

★ ★ ★  
*MixWizard Series*  
**WZ16:2**

W H E N   Y O U ' R E   M I X I N G   W I T H   P R O F E S S I O N A L S



- 16 mic/line inputs +2 stereo returns
- QCC mounting system for rack, case or desktop
- British innovation with *MSP* architecture

**ALLEN**  
  
**HEATH**

# INTRODUCTION

HERE'S THE MIXER WHOSE SPECTACULAR PERFORMANCE, CHANNEL CAPACITY, CLASSIC BUILD AND APPLICATION VERSATILITY BELIES ITS PRICE.

ALLEN & HEATH'S **WZ16:2** GIVES YOU FAITHFUL PERFORMANCE AS A TOP QUALITY PROFESSIONAL MIXER WITH 16 MONO INPUTS PLUS 2 STEREO RETURNS, = 20 INPUTS TOTAL, 6 AUXES ON INDIVIDUAL POTS, 4-BAND 2-SWEEP EQ, DIRECT OUTPUTS FOR ALL CHANNELS AND UNIQUE STEREO MONITORING FACILITIES.

WITH ITS **SOLID METAL CONSTRUCTION** AND INDIVIDUAL CIRCUIT BOARDS, THE WZ16:2 WILL WITHSTAND THE MOST ARDUOUS TOURING DEMANDS; ITS **CHANNEL CAPACITY** WILL MEET EXTENSIVE MULTI-MIC CHURCH AND CHOIR APPLICATIONS; ITS **SONIC TRANSPARENCY** WILL DELIGHT KEYBOARD PLAYERS AND RECORDING ENGINEERS ALIKE; ITS **MONITORING CAPABILITIES** WILL BE A BOON TO BOTH ENGINEERS AND PERFORMERS. ITS UNIQUE APPLICATIONS VERSATILITY WILL MAKE WZ16:2 THE NATURAL CHOICE FOR HIRE STOCK.

WHETHER IT'S FRONT-OF-HOUSE SOUND, LIVE STEREO OR MULTITRACK RECORDING, ON-STAGE AND KEYBOARD SUBMIXING, CHURCH AND AUDITORIUM SOUND SYSTEMS OR ON-STAGE MONITOR MIXES, WZ16:2 WILL BACK YOU ALL THE WAY.

MixWizardSeries

## BRITISH INNOVATION

Allen & Heath's engineers have built two special features into the WZ16:2 to give you that little extra. The new *QCC* connector system lets you swing the output connector block up for desk or flightcase or under for rack use.

*MSP* (minimum signal path) assures sonic transparency from this professional-standard console.

From its cool, ocean blue background to its easily identified controls, the WZ16:2 panel layout is designed to give you command, even under muted lighting.

The layout is intuitive - just walk up, and go...!

Each of the smooth rotary controls is individual (there are no fiddly concentrics) and is individually bolted to the steel panel - no mechanical load can be transferred to the underlying circuit boards. Vertically mounted boards ease servicing/link-changing and provide the all-important space for sensible circuit tracking and solid earthing.

100mm calibrated slimline faders slide outputs; clear graphics and leds show functions, audio routing and monitoring states.

- Up to 20 inputs including 16 mic/line channels and 2 stereo returns
- Wide gain high performance front end to match all sources
- 4 EQ bands with 2 wide range mid sweeps
- 100Hz low-cut filter on all channels
- 6 Auxiliary sends with individual controls and pre/post switching
- Inserts on all channels and L-R mix
- Balanced XLR L-R outputs
- Unique AB output for extra pre or post stereo, mono or local monitor output
- Comprehensive monitoring with priority switching, auto PFL and unique stereo capability
- LR may be monitored pre or post fader
- Channel peak LEDs and 12 segment 3-colour LR monitor meters
- 100mm faders
- *QCC* quick rotating rack or desk system and tamperproof mode switches for easy configuration
- Transparent *MSP* sound path
- Rugged all metal construction



## WZ16:2 inputs

### MIC/LINE INPUTS 1-16

High-performance, versatile front end XLR and TRS jack balanced inputs are provided on every channel. Both connections are available to the switched 30dB pad for mic or line inputs (plugging in the jack overrides the XLR input).

