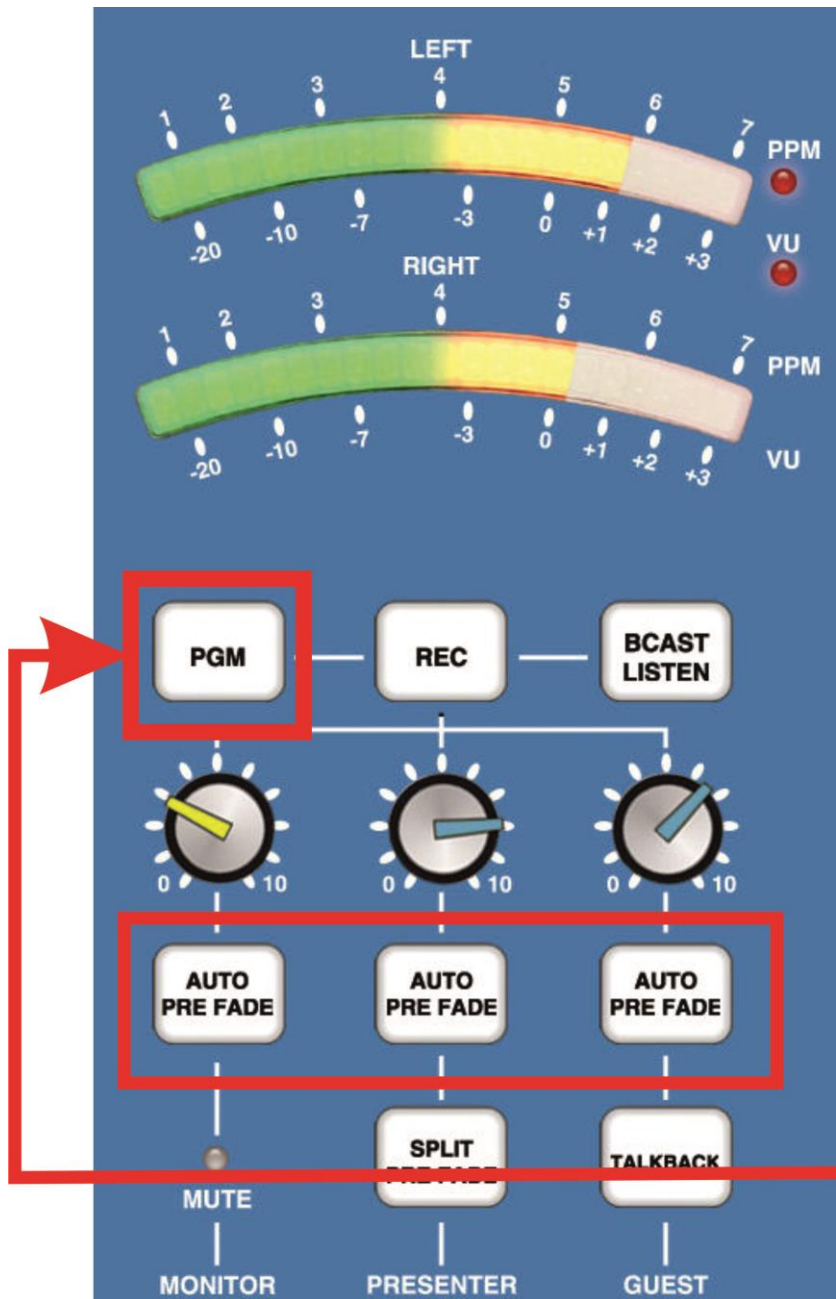## Switching On 48v Phantom Power On/Off Microphone Channels

There are two main types of microphones, dynamic microphones (no power required) and condenser microphones (need power to operate). Condenser microphones require a 48v power supply which is referred to as phantom power because it is delivered along the same cables as the microphone cables.

In most cases, if you plug a dynamic microphone into a mixer channel configured to provide phantom power, there will be no effect as the internal wiring is such that the phantom power circuit is not completed. There is a chance with damaged microphones or very old (or sub-standard) microphones that plugging into a phantom power enabled mixer channel could result in damage to the microphone.

For this reason, you can switch phantom power on and off for each of the Microphone / Line channels on the SRM.

To switch phantom power on or off on a Microphone / Line channel on the SRM, use the following procedure:

1. Ensure all the faders are closed.
2. First you need to put the SRM in Setup Mode. To do that hold MONITOR AUTO PREFADE and PRESENTER AUTO PREFADE and GUEST AUTO PREFADE buttons and press the MONITOR PGM button 5 times within 2 seconds.

