

# Media and Broadcast Training Studio

Based on the

## ELAN Audio "Merlin" Broadcast Mixer

The Merlin Mixer, despite its small size and apparent simplicity, behaves and performs like a real Broadcast Mixing Panel having all the features required for Broadcasting "On-Air"

### Envisaged Applications for the "Merlin" are

- \* Outside Broadcasting
- \* On-Air Mixer during Test Transmissions
- \* Remote Studio
- \* Announcer or Presenter Training
- \* News Room Production and Presentation
- \* "Disco" Mixer for social functions
- \* Internet Streaming
- \* Media and Broadcast Training
- \* Pre Recording of Radio Programs
- \* Low Budget Second On-Air Studio
- \* Basic Audio Production
- \* Emergency Mixer on Transmitter Site
- \* Narrowcasting
- \* Podcasting



All Inputs and Outputs are via Plugs and Sockets making the "Merlin" particularly easy to set up or move, requiring no more technical skill than that needed for connecting up a Home Sound System

The Merlin should be considered as the central or key piece of equipment in the studio or broadcast venue into which you connect all other equipment needed for your particular application

Equipment required will vary depending on your particular application with recommended makes and types of "Outboard" equipment listed on the following pages

The makes and types listed are quality products known to us and guaranteed to be suitable for professional or commercial use

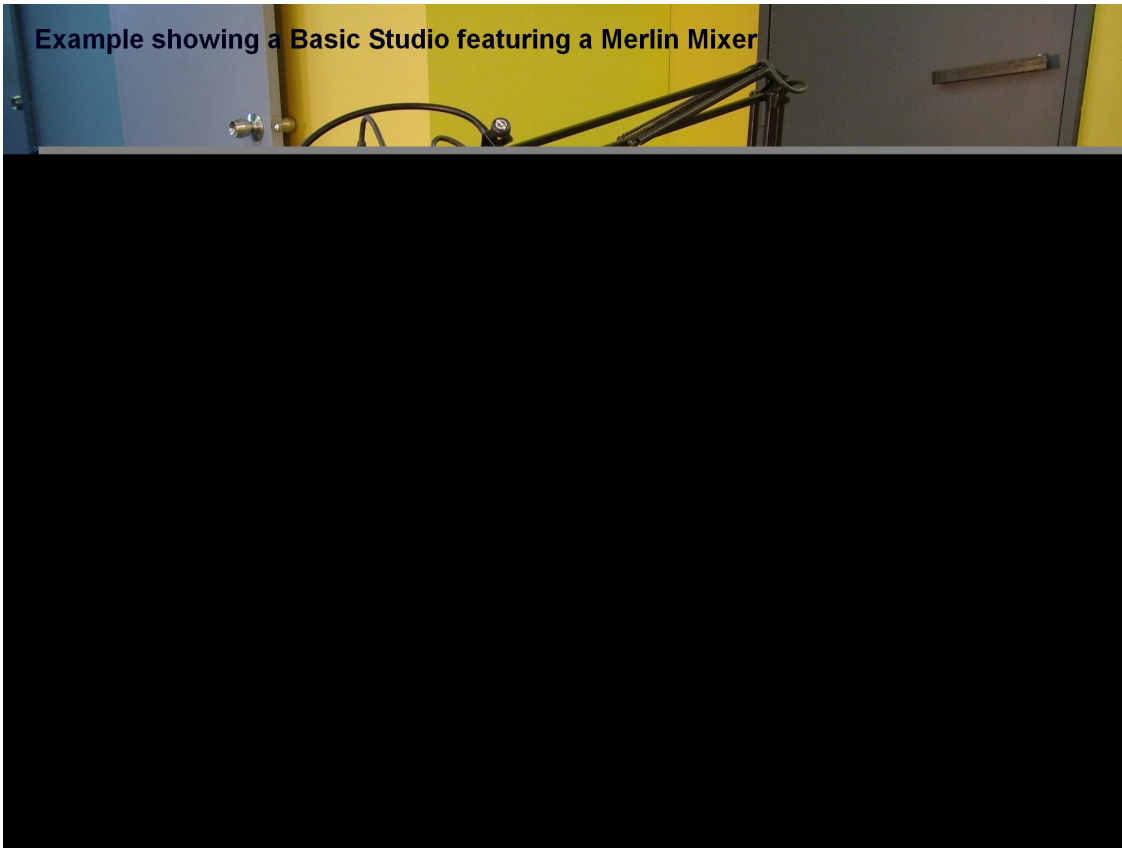
It is of course possible to use less expensive domestic equipment, or equipment already owned by yourself or your organization

The "MERLIN" Mixer is designed and manufactured in Western Australia by

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**Example showing a Basic Studio featuring a Merlin Mixer**



