

ALLEN&HEATH

ALL RANGES

LARGE FORMAT
LIVE SOUND MIXERS

SMALL FORMAT
LIVE SOUND MIXERS

DJ PRODUCTS

SOUND MANAGEMENT
SYSTEMS



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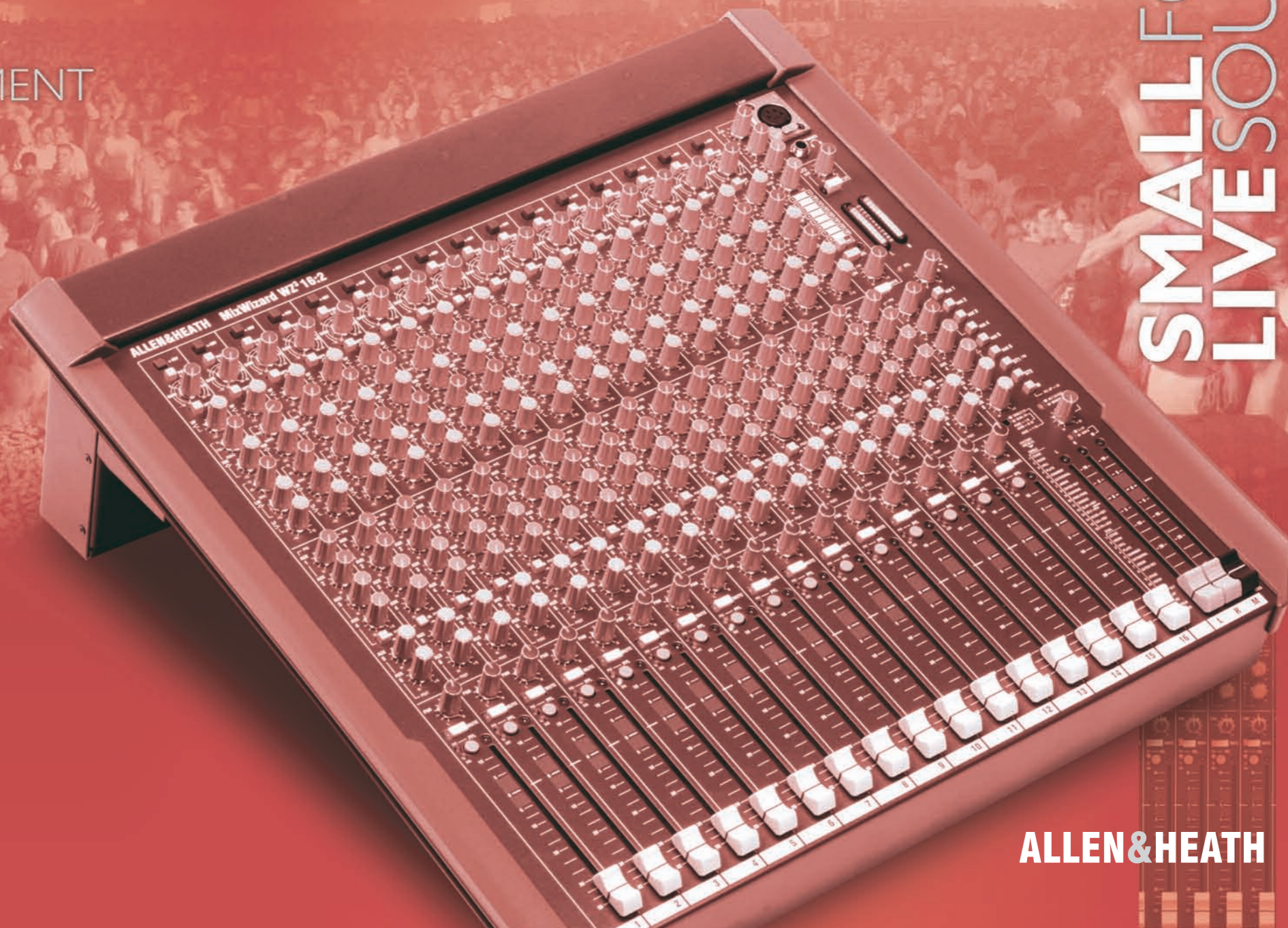
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AP5907 Issue 3



SMALL FORMAT
LIVE SOUND MIXERS

ALLEN&HEATH



Easy-to-Mix Controls

The control surface is laid out in an uncomplicated format and the operator can easily see all connections for patching. Pre-fade sends (FB) and post-fade sends (FX) are clearly labelled and colour coded, and there are generous 100mm fader masters with a LED mute button, identical to the channel controls. There is a selection of 16 editable digital FX to complete the professional design.

Stereos

2 dual stereo channels with RCA and TRS connectors and independent gain controls are included for FX returns and stereo sources, such as CD players and backing tracks. The RCA inputs can feed straight to LR, so providing extra returns. The stereo channels are furnished with 2 band EQ, and can be routed to all 4 auxiliary sends.

Powered Option

The **PA-CP** versions contain a built-in amplifier, delivering an impressive 1 kiloWatt, able to run a regular stereo **PA** system with very little external equipment. Our objective was to produce a powerful, great sounding amplifier in a compact package for the high-end audio market. The result is not only a well voiced amp with loads of weighty power but also clear, transparent audio quality.

ALLEN&HEATH's unique 'Constant Power' system ensures that all available power is converted into useable speaker power so we can guarantee the full 500W RMS per side into 4 ohms OR 8 ohms.

A+B Output Channels

The main outputs - XLR (**PA**) or amplifier (**PA-CP**) - derive their source from a selectable combination of LR (stereo), L+R (mono), FB1 and FB2, and provide master level trim, meters, slave outputs, patch point for external processors, and the very precise 4 band semi-parametric equalisers. This is extremely flexible and means that the **PA** can be operated in many different ways. For example, the user may want to run a stereo house system with separate left and right speakers and no monitors, or a mono system with a foldback monitor. Alternatively, you may patch into a bigger house system and use the built-in amplifier to provide a pair of equalised stage monitors. The **PA** Series takes the concept of a 'PA in a box' a versatile step further.

TECHNICAL SPECIFICATIONS

Operating Levels

Channels	0dBu Headroom +21dB
Mix	0dBu Headroom +21dB
Main Outputs	0dBu Headroom +21dB
Maximum output	+21dBu
Mic Pre-Amp Sensitivity	-60 to +10dBu
Stereo input sensitivity	-20 to +30dBu

Frequency Response (20Hz-30kHz)

Mic to Main output (+40 dB)	+0/-0.5dB
Line to Main output (0dB)	+0/-0.5dB

Distortion at 1kHz +14dBu out

THD + Noise (mic in +40dB gain)	<0.006%
THD + Noise (line in 0dB gain)	<0.006%

Crosstalk @1kHz

Adjacent Channel	<-90dB
Mute Shutoff	<-95dB
Fader Shutoff	<-95dB

Noise Performance (22Hz-22kHz unweighted)

Mic EIN with 150ohm source	-128dB
Residual output noise - main outputs	<-89dBu

Connection Impedances

Mic Inputs	2k ohms
Line Inputs	>10k ohms
Outputs	<75 ohms

Equalisation

Mono Channel Low Frequency	60Hz Shelf
Mono Channel High Mid Frequency	500Hz-15kHz Q=1.8
Mono Channel High Frequency	12kHz Shelf
Filter (mono input)	100Hz switchable

Metering

Reading referred to Main outputs	0VU = +4dBu
Peak indication threshold	5dB before clipping

System

Lamp connectors	1 x 4pin XLR-F
Power supply	Internal
Power Consumption	1600W Max (PA-CP) 75W Max (PA)

Amplifier Performance - PA-CP only

Output Power into 8 and 4 ohm loads	2x500W RMS
Frequency Response (20Hz-30kHz)	+0/-0.5dB
THD + Noise	<0.02% @1kHz



PA SERIES STEREO LIVE MIXERS

ALLEN&HEATH's years of 'real world' experience with large format touring desks has resulted in many innovative touches being incorporated into the design of the **PA** Series of stereo live compact mixers. The range brings a classic, feature-packed pro audio design with the same superior build and sound quality to an even wider audience, so that now every aspirational performer or rental company supporting them can benefit from a truly professional system.

