**DESIGN OBJECTIVES**

The key design objective behind OctoMix was to create a very high quality, extremely reliable and easy to use broadcast mixer which has:

- **ALL** of the ‘MUST HAVE’ features
- **MOST** of the ‘WOULD BE NICE’ features
- **NONE** of the ‘DON’T NEED’ features

**LESS IS MORE**

With a performance which outclasses products costing many times more, it is easy to demonstrate why OctoMix will outlive similarly priced mixers and explain how it will keep you on air year after year after year.

OctoMix is a PROFESSIONAL product, designed and manufactured by professionals, for use by professionals in (often) demanding professional environments where there is no room for operator error.

In OctoMix the intelligence is ‘under the bonnet’ – a simple uncluttered, unambiguous control surface which provides those essential controls required for broadcast – minimising the potential for operator error, keeping you on air.

Unlike many manufacturers who cram in as many knobs, switches and displays as possible – we have listened carefully to what our customers tell us they need, and have evolved a ‘less is more’ philosophy.

Many products bristle with controls that simply will never be used; this is not only an unnecessary cost, but it makes the mixer more complex and clumsy to use, increasing the chances of operator errors.

In OctoMix you will only find those controls needed to do the job – allowing us to use only the very best of components – money well spent!
RELIABILITY.....DESIGNED IN

We believe that reliability is a function of design. OctoMix has been designed to be totally reliable – with components and circuit topology chosen to ensure many years of trouble-free operation.

OctoMix uses conductive plastic faders – the choice of top-end mixers (or expensive cost options in many cheaper products); what’s more, the faders operate in conjunction with low noise, low distortion voltage controlled amplifiers (vca’s), so even when the faders do inevitably wear, the effects are minimised as there is no audio passing through crackly controls.

This concept is extended to ALL rotary controls, ALL of which are conductive plastic, ALL controlling vca’s – an approach which is unheard of even in the most expensive of mixers – minimising potential signal degradation through worn-out mechanical components.

In OctoMix you won’t find the cheap unsealed pushbutton switches which adorn most low cost mixers – which invariably become intermittent and unreliable before long – solid state switching is deployed throughout – controlled by gold-plated pcb contacts operated by large, silent action tactile rubberised buttons.

Latching functions are achieved electronically rather than mechanically, thus removing another common source of failure, and ALL switches have solid state illumination – no lamps to replace and no ambiguity as to whether a button is ‘in or out’!

Whether you broadcast 24/7, or just a few hours each day, whether your audience is measured in hundreds or millions, whether you are a state broadcaster or a community organisation, it is important that once you are on-air, YOU STAY ON AIR.

DUAL POWER SUPPLIES .....STANDARD

Any broadcast engineer will tell you that after problems with mechanical components – notably faders, pots and switches, the next most troublesome component is the power supply.

This is because PSUs generally run hot, and more often than not are operated without adequate ventilation.

A faulty PSU takes you off-air. In some cases, a PSU failure can also ‘take out’ much of the mixer’s core audio circuitry.

OctoMix includes, as standard, two external PSUs, each of which runs cool, each of which is capable of powering the mixer on its own. If one should fail you are still on-air. An indicator on the mixer’s front panel flashes to warn you of the failure.

No lost air-time, no down-time taking the unit apart to replace internal components.
INTELLIGENT OPERATION

OctoMix contains a number of micro-controllers, the function of which is to interpret commands from the various switches and user interfaces and to use these to control the behaviour of the mixer and connected equipment.

OctoMix uses this intelligence in a number of ways – from PSU monitoring and failure display to the generation of button and fader start commands and reading of remote status information of high level sources such as CD players.

Being ‘soft’, OctoMix can easily be reprogrammed to add new features or to accommodate new outboard equipment with enhanced functionality.

Alternatively, if the fader is opened, pressing the ON button generates the start command and enables audio. Simple yet very effective.

TOTAL CONTROL

Each of OctoMix’s eight inputs has an associated remote control connector – a stereo mini-jack.