No more hunting for adaptors, source-matching headaches disappear and you can sequence inputs through the mixer to follow the logic of the venue or session.

Phantom power at +48V is supplied to all XLR inputs when the global switch is selected, with an internal link option to disable individual channels if required – although most balanced sources not needing power will be unaffected if it is supplied. Low noise, low distortion preamps, effortlessly handle input levels calibrated from a delicate -60dBu to a thumping +10dBu.

Jack insert points (tip send, ring return, 0dBu line level) on every channel, after its preamp, give fast hook-up to compressors, gates, other dedicated fx and signal processing. Low-cut filters (100Hz) help rid the input of microphone stage or wind rumble, handling thumps and other low frequency noise that muddies the sound, robs your amps of power and tires the ear.

British 4-band EQ - par excellence! WZ16:2 has a quality and range of equalisation control you'd only expect in a top-priced mixer. Four 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:

|     |                      |
|-----|----------------------|
| HF  | 12kHz shelf          |
| MF1 | 500Hz to 15kHz sweep |
| MF2 | 35Hz to 1kHz sweep   |
| LF  | 60Hz shelf           |

All four bands give up to 15dB boost or cut, and have centre detents for transparent EQ lock-out.

### Comprehensive auxiliary send system

Comprehensive routing for mono and stereo fx processing and monitor mixes is at your fingertips from 6 auxiliary sends, each with its individual knob. Levels can receive up to +6dB boost for that little extra in the monitor or on the effects when you don't want to rebalance the whole mix. Auxes:

- 1 and 2 are routed pre-fader for cue and monitors;
  - 3 and 4 are switchable pre or post, for monitors, effects, or additional recording or zone feeds;
  - 5 and 6 are routed post fader for effects.
- The auxiliary sends are taken after the EQ circuits and after the ON switch. But if your sessions normally require a different setup, internal links for pre-fade auxes can be moved to give sends before EQ and/or before the ON switch.

### Perfect panning

Constant power control gives smooth panning between the L-R buss with dead-centre calibration.

### Channel ON

Press to turn the channel on. The pre and post aux sends are configured to follow the switch so that the monitors and effects are muted when the channel is off.

### Peak and PFL

This red warning led lights fully with any pre fade signal exceeding clipping level minus 5dB, warning you that channel input gain may need reducing. Selection of prefade listen for monitor checks and cues half-lights the led.

### Fader control

WZ16:2's 100mm travel, long life faders give you fine control over the mix with smooth operation and an available extra +10dB of boost.

### Direct outs

Direct output from each channel is available on buffered, impedance balanced TRS jacks. Taken post fade, at 0dBu line level, these signals are ideal for "set and forget" multitrack recording or special feeds.

### STEREO INPUTS ST1 AND ST2



The WZ16:2 stereo inputs give you no-nonsense control over sources like 2-track recorders and stereo effects returns. You'll easily handle instant live-recording replays, interval music from CD, AV or other sources, helped by the mixer's comprehensive monitor and cue circuits.

### Input

Separate L and R jacks, balanced input, are provided for each channel pair, giving flexibility and ease of use. If the channel's R jack is disconnected the signal is fed to both left and right for mono sources.