'Walk up and go' is a perfect description for the **PA** Series mixer – all the controls you expect are logically placed so that you stay in control under the pressure of any performance. The 4 band EQ on inputs and outputs and clever output routing are unique and will ensure you get the best out of the system, while features such as individual phantom power switches and SPDIF recording output add professional finishing touches.

Add sparkling clarity to your performance with the superior sound quality of a **PA** Series mixer.

KILLER FEATURES



High Performance Preamp

The mic preamp is probably the most important stage in the console's signal path and its performance is often the measure of the quality of the console. The **PA** Series uses a high grade dual-stage design, developed from our top-end range of **ML** and **GL** consoles. This ensures optimum matching and very low noise when connecting mic or line sources.

Parametric Output EQ

A 4 band equaliser with swept frequency on each band provides more precise optimisation of the speaker system and control of feedback than the typical fixed frequency graphic type EQ found on similar consoles. Download the free EQ Visualiser programme from our website to learn more about using this powerful tool.

Filter

Each mono input channel is equipped with a 100Hz high-pass filter, an invaluable tool for cleaning up the mix. The majority of live sound sources have very little content below 100Hz, and modern microphones have wide frequency response and can pick up bleed from nearby low frequency sources such as bass and kick drums. The filter can be used: on vocal channels to reduce mic handling noise and close proximity 'popping'; on drum overhead mics to reduce kick and bass pick up; on higher frequency instruments such as flute and acoustic guitar; and on stage mics to reduce foot noise.

Recording Outputs

There is a digital SPDIF 2-track output available from a RCA phono socket for recording direct to digital media, such as PC soundcards, DAT and digital audio processors. The recording send can be switched pre-fade if desired. An analogue recording output is also available.



4 Band Channel EQ

Another design innovation taken from **ALLEN&HEATH**'s flagship range, the 4 band input EQ is every bit a pro tool. The low [60Hz] and high [12kHz] bands have shelving response, while the high-midrange band is sweepable from 350Hz to 6 kHz. Low-midrange EQ has a bell response at 250Hz - a frequency chosen to provide reduction of 'muddy' sounds and enhance 'warmth'.

Lamp socket

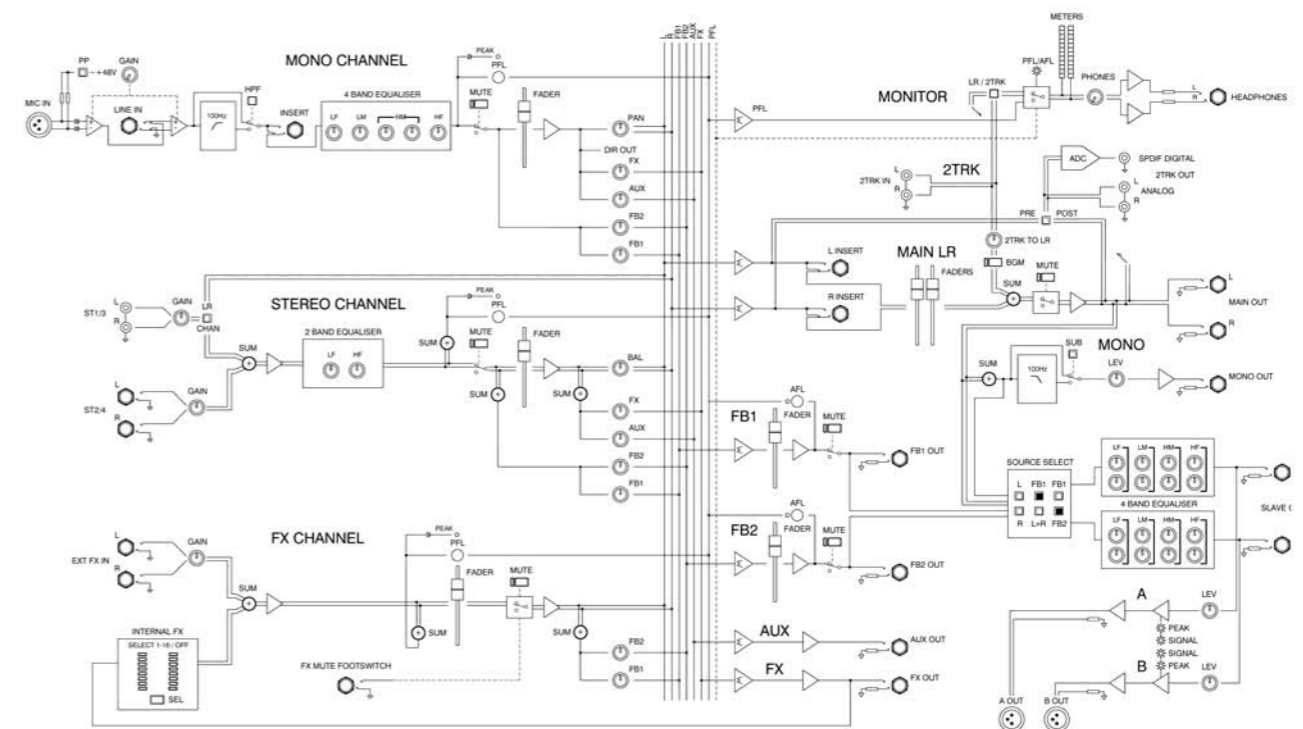
A 4 pin lamp connector is provided on the rear of the control surface.



PA 12,20 & 28



The **PA** range (**PA12**, **PA20** and **PA28**) are robust compact mixers with a straight forward layout and buckets of functionality. With a design and build quality that mirrors our professional touring desks, these mixers are an essential addition to any band, school, theatre, or hire inventory.