The above photo show a Basic Studio featuring a “MERLIN” Mixer and a typical selection of Outboard Equipment

1 x Elan Audio Merlin Mixer	Central Piece of Studio Equipment
1 x Elan Audio MIM-01	Hum Reducing PC Interface Module
2 x DENON DN C 615	Professional CD Players
1 x AKG C 3000 B	Studio Condenser Microphone
1 x AKG C 1000	Studio Condenser Microphone
1 x K&M 233	Heavy Table Microphone Stand
1 x K&M 23850	Microphone Boom Arm
1 x K&M 23855	Table Flange for Boom Arm
1 x K&M 23956	Pop Guard 130mm
1 x AKG K 171S	Presenters Headphone
1 x AKG K 44	Guest Headphones (Not Visible)
1 x EDIROL R-1	Compact Flash Field Recorder
1 x Laptop PC	For Audio Delivery or Editing
1 x Altec Lansing MX 5021	Active Loudspeaker System with Sub Woofer
1 x Elan Audio AAL-01	On-Air Light (Not Visible, and maybe a Luxury)

**This equipment selection is generally applicable for the following applications**

Outside Broadcasting - Media and Broadcast Training - On-Air Mixer during Test Transmissions  
Pre Recording of Radio Programs - Remote Studio - Low Budget Second On-Air Studio  
Announcer or Presenter Training - Basic Audio Production – Emergency Mixer on Transmitter Site  
Disco” Mixer for social functions – Narrowcasting - Internet Streaming – Podcasting

A slightly different equipment selection is generally used in a News Room for Production and Presentation with specific details available from Elan Audio on request

**For Outside Broadcasting**, a method of Transporting Audio from the OB Venue to the Studio is required. A suitable high quality AM or FM Radio Receiver is highly desirable if the OB Venue is located in the service area of the parent radio station to allow Off-Air Monitoring

Different methods of Transporting Audio from the OB to Studio is discussed later in this

**Remote Studio**, Treat as Outside Broadcasting

**On-Air Mixer during Test Transmissions**, a Broadcast Audio Processor connected between the Merlin and the Transmitter is Mandatory to keep audio levels reasonably constant, and to prevent Over Modulation

A suitable High Quality Radio Receiver is Mandatory for Off-Air Monitoring

A Stereo Generator is required for FM Stereo, this can be an integral section of the Audio Processor, a separate "Stand-Alone" unit or in some cases Built Into the Transmitter

**Emergency Mixer on Transmitter Site**, Treat as On-Air Mixer for Test Transmissions

**Narrowcasting**, Treat as On-Air Mixer for Test Transmissions

**Media and Broadcast Training**, a suitable Audio Recorder is needed to allow the trainee and others to evaluate his or her performance

A Cassette Recorder is generally satisfactory although a PC may be more practical and versatile

**Announcer or Presenter Training**, Treat as Media and Broadcast Training

**Pre Recording of Radio Programs**, a Basic Audio Processor such as the ARX Compo, a High Quality Audio Recording System such as a PC provided with a suitable interface such as the Elan Audio MIM-01 and Recording and Editing Software is needed

A second PC will probably be required for Audio Delivery of Pre Recorded Material such as "Spot Announcements" etc

**Basic Audio Production**, a PC with suitable interfacing and suitable Recording Software is required

**Low Budget Second On-Air Studio**, a PC with suitable interfacing loaded with both suitable Audio Delivery and Audio Recording Software is required to allow the Studio to double as Emergency On-Air and Basic Production Studio

**"Disco" Mixer for social functions**, Requires High Power PA Amplifiers and Speakers to suit venue and maybe also a Wireless Microphone

**Internet Streaming**, a PC in addition to the Audio Delivery PC, loaded with suitable Internet Streaming Software is required

An Audio Processor having suitable Dynamics for Internet Streaming is Mandatory between the Merlin Mixer and the PC to prevent Digital Overload from occurring

**Podcasting**, very similar to Internet Streaming except for the PC Software required



**Rear View of "Merlin" Back Panel showing connectors**

Examples of how to connect and use is shown in some detail later in this, and in the Merlin Operators Manual supplied with each "Merlin" Mixer, and available free from the Internet

### **Elan Audio MIM-01 PC Interface Module**

Unfortunately, most PC Sound Cards due to the rather peculiar grounding arrangements within the majority of PC's and Laptop Computers produce Electrical Noise such as Hum and Buzzing making them unacceptable for Broadcast and other demanding Audio Applications

The Elan Audio MIM-01 is powered from the Merlin Mixer, and in the majority of cases, removes or at least reduces this problem to acceptable levels

The MIM-01 is powered by 12 to 30 V DC, its application is not confined to the Merlin Mixer and may be used as a hum reducing interface between any PC and other equipment