

# Q

## THE Q SERIES

### Multipurpose 8 Bus Sound Mixing Consoles



16/24/32 and 40 input frames — 8 Sub-groups — Independent Stereo Mix — Separate Mono Output — Electronically Balanced Inputs and Outputs — 4 Band Equaliser and High Pass Filter Direct Output from each Input — 8 Auxiliary Buses — 8 Automute Groups (optional) — 48 Volt Phantom Power — PA or Matrix Output Modules — 3 Band EQ on Auxiliary Outputs — +26dBv Output Capability — VU or PPM's to order — Detachable Meter Bridge.

# DDA



## MODULE DESCRIPTIONS

### STANDARD INPUT MODULE

The choice of Mic or Line inputs is made by switching at the top of the module, with gain control for the Mic of 20-55dB, 48v phantom power and a 20dB pad. Phase Reverse operates on the selected input, and is followed by a high-pass filter with slope of 12dB/Octave at 100Hz.

Insert send and return signals are available on the connector panel, and each input is fitted with ground lift switching.

The EQ section consists of four frequency bands with a gain of  $\pm 15$ dB at 12kHz (HF), 470-15kHz (Hi-Mid), 70-2.4kHz (Lo-Mid), and 50Hz (LF). The eight auxiliary buses are arranged as four Auxiliary and four Foldback sends, with Auxes 1-4 switched in pairs across two level controls, with Pre/Post fader signal feed and ON feature.

If DIR is depressed, the Auxiliary 1 signal and level control are used to feed the channel direct output, ideal for use as a dedicated effects send or tape send, without having to tie up a whole group or bus for one input.

The four Foldback sends are switchable in pairs for Pre/Post and ON.

Individual switches route the signal to any or all of the audio sub-groups, and can also route the signal to MIX. The Pan adjusts the signal between left and right, and if switched in between odd and even groups.

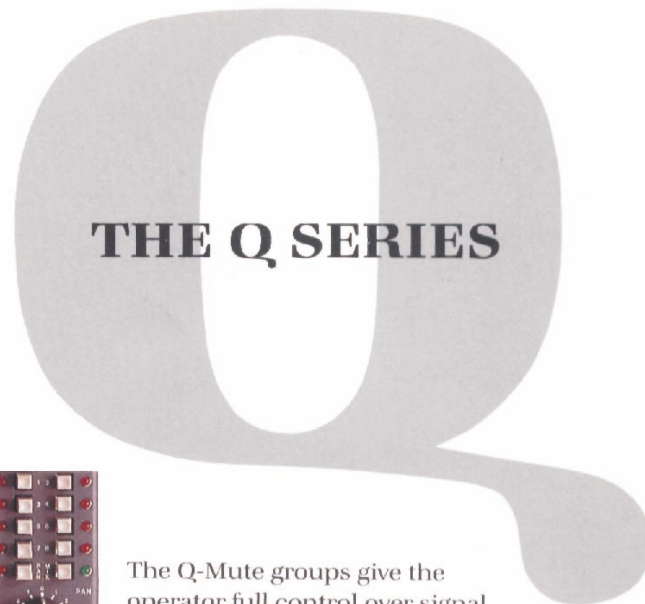
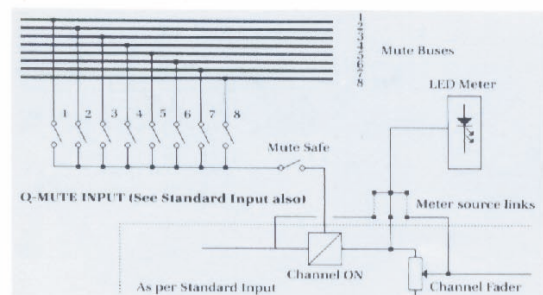
The Peak led warns of a high level signal within 4dB of clipping.

Solo switches the channel signal to the main monitor outputs and Stereo Meters, and Cut will mute all post fader signals, as well as pre-fader signals internally linked to be post-cut.