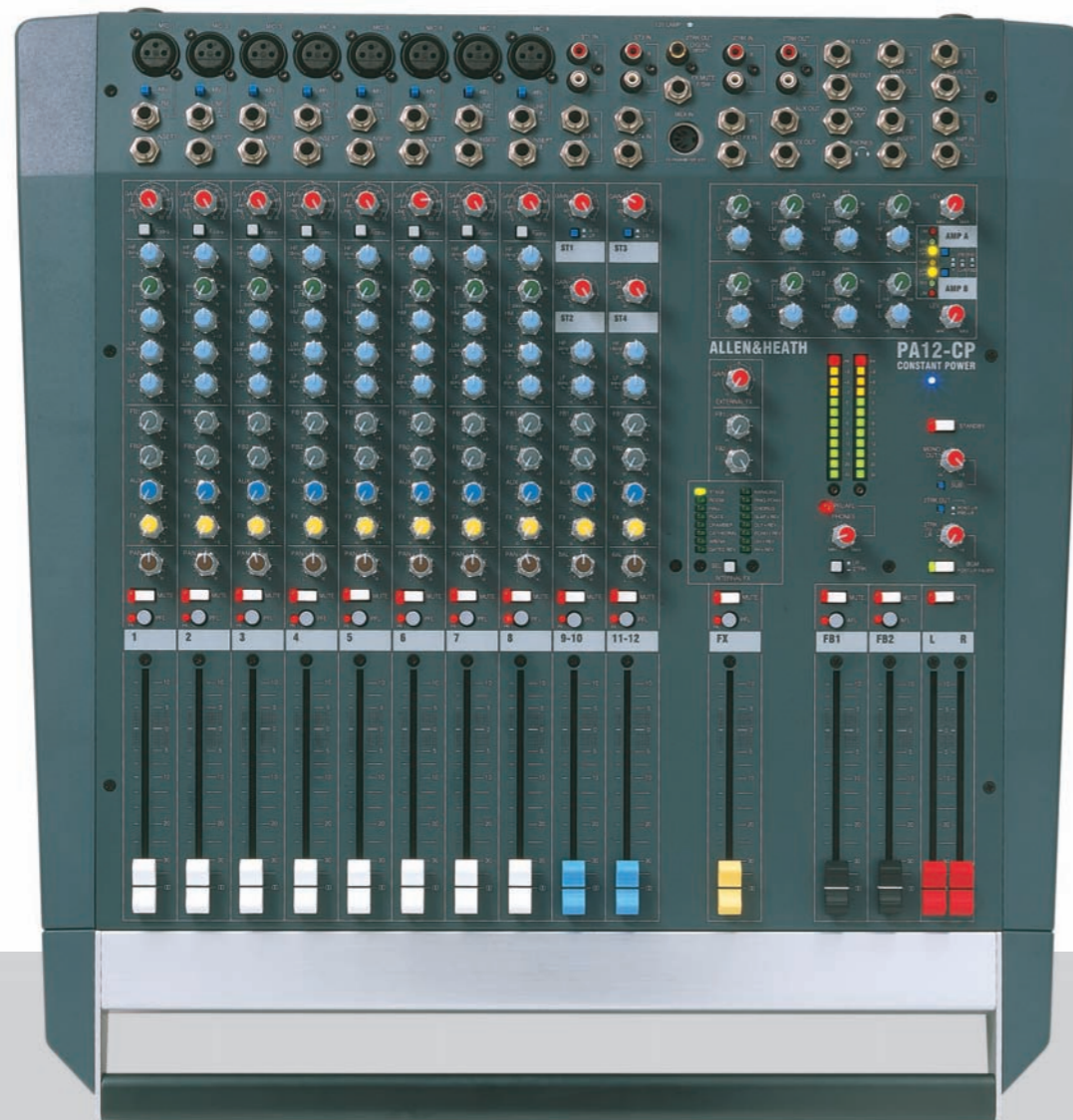
FEATURES

- **Mono Inputs** - 8 (**PA12**), 16 (**PA20**) or 24 (**PA28**) with XLR/TRS inputs, mute and PFL switches with LEDs, and 100mm faders
- **Phantom Power** - individually switched
- **Two-stage Padless Preamp** - directs line sources to the second stage for improved matching and performance
- **Input EQ** - 4-band with shelving LF and HF, a fixed LM band at 250Hz and a swept HM
- **100mm Faders** - with dust covers throughout
- **4 Auxiliary Sends** - with 2 pre-fade sends for foldback, one post-fade for internal or external FX and another post-fade for additional FX or special feeds
- **2 Dual Stereo Channels** - each with TRS jack and RCA phono inputs with independent gain and 2-band EQ
- **Digital FX** - 16 FX programs.
- **Outputs** - source selectable main AB output, mono sum with switchable sub bass filter and analogue and SPDIF digital recording outputs.
- **Output EQ** - 4-band semi-parametric for speaker control more precise than achieved with the typical graphic type EQ
- **Master section** - 12 segment LED meters, standby switching to disconnect the speakers, an XLR lamp socket and background music mode switch