### Wide range levels

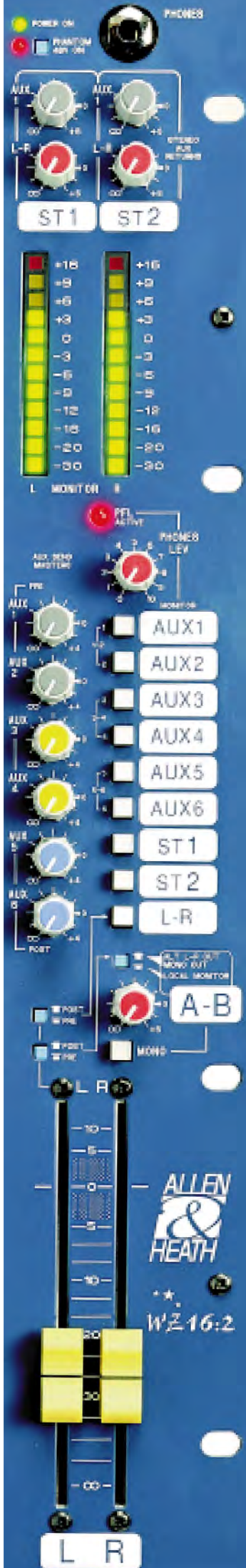
The stereo channels' high-quality, big headroom, input preamps are set for -10dBV nominal operation but may be adjusted from off to +6dB boost.

### Aux 1 send

The signal sum (L+R -6dB) can be sent to the aux 1 buss here, independent of the L-R level setting, so your effects or replay can be sent to the monitor.

### L-R Level

The stereo signal is fed to the L-R main buss through this control. Here's the mix level for stereo tape or CD replay, or the "wetness" setting for fx returns.



## WZ16:2 masters and monitors

### AUXILIARY MASTER SENDS

Each of the 6 auxiliary mixes is given its own master level control, with panel legends to remind you of the channel take-off pre/post fader positions.

Up to +4dB boost is available to send to the impedance-balanced output jacks (optionally balanced for +4dBu out).

### L-R INSERTS

Global insert jacks are provided for signal takeout/injection on the master L-R buss, post mix and pre-fade for graphic EQs and other signal processing.

### MONO AND STEREO AUX MONITORING

WZ16:2 has a unique monitoring configuration which lets you listen in the headphones to one aux alone, or to a related pair of auxes in stereo (for stereo monitors or recording feeds) - at the touch of a button. And you can route these monitor signals to the independent secondary A-B output too.

### 3-colour, 12 segment meters

The two led peak reading meters follow your selected monitor source. When a PFL (mono) source is chosen, both meters follow the level.

### PFL

A large red led lights to warn you if any channel PFL has been selected, since PFL overrides any other selected monitor source.

### Headphones

Monitor source signals are fed to the front panel stereo headphone jack via the independent 'phones lev' control.

### Monitor select switchbank

A bank of clearly identified switches gives you instant selection of monitor and meter source.

Fed post-master level, the aux signals may be selected individually for mono listening or in related pairs for stereo and balance checks. Stereo returns ST1 and ST2 are selected in stereo pairs.

L-R master output can be monitored pre or post masterfade, dependent on the position of its adjacent tamperproof underpanel mode switch. Pre-fade is useful when there are large level differences between PFL and post fade monitor levels (such as when using the L-R faders to ride room volume).

The tamperproof switch below this bank selects the source for WZ16:2's unique secondary A-B output. Choose to follow the local monitor settings or the L-R output.

### Easy overrides

The monitor source selection has its own priority system: auxes override stereo inputs override L-R. For example, you can listen to L-R, then press ST1 to check the 2-track recording. Releasing ST1 returns you to L-R. Or, if you normally listen to, say, ST1 to monitor the 2-track recording, you can press an aux to check an effect without having to release ST1.

Pressing a channel PFL overrides any selection.

### A-B OUT

WZ16:2's A-B secondary output is yet another innovation from the Allen & Heath engineers. It provides an independent stereo or monoed output, which can be fed from the L-R mix, pre or post fader, or from the selected monitor source. Having its own level control, independent of headphone level, the A-B output can feed a 2-track recorder, mono broadcast line, mono speaker fill, stereo studio monitors or engineer's mono wedge, secondary zone amp., stage or pit foldback, or any number of special applications. When the A-B underpanel mode switch is up, A-B output follows the pre or post fade L-R mix; switch down and A-B follows the monitor source selected on the bank above, interrupted by PFL. Set the level control. Push down the mono switch if you want a mono output. And that's it. Simple.