A single meter sweep indicates entry into Setup Mode and the buttons can be released.

3. Once the sweep on the LED Meter has completed, the LED Meter should be indicating the number 1 on the scale.

SRM Setup Mode | Copyright © P Squared  Ltd 2013

It is important that the LED Meter indicates number 1 as the settings for the SRM are divided into separate 'pages' with different settings on each 'page'. The phantom power settings are on 'page' one so the LED Meter must be displaying '1' before you continue. If another number is indicated on the LED Meter (i.e. the wrong settings page is selected), press the Guest Talkback button until the LED Meter indicates that 'page' 1 is selected.

4. Once you are happy that you are on 'page' 1 for the settings, you can move on to selecting the mode that you want to set for the Microphone / Line channel.

The available modes for the Mic / Line channels are:

Mode 1 -       Mic & Line available for selection (default)  **- Phantom power off**
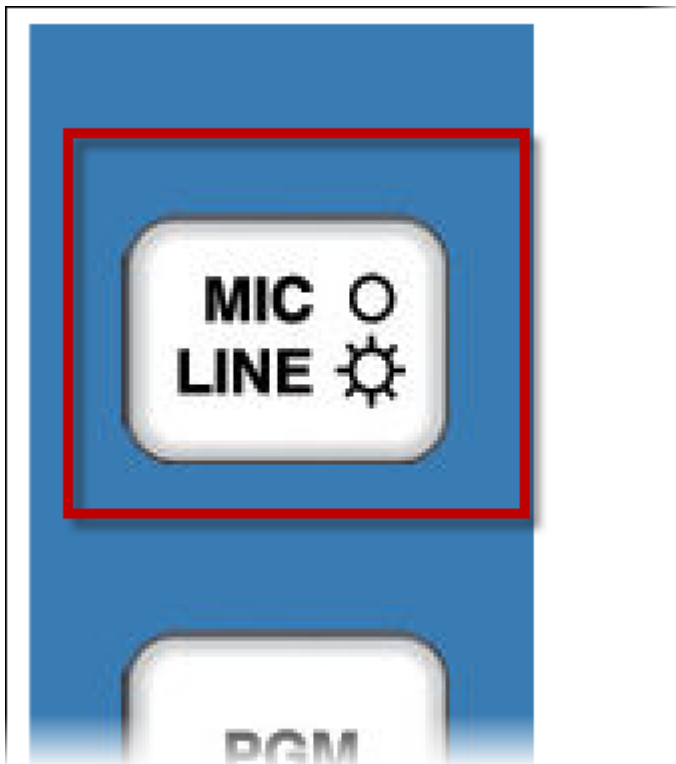
Mode 2 -       Mic (phantom 48v) & Line available for selection – **Phantom power on**

Mode 3 -       Mic only **– Phantom power off**

Mode 4 -       Mic (phantom 48v) only – **Phantom power on**

Mode 5 -       Line only – **Phantom power not applicable**

To select the mode you require, press the Mic/Line button at the top of the channel to toggle between the available modes.



The selected mode will be represented by the button flashing the corresponding amount of times, pausing and then repeating the flash pattern.

So if you wanted to have the channel set to allow selecting between Mic and Line inputs with the channel also providing phantom power then you would need to select 'mode 2'.

Simply press the Mic/Line button until the light flashes twice, pauses and then flashes twice again. The channel is now in 'mode 2' and phantom power will be supplied when the channel is switched to microphone mode.

5. To exit Setup Mode and save your settings, hold down the GUEST TALKBACK button for 2 seconds.



The LED Meter display will perform a 'dual sweep' to indicate that the SRM has existed Setup Mode, the GUEST TALKBACK button can now be released.

## Other Channel Configuration – Advanced Settings

The following section outlines other settings that can be altered using a similar method to above.

The first thing to consider is that the SRM settings are divided up into 'pages' with related settings collected onto specific pages. This allows us to use a few buttons to alter a number of settings with the same buttons performing different roles depending on what settings 'page' is selected.

The settings 'page' that you are working on is displayed on LED Meter display with the position of the illuminated portion of the display indicating the 'page that is selected. So if the lights are lit to the number 3 on the LED Meter display then you are working on settings 'page' 3.

So each 'page' has a number of settings and also a designated select/indicator button that is used to both display the current settings and to step through the available settings.

Before you can alter any settings, you need to switch the SRM to Setup Mode.