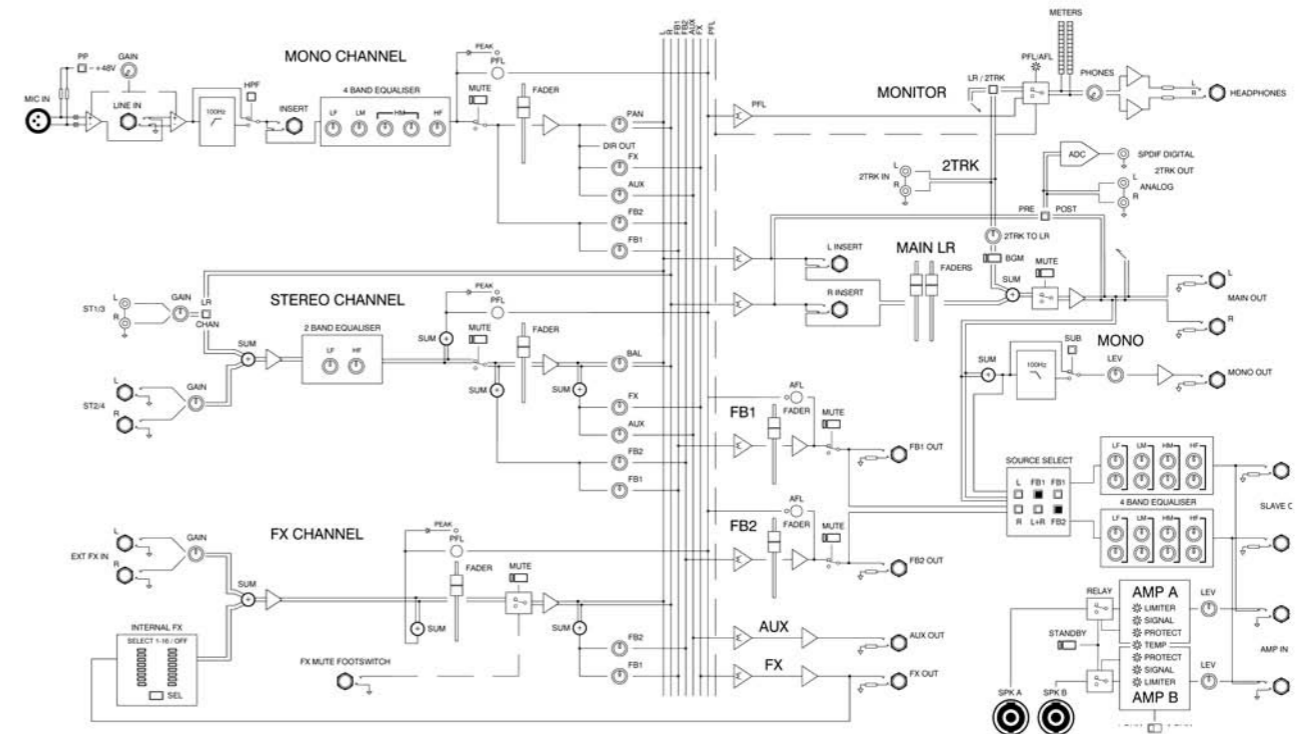
MECHANICAL SPECIFICATIONS

Model	Without side trims for rackmount - mm(°)	Desk mount with side trims - mm(°)	Model	Desk mount with side trims mm(°)	Model	Desk mount with side trims mm(°)
PA12			PA20		PA28	
Width	484 (19)	525 (20)	Width	733(29)	Width	958 (38)
Height	145 (6)	145 (6)	Height	145 (6)	Height	145 (6)
Depth	437 (17)	539 (21)	Depth	539 (21)	Depth	539 (21)
Weight	13kg (28lbs)	13kg (28lbs)	Weight	17kg (11lbs)	Weight	21kg (46lbs)

PA12/20-CP



The **PA12-CP** and **PA20-CP** are sturdy, "walk up and go" powered mixers, guaranteed to deliver loads of weighty power from their 'Constant Power' amplifiers. These well thought-out mixers offer operational flexibility for any live sound situation and engineers of any experience.



FEATURES

- **'Constant Power' Amp** - a pair of 500W RMS amplifiers for use with 4 or 8 ohm speakers
- **Mono Inputs** - 8 (**PA12-CP**) or 16 (**PA20-CP**) with XLR/TRS inputs, mute and PFL switches with LEDs, individual phantom power switching and 100mm faders with dust covers
- **Two-stage Padless Preamp** - directs line sources to the second stage for improved matching and performance
- **Input EQ** - 4-band with shelving LF and HF, a fixed LM band at 250Hz and a swept HM
- **Output EQ** - 4-band semi-parametric for speaker control more precise than achieved with the typical graphic type EQ
- **4 Auxiliary Sends** - with 2 pre-fade sends for foldback, one post-fade for internal or external FX and another post-fade for additional FX or special feeds
- **Digital FX** - 16 FX programs
- **2 Dual Stereo Channels** - each with TRS jack and RCA phono inputs with independent gain and 2-band EQ
- **Mix Output** - Source selectable AB amplifier outputs, mono sum with switchable sub bass filter and analogue and SPDIF digital recording outputs
- **Master Section** - 12 segment LED meters, standby switching to disconnect the speakers, an XLR lamp socket and background music mode switch

MECHANICAL SPECIFICATIONS

	PA12-CP	Without side trims for rackmount mm(^l)	Desk mount with side trims mm(^l)	PA20-CP	Desk mount with side trims mm(^l)
Width		484 (19)	525 (20)	Width	733 (29)
Height		178 (7)	178 (7)	Height	178 (7)
Depth		437 (17)	539 (21)	Depth	539 (21)
Weight		21kg (46lbs)	21kg (46lbs)	Weight	24kg (20lbs)

MIX WIZARD MULTI-PURPOSE COMPACT CONSOLES

Now in its 3rd generation, the legendary **MixWizard** range builds on its market leading status by adding a new mic preamp design and advanced grounding scheme, which both further enhance sonic quality. Other improvements include individual phantom power switches, channel signal indicators, lamp socket and backup supply capability. Internal configuration options for channel aux sends and direct output are now on pluggable jumpers for user convenience, and the mixer is presented in a stylish new package.

Of course, the range retains its traditionally strong blend of professional features, including an all-metal chassis, individual circuit boards, nitted rotary controls, smooth 100mm faders, LED metering, as well as 6 aux sends, 4 band EQ, digital FX and expansion capability, which it inherits from its big brothers in the large format ranges. The sonic purity of the **MixWizard** has been further enhanced to retain its market leading credentials – a true professional in the world of compact mixing.

KILLER FEATURES

High Performance Preamp

The mic preamp is probably the most important stage in the console's signal path and its performance is often the measure of the quality of the console. **MixWizard** mixers have a newly-designed preamp, developed from our top-end range of **ML** and **GL** consoles. The preamp provides very low noise and distortion, a wide yet smooth gain law, and extended headroom for dealing with the most demanding sources.

4 band EQ

Provides clean, responsive and accurate equalisation control normally only found in larger format desks. 4 extended range overlapping bands - 2 with centre frequency sweeps - let you compensate for microphone and auditorium frequency responses, add sparkle and presence to voices and instruments, control sibilance or add colour.

All 4 bands give up to 15dB boost or cut and have centre detents.

Maximum Flexibility

As with our large format large sound consoles, the **WZ**14:4:2 can work as a Front of House or Monitor mixer. In FOH mode, the 4 groups with inserts, long throw faders and XLR outputs can be routed and panned to the LR mix for flexible sub-mixing. The main LR mix has inserts, separate left and right faders, and XLR outputs, to feed the main speaker system. EQ and signal processing can easily be inserted on group and main outputs.

In Monitor mode, the aux mixes are routed to the group and LR faders, inserts and XLR output. The AFL and PFL system is switched to the Mono output to provide an engineer's 'wedge' output. In essence, it's a perfect 6-mix monitor console with additional outputs available from the group busses via the aux master controls.

To allow maximum flexibility, it is possible to operate the console in dual mode where some auxes can be used as monitor mixes and some sub-grouping can be used along with the main LR outputs. This allows the engineer to run FOH sound and some Monitor mixes from the same console.

Additionally, and unusually on a small format mixer, 2 matrix outputs are also provided - the flexibility and benefits of a matrix cannot be underestimated in today's console applications!

For **WZ**16:2 and **WZ**12:2, extra flexibility is provided by our unique third master fader, which can be switched to provide either an L+R mono feed for centre or fill speaker, a sub bass feed mixed from the channel aux 6 sends, and with master fader right where it is needed - next to the LR masters.

6 auxiliary sends

Each of the 6 aux mixes has its own master level rotary control and impedance balanced TRS outputs. The console has a clever monitoring system to listen to aux outputs in mono or in stereo pairs. Auxes 1-2 are routed pre fade for monitors; auxes 3-4 are switchable pre or post fade for monitors, effects or additional recording or zone feeds; and auxes 5-6 are routed post fader for effects and aux-fed sub. The aux settings can be changed by replugging internal jumpers.



Quick Change Connectors (QCC)

ALLEN & HEATH's unique quick-change connector system allows the swift reconfiguration of the mixer from desktop, rack or flightcase mounting due to a hinged connector panel



Digital FX (WZ16 and 12 only)

2 stereo effects engines are provided operating in either single or dual mode, providing 16 reverb, echo and other effects editable via MIDI. External effects can even be mixed in through the same return channel, thus saving precious inputs. Download FX editing software from www.allen-heath.com



Expansion option

A unique feature for such a compact mixer is the ability to expand the input capacity via the Sys-Link 2 option, which connects the mixer to another **ALLEN & HEATH** Sys-Link compatible console. The auxiliary and output busses are linked into the 'master' console, while PFL / AFL circuits are also connected, allowing the engineer to monitor both surfaces.