In the case of the Mic Inputs this provides a feed to an external Mic On indicator and accepts a feed from an external Cough Switch, allowing an operator to temporarily mute their mic. (optional Mic On/Cough buttons panels are available as accessories)

The stereo line inputs have remote Start outputs, as well as accepting inputs from external Tallies – for example, to turn the audio ‘on’ in response to starting a CD player locally.

The Phone channel has a ‘Ring’ input – illuminating a button above the fader in response to an incoming call, and a ‘Divert’ output – allowing an external telephone balancing unit to be remotely connected to the mixer (such as the Clyde BB3).

WELL BALANCED

With the exception of headphone feeds, ALL of OctoMix’s audio inputs and outputs are balanced.

This refers to the type of circuitry used internally, and means that OctoMix has a high immunity to radio frequency interference and can be used with long cables without signal degradation or the need for external interfaces.

Even when used with unbalanced equipment, the type of connectors used allow such equipment to be connected without any wiring changes or the need to adjust levels.

OctoMix also uses balanced mixing, which improves headroom and immunity to noise and interference.

There are different ways of operating the mixer, and individual stations will have their own preferences. This usually necessitates some form of mixer set-up or configuration – normally via inconveniently located switch or jumper settings – in some cases you even need to connect an external PC to make changes – all in all not very user friendly!

In Octomix user preferences are set via miniature switches, accessed from the underside of the mixer.

WORKING HOW YOU CHOOSE

Our considerable experience (based on many years of manufacturing and installing pro broadcast equipment) tells us that it is important for individual users to be able to determine how remote starts work – some operators prefer fader starts, some like button starts, and some like different modes for different types of equipment, so it is obviously very important that it is easy to adapt the behaviour of the mixer to suit different users, and that you don’t need a degree in engineering to do so!

So, OctoMix offers both button AND fader starts, without the need for any configuration changes.

With the fader down, pressing an ON button on a stereo channel causes the button to flash, alerting the operator that a start command will be generated when the fader is opened.
WELL CONNECTED

All connections to OctoMix are on the rear panel, sensibly grouped to allow easy installation and make subsequent reconnections as easy as possible.

Multipole connections to external equipment have been totally avoided, as from experience these can be difficult to wire, and if one connector carries circuits to and from several different pieces of equipment, to change just one connection renders all others inoperative, as the connector needs to be unplugged and this could have significant implications on your ability to remain on air at all times.

With OctoMix, ANY external equipment may be unplugged individually without impacting the operation of the rest of the system.

EASY TO INSTALL

The control surface of OctoMix sits about an inch from the table top – removing the need to make cut-outs in furniture and allowing the mixer to be re-positioned without major joinery work.

Industry standard XLRs are used for microphones, with all other external audio inputs and outputs via ¼” stereo jacks, and all remotes via 3-pole mini jacks.

Each of these plugs has only 3 single connections and one of these is the cable screen. NOTHING could be simpler.

All So Easy Radio Packages are supplied with a full set of pre-made cables, SO NO SOLDERING IS REQUIRED.

An optional connector cover is also available, to keep prying hands away from connectors!
EASY TO OPERATE

Each of the eight ‘channel strips’ has the minimum of controls, presented in an uncluttered manner, with very little room for operator error.

The illuminating pushbuttons are silent in operation – no chance of live mics picking up mechanical noise, the conductive plastic faders and rotary controls are smooth in operation and will give many years of trouble free operation.

PreFade automatically cancels as the fader is opened, another example of the use of intelligent ‘behavioural’ logic.

All inputs have excellent overload capability, and individual channels have overload indicators which turn red when the signal level anywhere in the channel gets to within 6dB of clipping.

A wide range of input levels can be accommodated, ensuring interface to all external equipment, pro, semi-pro or domestic.