### QCC



WZ16:2 is the first to bring you Allen & Heath's unique quick-change connector system. The hinged connector panel can easily be swung and fixed to provide either underside or back i/o connections to this 10U size steel-cased mixer. Use it racked, on the desktop or in a flightcase.

### MSP

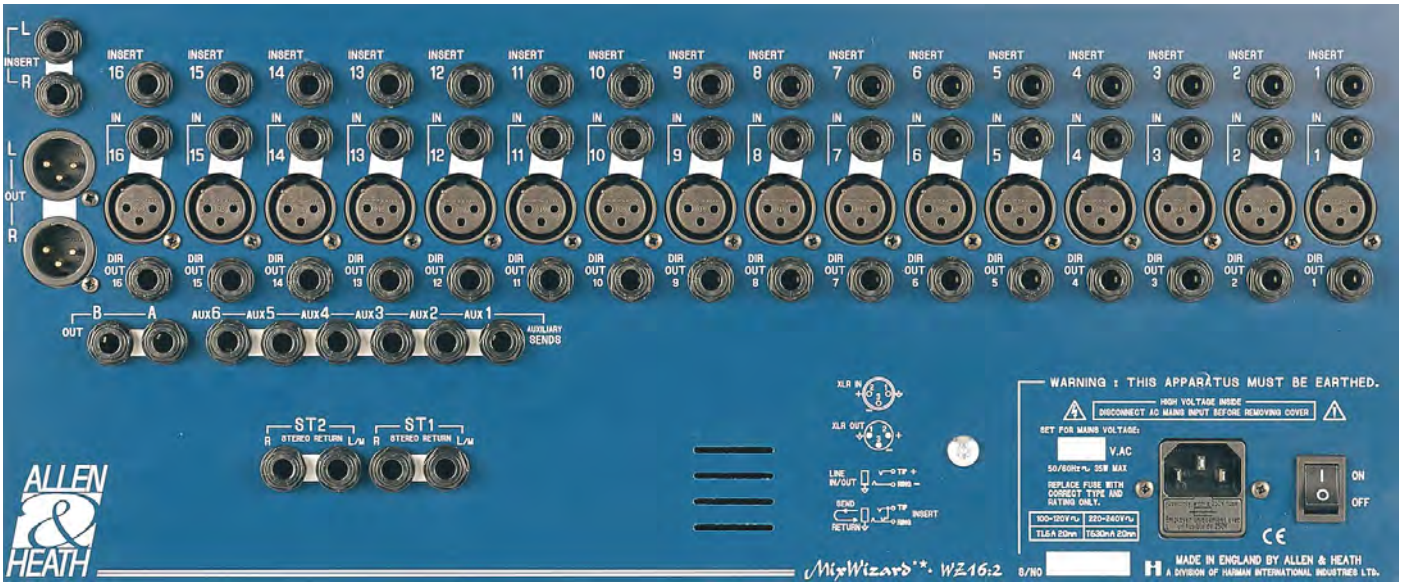


Any processing will inevitably change an original sound, even if it's imperceptible to the human ear - just sending a signal down a wire, or making a connection will have a minute influence.

In WZ16:2, top-end sound quality is achieved through the use of Allen & Heath's MSP (minimum signal path) electronic design, wide-band flat amplifiers, top-grade low noise components and solid grounding. Signal colour correction and enhancement is added only by you: 4-band EQ circuits with 2 wide sweeps and a low-cut optimum-Q filter on each channel.