Stereos

On **WZ**14:4:2 and **WZ**12:2, two dual stereo channels with TRS connectors and independent gain controls are included for FX returns and stereo line sources. One stereo input can feed straight to LR, so providing extra returns. The stereo channels are furnished with 2 band EQ and can be routed to all 6 auxiliary sends.

On the **WZ**20S, 8 dual stereo input channels are provided, each with TRS jack 'A' and XLR 'B' inputs. These may be mixed together into the channel or mode switched to provide up to 16 independent sources to the mix - ideal for multi-stereo keyboard and recording applications.

TECHNICAL SPECIFICATIONS

Operating Levels

Channels	0dBu Headroom +21dB
Mix	-2dBu Headroom +23dB
Main Outputs	+4dBu Headroom +22dB
Maximum output	+26dBu
Mic Pre-Amp Sensitivity	-60 to +10dBu
Stereo input sensitivity	-16 to +20dBu

Frequency Response (20Hz-30kHz)

Mic to Main output (+40 dB)	+0/-0.5dB
Line to Main output (0dB)	+0/-0.5dB

Distortion at 1kHz +14dBu out

THD + Noise (mic in +40dB gain)	<0.004%
THD + Noise (line in 0dB gain)	<0.004%

Common Mode Rejection @1kHz

Mic Input +40dB gain	>80dB
Mic Input with Pad 0dB gain	>50dB

Crosstalk @1kHz

Adjacent Channel	<-90dB
Mute Shutoff	<-100dB
Fader Shutoff	<-90dB

Noise Performance (22Hz-22kHz unweighted)

Mic EIN with 150ohm source	-128dB
Residual output noise - main outputs	<-95dBu
Main Mix noise	<-83dBu (87dB S/N)

Connection Impedances

Mic Inputs	2k ohms
Line Inputs	>10k ohms
Outputs	<75 ohms

Equalisation

Gain (each band)	+/- 15dB
Mono Channel Low Frequency	60Hz Shelf
Mono Channel Low Mid Frequency	35Hz - 1kHz Q=1.8
Mono Channel High Mid Frequency	500Hz-15kHz Q=1.8
Mono Channel High Frequency	12kHz Shelf
Filter (mono input)	100Hz switchable

Metering

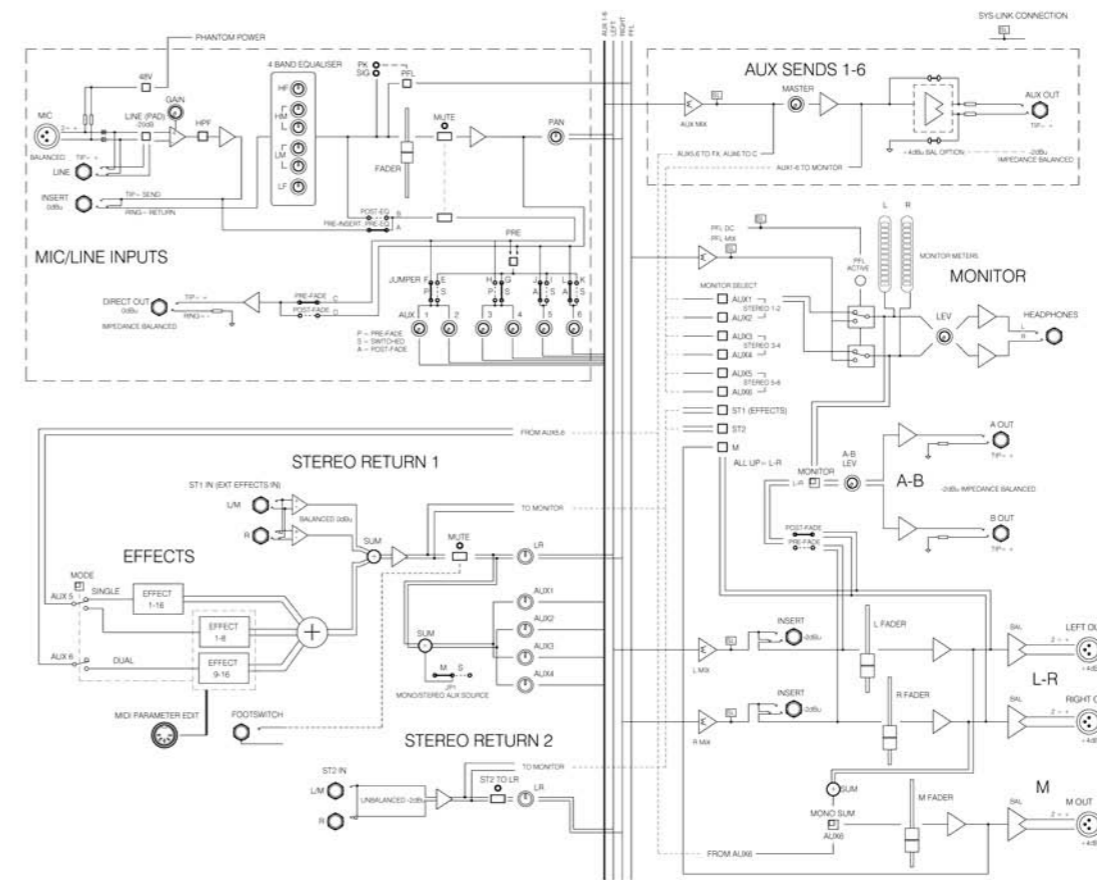
Reading referred to Main outputs	0VU = +4dBu
Peak indication threshold	5dB before clipping

System

Lamp connectors	1 x 4pin XLR-F
Power supply	Internal / MPS12 option
Power Consumption	35W Max



WZ³ 16:2



The **WZ³:16:2** is a versatile, easy to use 16 mic/line channel mixer - the next generation of this industry standard multi-purpose design.