INPUTS

OctoMix has the following inputs:

- 3 x Microphones, typically for presenter and two guests (these have red faders)
- 1 x Telephone – for connection to an external telephone balancing unit to allow callers to be put live to air, or recorded (this has a black fader)
- 4 x Stereo Line inputs, typically fed from a PC and CD players, or other ‘high level sources’ (these have white faders)

All inputs have a Fader, a Gain control, Overload Indicator and a PF (prefade) button.

Mic inputs have an ON button, which illuminates when the associated fader is opened.

On the TBU input the ON button is replaced by one which is labelled ‘TBU’. This illuminates on receipt of an ‘incoming call’ command from the external TBU, to alert the mixer operator to the call. Pressing the TBU button ‘DIVERTS’ the call from the handset to the mixer, where the operator can speak to the caller ‘off-air’ i.e. with the fader down.
INPUTS continued

The ON button on the stereo line inputs operates in conjunction with the fader and offers a number of different operating modes, dependent also on the user configuration preset switch settings.

When OctoMix is used in conjunction with Clyde’s S-Radio broadcast software, a high degree of interaction is provided, with the software able to control the audio status within the mixer.

This interface works in two directions, particularly intuitive when using a touchscreen with the software.

When searching for an item in S-Radio’s Library, or Playlist, clicking on the item with the mouse, or using the touchscreen, automatically puts the mixer into its PreFade monitor mode, so that the audio can be heard immediately without further action, an incredibly useful feature.

MASTER SECTION

The section to the right of the channel strips contains the meters, monitoring and talkback controls.

OctoMix has separate balanced loudspeaker outputs, for control room and studio/booth, and two headphone outputs, for presenter and guests.

The control room speakers, which mute whenever a local microphone fader is opened, are fed with either the mixer’s program output or an external feed – typically from an off-air receiver, when the EXT MON button is pressed. Additionally, the control room speaker feed is replaced by a mix of whichever channels have their PF selected.

A SPLIT mode allows active prefade to feed one speaker, with the other fed from a mono monitor mix – either mixer Program or External.

This is very useful when taking outside broadcasts – a prefade feed of the OB can be heard on one speaker with main program on the other, allowing the operator to open the OB fader the second anything exciting appears to be happening.

An incoming talkback feed from an external location is automatically mixed into one control room speaker feed.

The PRES headphones receive the same feed as the control room speakers, obviously without any muting.

The Studio speakers receive a feed from the mixer’s program output, interrupted by talkback whenever the TB to Guest button is pressed.

The Guest headphones are fed with the same feed – mixer program with talkback interrupt, and there are two separate outputs, one for each guest, so with OctoMix there is no need for any external headphone amplifiers – and there’s plenty of volume even for today’s popular 30ohm headphones.
MASTER SECTION continued

For convenience, the Presenter’s headphone socket is duplicated on the front and rear of the mixer.

The source of talkback is a dedicated mic, so there’s no need to use up a mic channel just for talkback.

Two separate sets of Mic Live indicator outputs are provided, for control room and studio, suitable for use with external units such as Clyde’s Lumions.

The internal bar-graph meters follow the selected monitor source, including PF override, and a very useful Phase Error indicator alerts operators to phase errors – very useful if externally produced program content is used.

So, whether Self-Op with guests located in the control room, or Tech-Op with presenter and guests in an adjacent studio/booth, OctoMix works with you.

SELF-OP OR TECH-OP?

There are two main ways of operating - Self-Op and Tech-op.

In Self-Op the presenter and guest mics are located in the control room, in Tech-Op they are located in an associated studio/booth, usually adjacent to the control room, with visual contact through a window.

Many low cost mixers offer only one set of loudspeaker monitoring – which works fine in Self-Op but not for Tech-Op, and this can be very restrictive.

OctoMix supports both Self-Op and Tech-Op modes of broadcast.

Two sets of loudspeaker and headphone monitoring are provided, for control room and studio, with two sets of loudspeaker muting, to suit the position of the mics.

Independent outputs to drive external Control Room and Studio Mic Live indicators are provided, such as Clyde Lumion Studio Indicators.

A range of technical furniture, including ‘acoustic tables’ is also available.

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DIMENSIONS
Schematic