## WZ16:2 connections and circuits

### CONNECTOR PANEL



Apart from the headphone jack on the front panel, all connections are made to the *QCC* panel which can be swung and fixed for rear or back orientation.

| INPUTS            | CONNECTOR       | IMPEDANCE  | LEVEL              |                   |                                      |
|-------------------|-----------------|--|--------------------|-------------------|--------------------------------------|
| Mono ch 1-16      | x16 XLR         | pin2 hot   | balanced           |                   |                                      |
|                   | x16 TRS jack    | tip hot  | balanced           |                   |                                      |
|                   | pad out         | 2k ohm   | -60 to -20dBu      |                   |                                      |
|                   | pad in          | >10k ohm   | -30 to +10dBu      |                   |                                      |
| Stereo ch ST1-2   | x4 TRS jack     | tip hot  | balanced           | >10k ohm          | -10dBV (+4dBu option)                |
| <b>Inserts</b>    |                 |  |                    |                   |                                      |
| Ch 1-16           | x16 TRS jack    | tip send, ring return  | unbalanced         | <75 ohm, >10k ohm | 0dBu                                 |
| L-R               | x2 TRS jack     | tip send, ring return  | unbalanced         | <75 ohm, >10k ohm | -2dBu                                |
| <b>Outputs</b>    |                 |  |                    |                   |                                      |
| Direct, ch 1-16   | x16 TRS jack    | tip hot  | impedance balanced | <75 ohm           | 0dBu                                 |
| Auxes 1-6         | x6 TRS jack     | tip hot  | impedance balanced | <75 ohm           | -2dBu (+4dBu bal. option)            |
| A-B               | x2 TRS jack     | tip hot  | impedance balanced | <75 ohm           | -2dBu (+4dBu bal. option)            |
| L-R               | x2 XLR          | pin 2 hot  | balanced           | <75 ohm           | +4dBu                                |
| Headphones        | x1 TRS Jack     | tip L, ring R  |                    |                   | 30 to 600 ohm headphones recommended |
| Mains power inlet | x1 Standard IEC | 3 pin L,N,E. IEC to moulded plug supplied (country-dependent), internally wired for required worldwide voltage |                    |                   |                                      |

## WZ16:2 specifications

0dBu = 0.775 Volts rms    0dBV = 1 Volt rms

### MAXIMUM OUTPUT LEVEL

L-R                    +27dBu into 600 ohm  
max load  
All other outputs    +21dBu into 2k ohm  
max load

### INTERNAL HEADROOM

Mix to output        +23dB  
Channels              +21dB

### PEAK LED

Turns on 5dB before  
clipping

### METERS

Peak reading 12 segment 3 colour led bargraph  
OVU = +4dBu at L-R output

### FREQUENCY RESPONSE

20Hz to 50kHz        +0/-1dB

### TOTAL HARMONIC DISTORTION

measured at +14dBu 1kHz  
Channel to mix out    < 0.008%

### CROSSTALK measured at 1kHz

Channel fader down    < -90dB  
Channel off              < -90dB

### NOISE measured rms 22Hz to 22kHz

Mic EIN referred to 150 ohm source    -128dB  
L-R residual output noise    < -90dBu (-94dB S/N)  
L-R faders unity mix noise    < -84dBu (-88dB S/N)

### MAINS POWER

Internal unit            100 to 240V AC @ 50/60Hz  
AC mains input        Internally wired to required  
country voltage

### Power

consumption            30W max  
Mains fuse rating  
100-120V AC use    T315mA 20mm  
220-240V AC use    T630mA 20mm

### MECHANICAL SPECIFICATIONS

|              | Width    | Height   | Depth |
|--------------|----------|----------|-------|
| Desk mounted | 483mm    | 195mm    | 530mm |
| Rack mounted | 483(19") | 444(10U) | 135   |
|              | Unpacked | Packed   |       |
| Weight       | 11kg     | 14kg     |       |



**ALLEN & HEATH**  
Kernick Industrial Estate, Penryn, Cornwall TR10 9LU.  
Tel: (+44) 01326 372070 Fax: (+44) 01326 377097  
<http://www.allen-heath.com>



The WZ16:2 complies with the  
European Directives for  
Electromagnetic Compatibility  
89/336/EEC & 92/31/EEC