FEATURES

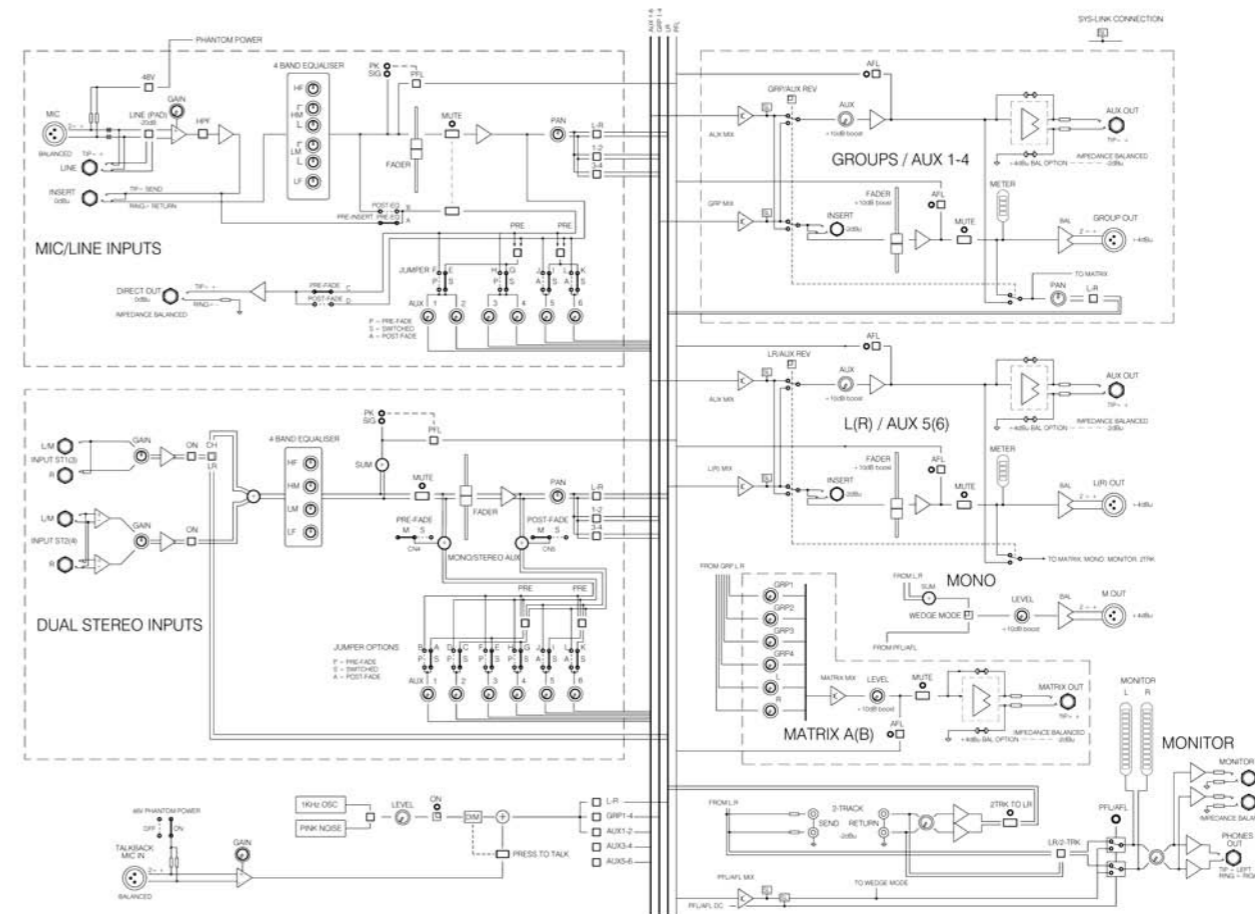
- **16 mic/line inputs** with balanced XLR/TRS jack, and direct output
- **100mm Faders** - throughout
- **4-band EQ** - comprehensive equalisation with 2 sweepable mids
- **6 auxiliary sends** - 2 pre, 2 switched, 2 post fade (may be reconfigured)
- **2 stereo returns** - on TRS jack

MECHANICAL SPECIFICATIONS

	Without side trims for rackmount - mm(°)	Deskmount with side trims - mm(°)
Width	483 (19)	507 (20)
Height	444 (17)	194 (8)
Depth	122 (5)	530 (21)
Weight	10kg (22lbs)	10kg (22lbs)

- **Dedicated mono output fader** with innovative mode for control of aux fed subs
- **Independent A-B output** to feed any number of applications including a 2-track recorder, monitor foldback or speaker fills
- **Metering** - Twin 3-colour, 12 segment bargraph follow selected monitor source, channel signal and peak LEDs
- **Onboard FX** - 16 FX programs with external editing software connected via MIDI
- **Pluggable jumpers** for user configurability
- **Mounting** - desk or rack mountable, with rotating connector pod
- **Sys-Link 2 output option** - for connection to other **ALLEN&HEATH** Sys-Link compatible consoles

WZ³ 14:4:2



FEATURES

The **WZ³14:4:2** is a remarkably dynamic compact mixer, with multi-functionality that allows it to be used for FOH, monitors, and live or studio recording.

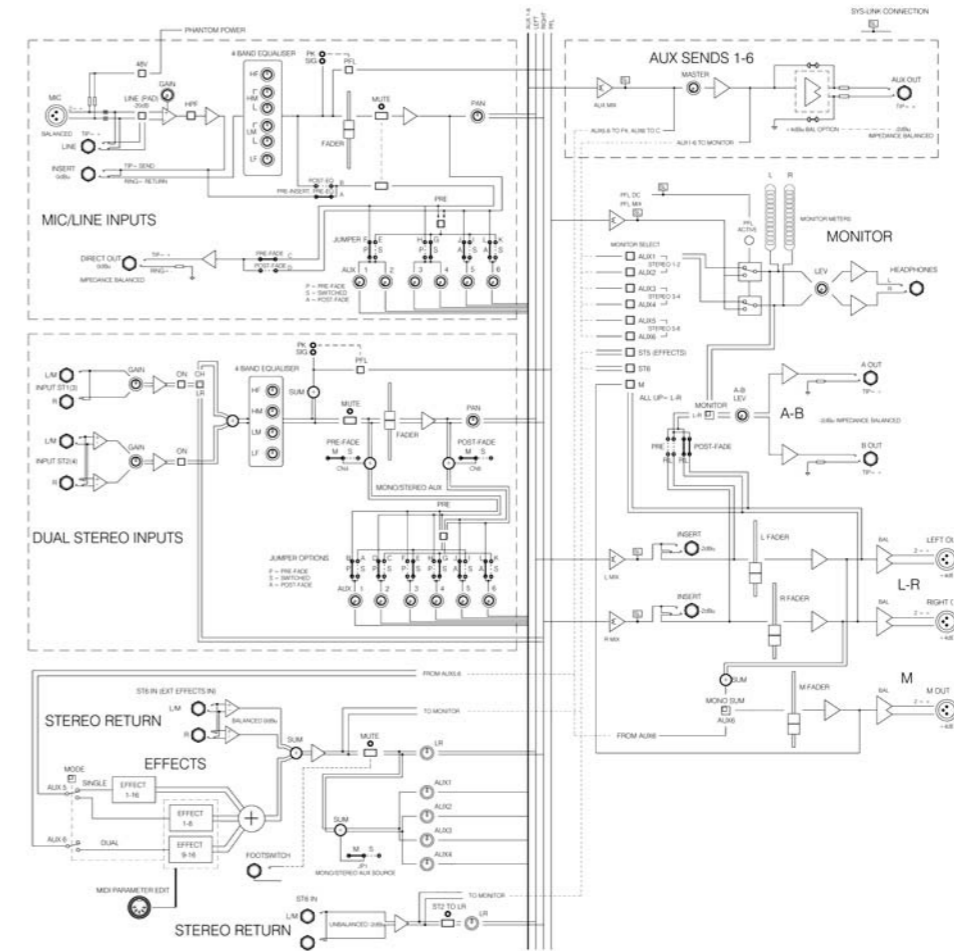
- **10 mic/line inputs** with balanced XLR/TRS jack and direct output
- **Dual functionality** - the aux master section can be reversed to provide up to 6 monitor sends, while the mono control and XLR can convert to an engineer's listen wedge output
- **6 auxiliary sends** - switchable pre/post, all can be accessed at the same time
- **4 audio groups** - with panned sub grouping and feed to the matrix
- **2 dual stereo inputs** each with 4-band EQ, separate gain and 'on' switches. Two may be routed direct to LR to provide 4 independent stereo returns
- **4-band EQ** - comprehensive equalisation with 2 sweepable mids
- **6x2 matrix** - fed from groups 1-4 and LR, featuring an illuminated mute button, level control, and AFL. The matrix can be used to create custom mixes for recording, in-ear monitors, or PA loudspeaker zones.