### Switching To Setup Mode
1. Ensure all the faders are closed.

2. First you need to put the SRM in Setup Mode. To do that hold MONITOR AUTO PREFADE and PRESENTER AUTO PREFADE and GUEST AUTO PREFADE buttons and press the MONITOR PGM button 5 times within 2 seconds.



A single meter sweep indicates entry into setup mode and the buttons can be released.

## Selecting The Settings Page You Want To Work With

As outlined above, the settings are divided into separate 'pages' with common settings clustered on appropriate pages. This allows is to alter many settings without using dozens of button combinations.

Once you are in Setup Mode (see above), the current settings 'page' is displayed on the LED Meter such that the number of the scale that the lights reach is the 'page' currently selected.

To step through the available setting 'pages' press the GUEST TALKBACK button. Each press will advance the settings 'page' number by one.

Once you have selected the settings 'page' that you need, you can start to alter the settings within that page using the information below.

## Available Settings

Once you have selected the 'page' that you want, you can start to alter the settings on that 'page'. The section below shows the settings that are available on each page.

In all cases, there is one or more buttons that are used both to select the appropriate mode and also to display the currently selected mode. The buttons are used to step through the available modes and the current mode is displayed by the button flashing the appropriate amount of times, pausing briefly and then repeating the flash pattern.

So for example, the Mic/Line button on the SRM is used to select the mode for the Microphone / Line channels (on settings 'page' 1). If it is flashing twice, then pausing before flashing twice again then mode 2 is selected. Pressing the button would move it on to mode 3 and the flash pattern would alter to flash three times before pausing.



Listed below are all the available settings 'pages' and the options available within those pages.

## Settings Page 1 - Input Select Modes
**Mic / Line Channels 1-4 – Mic/Line button selects/indicates current mode**

Mode 1 -  Mic & Line available for selection (default)

Mode 2 -  Phantom Mic & Line available for selection

Mode 3 -  Mic only

Mode 4 -  Phantom Mic only

Mode 5 -  Line only

**Myriad / Line Channels 5-8 – Myr/Line button selects/indicates current mode**

Mode 1 -  Myriad & Line available for selection (default)

Mode 2 -  Myriad only

Mode 3 -  Line only

Mode 4 -  Not currently In Use

Mode 5 -  Not currently In Use

Mode 6 -  Not currently In Use

Mode 7 -  Not currently In Use

**Telephone Interface Channel 9 (Aux1=Rear, Aux2=Front) – TEL/AUX button selects/indicates current mode**

Mode 1 -  TEL & Aux1 & Aux2 available for selection

Mode 2 -  TEL & Aux1 available for selection (default)

Mode 3 -  TEL & Aux2 available for selection

Mode 4 -  TEL only

Mode 5 -  Aux1 & Aux2 available for selection

Mode 6 -  Aux1 only

Mode 7 -  Aux2 only

## Settings Page 2 - PGM & REC Button Modes (available on all channels)
**PGM & REC Channels 1-9 - PGM and REC buttons select/indicate current mode**

Mode 1 – Selectable (default)

Mode 2 -  Always on

Mode 3 -  Always off

## Settings Page 3 - PFL Modes (available on all channels)
**PFL Auto Cancel On Fader Open - PFL button selects/indicates current mode**

Mode 1 – Enabled (default)

Mode 2 -  Disabled

**Auto Pre Fade on Monitor, Presenter Headphones and Guest Headphones**

Mode 1 – Selectable (default)

Mode 2 -  Always on

Mode 3 -  Always off

### Settings Page 4 – Remote Modes

**Input button (i.e. Mic/Line, Myr/Line or TEL/AUX) selects/indicates input, Start buttons selects/indicates current mode**

Mode 1 -  Latching remote start when channel or line hold active, remote stop when inactive

Mode 2 – Latching remote start when line hold active, ringing indicated on remote stop (available on channel 9 TEL only)

Mode 3 -  Momentary start/stop with repeat start enabled

Mode 4 -  Momentary start/stop with repeat start disabled

Mode 5 -  Disabled

Mode 6 – Remotely operated via serial USB

Mode 7 – Not currently available

| Defaults: | | | |
|---|---|---|---|
| | Channel 1 | Mic | Mode 1 |
| | | Line | Mode 3 |
| | Channel 2 | Mic | Mode 1 |
| | | Line | Mode 3 |
| | Channel 3 | Mic | Mode 1 |
| | | Line | Mode 3 |
| | Channel 4 | Mic | Mode 1 |
| | | Line | Mode 3 |
| | Channel 5 | Myriad | Mode 6 |
| | | Line | Mode 3 |
| | Channel 6 | Myriad | Mode 6 |
| | | Line | Mode 3 |
| | Channel 7 | Myriad | Mode 6 |
| | | Line | Mode 3 |

|          |           |        |
|----------|-----------|--------|
| Channel 8 | Myriad   | Mode 6 |
|          | Line      | Mode 3 |
| Channel 9 | TEL      | Mode 2 |
|          | Aux Rear  | Mode 3 |
|          | Aux Front | Mode 3 |

## Saving Settings And Existing Setup Mode

To exit Setup Mode and save your settings, hold down the GUEST TALKBACK button for 2 seconds.