MECHANICAL SPECIFICATIONS

	Without side trims for rackmount - mm(°)	Deskmount with side trims - mm(°)
Width	483 (19)	507 (20)
Height	444 (17)	194 (8)
Depth	122 (5)	530 (21)
Weight	10kg (22lbs)	10kg (22lbs)

- **Oscillator and pink noise generator** for line-up and speaker testing
- **Pluggable jumpers** - for user configurability
- **Mounting** - desk or rack mountable, with rotating connector pod
- **Sys-Link 2 input/output option** - for connection to other **ALLEN&HEATH** Sys-Link compatible consoles





FEATURES

With the same functionality as its larger sister models, the **WZ³ 12:2** embodies the ultimate multi-purpose compact mixer, with 2 extra dual stereo inputs for stereo sources such as keyboards or CD players.

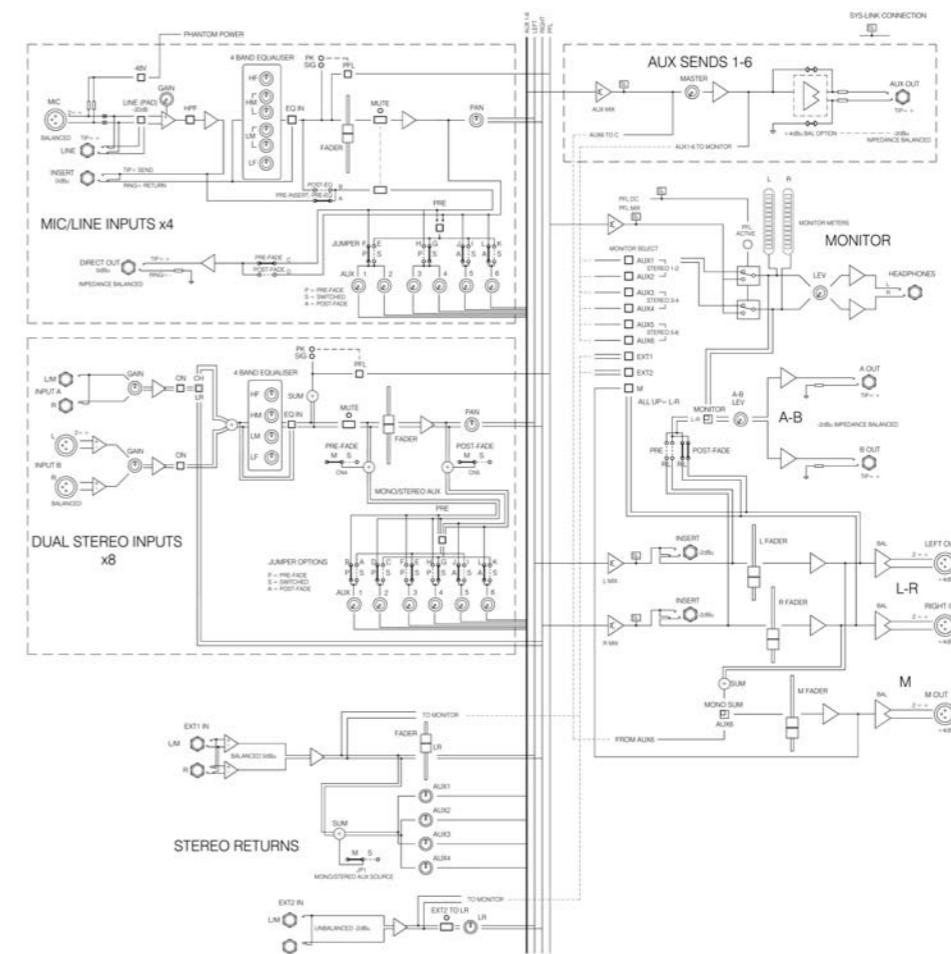
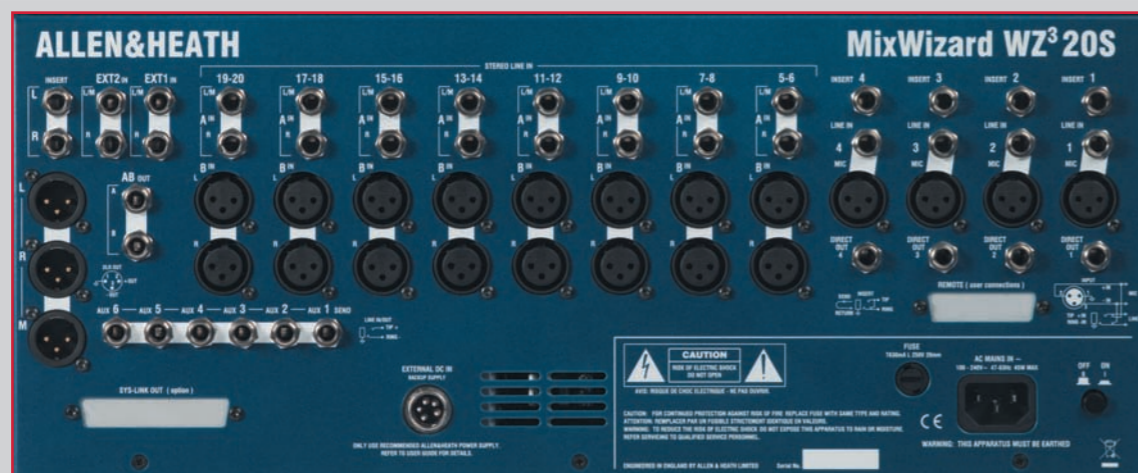
- **8 mic/line inputs** with balanced XLR/TRS jack, and direct output
- **100mm Faders** - throughout
- **2 dual stereo inputs** - featuring separate gain and 'on' switches allowing each input to be selected individually or mixed together. One pair on each channel can be routed directly to the L&R mix for even more versatility
- **4-band EQ** - comprehensive equalisation with 2 sweepable mids
- **6 auxiliary sends** - 2 pre, 2 switched, 2 post fade (may be reconfigured)
- **2 stereo returns** - on TRS jack
- **Pluggable jumpers** - for user configurability
- **Dedicated mono output fader** with innovative mode for control of aux fed subs
- **Independent A-B output** to feed any number of applications including a 2-track recorder, monitor foldback or speaker fills

MECHANICAL SPECIFICATIONS

	Without side trims for rackmount - mm(")	Deskmount with side trims - mm(")
Width	483 (19)	507 (20)
Height	444 (17)	194 (8)
Depth	122 (5)	530 (21)
Weight	10kg (22lbs)	10kg (22lbs)



WZ³ 20S



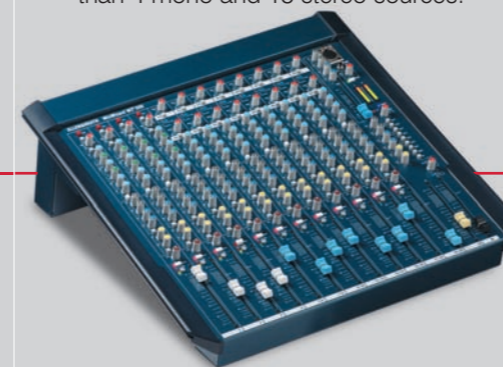
FEATURES

Now upgraded to **WZ³** status, the 20S remains a favourite mixer for small broadcast studios, internet radio stations, project studios and stereo sub-mixing anywhere. Featuring the new **WZ³** preamp and responsive EQ, the **WZ³20S** provides 12 channels with no fewer than 4 mono and 18 stereo sources.

- **4 mic/line mono inputs** featuring the new **WZ³** low-noise preamp - with balanced XLR/TRS jacks and direct outputs
- **8 dual stereo input channels**, each with TRS jack 'A' and XLR 'B' inputs. These may be mixed together into the channel or mode switched to provide up to 16 independent sources to the mix - ideal for multi-stereo keyboard and recording applications
- **2 stereo returns** on TRS jack, one with fader and aux sends
- **Responsive 4-band EQ** with 2 sweepable mids and in/out switching
- **6 auxiliary sends** - switchable pre/post fader. All can be accessed at the same time
- **Internal option to configure auxes** for creating stereo mixes, for example recording stereo IEM or keyboard sub mixing to FOH
- **Dedicated mono output fader** with innovative mode for control of aux-fed subs, dedicated C mix, or other main mix feed
- **Stereo AB output** for additional mix or local monitor output
- **Sys-Link 2 output option** for connection to other **ALLEN&HEATH** Sys-Link compatible consoles
- **100mm faders** on all input channels and main outputs
- **User wiring options** for fader start and mic live monitor muting using the AB output

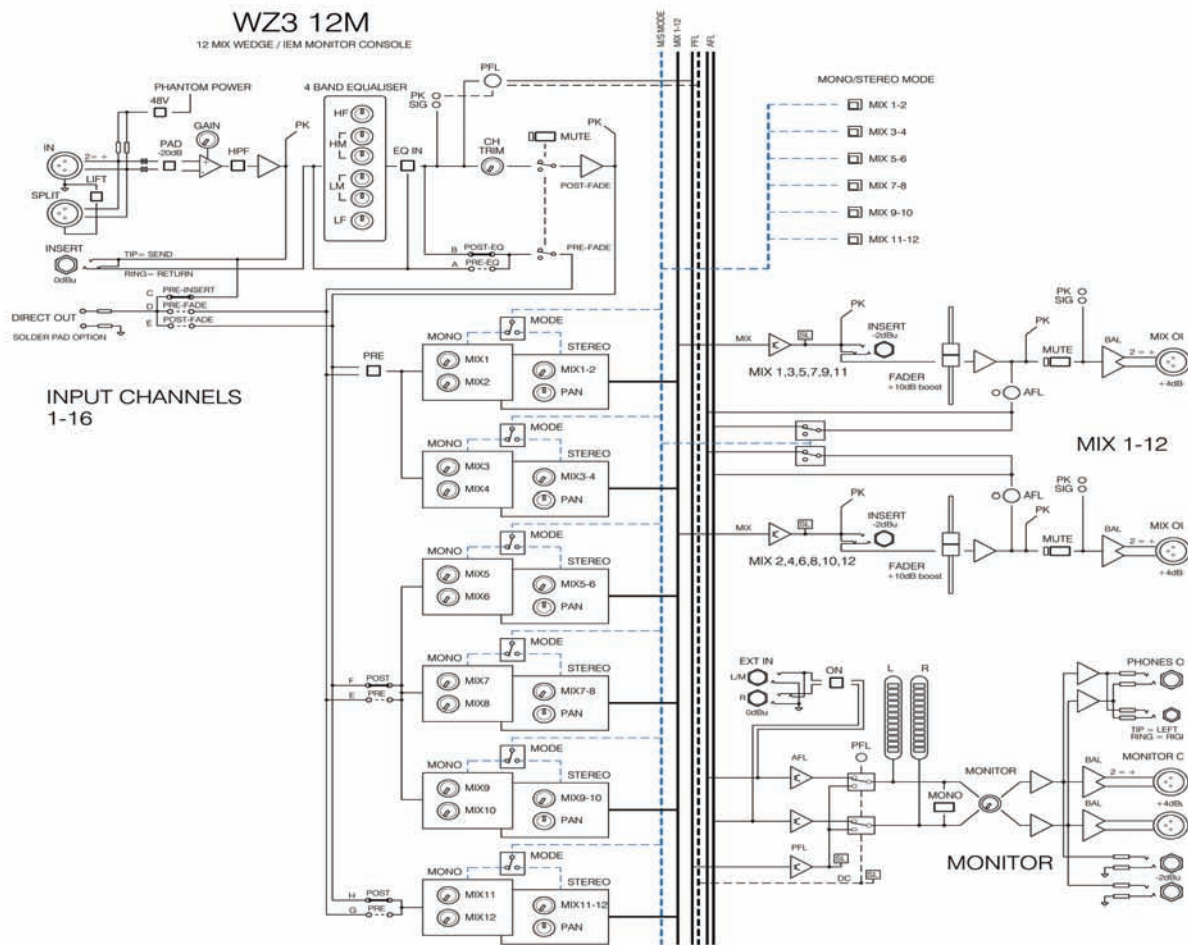
MECHANICAL SPECIFICATIONS

	Without side trims	Deskmount with side trims
Width	483 (19)	507 (20)
Height	444 (17)	194 (8)
Depth	122 (5)	530 (21)
Weight	10kg (22lbs)	10kg (22lbs)



WZ³ 12M





FEATURES

The **WZ³12M** is an easy-to-use compact mixer for on-stage monitoring. Developed to cater for the demand for multiple stereo mixes on stage for personal headphone monitoring, Wizard Monitor allows musicians to easily control their own mixes on stage, while the mixer will also be at home in rehearsal rooms and studios.

- **16 mic/line inputs** with balanced XLR connectors and TRS jack inserts
- **Built-in passive mic splitter** with ground lift switch
- **High performance WZ3 preamp**
- **Responsive 4-band EQ** with 2 sweepable mids and in/out switching
- **12 mix outputs** available as mono or stereo pairs on colour-coded 60mm faders. Sends 1-4 are switched pre/post fader and sends 5-12 are set to postfade operation
- **Stereo mode switch** - pressing the switch configures the related odd/even numbered mixes for mono or stereo operation
- **PFL, signal and peak LEDs**
- **Mono or stereo AFL** - pressing both AFL switches on a pair of channels checks the mix output in stereo
- **Metering** - Twin 3-colour, 12 segment bargraphs show the level of the left and right engineer's monitor signals

MECHANICAL SPECIFICATIONS

	Without side trims for rackmount - mm(“)	Deskmount with side trims - mm(“)
Width	483 (19)	507 (20)
Height	444 (17)	194 (8)
Depth	122 (5)	530 (21)
Weight	10kg (22lbs)	10kg (22lbs)

- **19-inch rack-mount** or desktop configuration
- **Quick Change Connector (QCC)**
- **Built-in power supply** with back-up input socket.
- **Headphone sockets** for both 1/4" and mini jack