The LED Meter display will perform a 'dual sweep' to indicate that the SRM has existed Setup Mode, the GUEST TALKBACK button can now be released.

## Technical Specifications

**Input / Output Impedances**

Mic Inputs (XLR-3):        > 1k5 Ω  electronically balanced

Stereo Inputs (Phono):  > 20 kΩ electronically unbalanced

PGM Output (XLR-3):    < 50 Ω electronically balanced

REC Output (Phono):    < 75 Ω unbalanced

Monitor Output (Jack):  < 75 Ω unbalanced

Headphone Output Load (Jack): > 16 Ω, recommended 250 Ω


**Input / Output Gain Range**

Mic Inputs: Preset pot +24dB to +67dB ref -50dBu, TRIM pot ± 15dB

Stereo Line Input: +10dB ref 0dBu at PGM output, TRIM pot ± 15dB


**Frequency Response**

Mic Input:                40Hz to 20kHz –1dB, +0dB

Stereo Inputs:          20Hz to 20kHz –0.5dB, +0dB


**Noise (20Hz to 20kHz)**

Mic Input E.I.N.:          -130dB with 150 Ω source.

Stereo Inputs           -92dBu ref 0dB (fader down, no routing)


**Distortion**

Total Harmonic Distortion:        0.015% at 1kHz, 0.015% at 10kHz ref +8dBu


**Range**

PAN Range:                Off/-3dB Centre/Off

Balance Range:          ± 6dB

**Common Mode Rejection Ratio**

Mic Input:                    > 60dB typically

**Output**

Maximum PGM Output:+26dBu balanced

Maximum REC Output:  +16dBu unbalanced

**Input & Output Connections**

**Mic/Line Channels (4 channels each comprising of):**

1 x Microphone XLR-3 pin female

1 x Stereo line pair phono sockets

1 x Remote Output 6.35mmm Stereo Jack socket

**Dual Stereo Channels (4 channels each comprising of):**

2 x Stereo line pair phono sockets

1 x Remote Output 6.35mmm Stereo Jack socket

**Telco Channel (1 channel comprising of):**

1 x Stereo line pair phono sockets

2 x RJ11-6-4 Telephone Line/Handset

1 x Remote Output 6.35mmm Stereo Jack socket

**Main Outputs:**

2 x XLR-3 pin male (PGM Output)

1 x Stereo line pair phono sockets (REC Output)

**Monitor/Control:**

1 x Stereo line pair phono sockets (Broadcast Listen Input)

1 x USB 'B' (Serial Control)

4 x 6.35mm Stereo Jack sockets (Guest & Presenter Headphones – 2 Front, 2 Rear)

1 x 6.35mm Stereo Jack socket (Light Control Output)

1 x 6.35mm Stereo Jack socket (Monitor Output)

1 x 3.5mm Stereo Jack socket (Aux Input)


**Mains Input:**

Filtered IEC, continuously rated 85-264VAC, 47-63Hz, 45w nominal, 50w peak

Fuse Rating:      Anti-surge fuse 2A 20 x 5mm


**Physical Specification**

Dimensions:          48.3cm (W) x 35.6cm (D) x 12.5cm (H) (Raw)

                     67cm (W) x 44cm (D) x 25cm (H) (Gross Boxed)


Information and specifications correct at time of writing.

P Squared reserves the right to alter or amend settings and specifications without prior warning.

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## Connectors & Pin Outs

The following details are for information purposes only. You should only attempt to solder connections if you are experienced with audio engineering and fully understand the details below.

### Mic Inputs (XLR) – Channels 1-4

| Signal | Pin |
|---|---|
| Screen | 1 |
| Hot Signal | 2 |
| Cold Signal | 3 |

### Stereo Line Inputs (RCA / Phono) – Line Inputs 1-6, Myriad Inputs 5-8

| Signal | Pin |
|---|---|
| Signal | Tip |
| Ground | Sleeve |

### Remote Outputs (1/4" Stereo Jack) – Channels 1-9

| Signal | Pin |
|---|---|
| Start | Tip |
| Stop | Ring |
| Ground | Sleeve |

### Line / Handset

These connections should only be used with pre-wired cables.

### Broadcast Listen & Record Output (RCA / Phono) – Monitor & I/O Panel

| Signal | Pin |
|---|---|
| Signal | Tip |
| Ground | Sleeve |

### Program Outputs (XLR) – Monitor & I/O Panel

| Signal | Pin |
|---|---|
| Screen | 1 |
| Hot Signal | 2 |
| Cold Signal | 3 |

### Presenter & Guest Headphones (1/4" Stereo Jack) – Monitor & I/O Panel

| Signal | Pin |
|---|---|
| Left Audio Signal | Tip |
| Right Audio Signal | Ring |
| Ground | Sleeve |

**Monitor Output (for speakers) (1/4" Stereo Jack) – Monitor & I/O Panel**

| Signal | Pin |
|---|---|
| Left Audio Signal | Tip |
| Right Audio Signal | Ring |
| Ground | Sleeve |

**Light Control (1/4" Stereo Jack) – Monitor & I/O Panel**

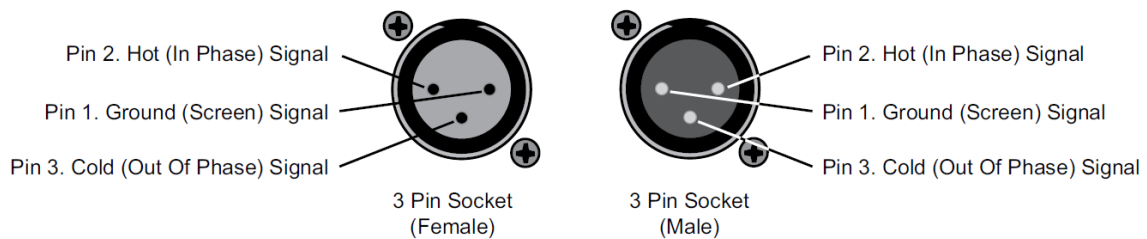| Signal | Pin |
|---|---|
| Normally Open | Tip |
| Normally Closed | Ring |
| Common Ground | Sleeve |

**USB Serial**

Use a standard USB A to B lead to connect the SRM to your Myriad PC. Only use good quality, pre-made USB leads.

**Main Power – IEC**

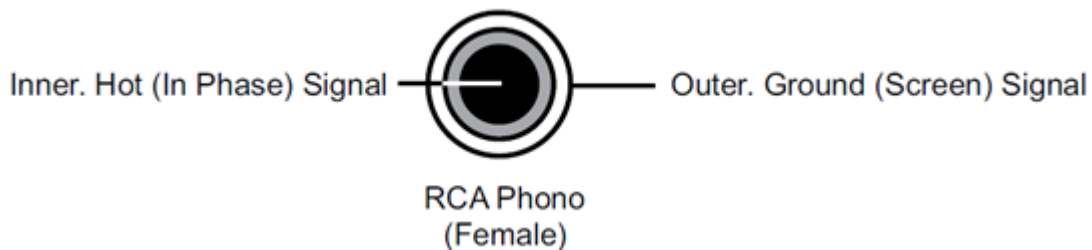Only use the supplied, pre-moulded power lead for the SRM.
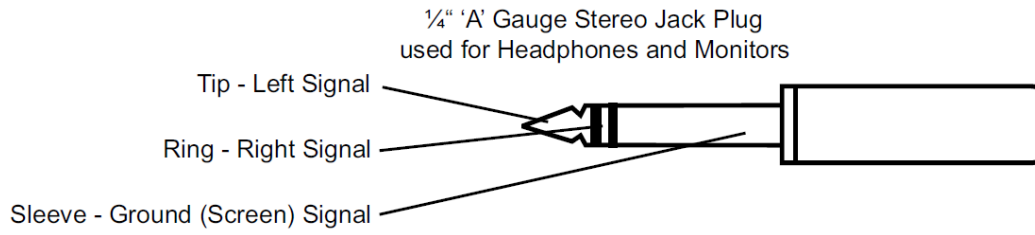
## Common Connector Pinouts

**XLR Connectors**



**RCA / Phono Connectors**



**¼" Stereo Jack Connectors**

¼" 'A' Gauge Stereo Jack Plug
used for Headphones and Monitors

Tip - Left Signal

Ring - Right Signal

Sleeve - Ground (Screen) Signal

Connector diagrams provided courtesy of Sonifex Ltd.

**Notes:**

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