### Q-MUTE INPUT MODULE

This full feature module is essentially the same as the Standard Input, with the addition of 8 automute groups and an input meter. (refer to Standard Input description).

The 10 segment led ladder meter can be internally linked to give an indication of pre- or post-fader channel signal level, with a range of 18 to +9dbm. Three colours of led warn the operator of the signal level range.

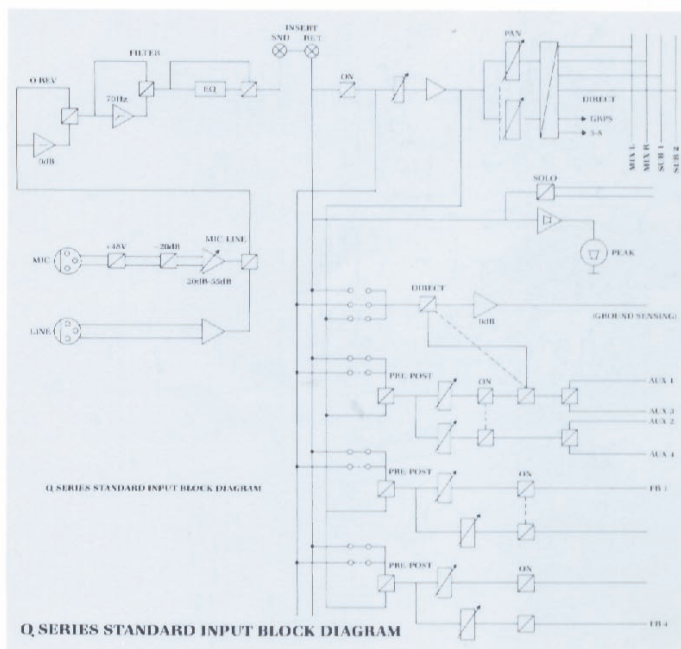


The Q-Mute groups give the operator full control over signal flow, with the capability of instant muting of a number of pre-selected channels simultaneously. This is particularly useful to mute choirs, effects processors, for scene changes or punch-ins with just one button push.

Eight buttons alongside the fader are used to assign that channel to any or all of the Q-Mute groups. Led's indicate to which mute groups the channel is selected.

The mute signal from the master (located on the Stereo Master module) also illuminates the LED in the channel CUT switch, which is larger than that on the standard module.

To prevent accidental muting of a channel without destroying mute group set-ups, a MUTE SAFE switch is incorporated.



**SOUND THINKING**



## MATRIX OUTPUT MODULE

The most popular and feature packed output module for the Q Series.

Each output module has master long-throw fader level control of the audio group output, with CUT and PFL facilities, and routing to Mix with Pan.

External signals may be directly injected onto the group mix bus, and insert send and return jacks are provided on the rear connector panel.

The 8 by 4 matrix section is fed from four level controls on each output module, with switching to permit the meters to show group or matrix output level, and a master level control for each matrix output.

A sophisticated Effects Return section is included on this module, with 3 band EQ (gain of  $\pm 15\text{dB}$  at 10kHz, 600-10kHz sweep, and 100Hz), and signal feeds to the four foldback buses.

Level and Pan controls feed the signal either to the stereo mix or to the groups, with Solo and Cut switching. If switched to groups, Returns 1 or 2 feed groups 1 and 2, returns 3 or 4 to groups 3 and 4 etc.

## OUTPUT MODULES



## PA OUTPUT MODULE

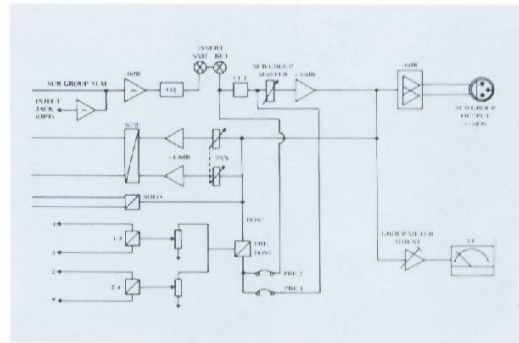
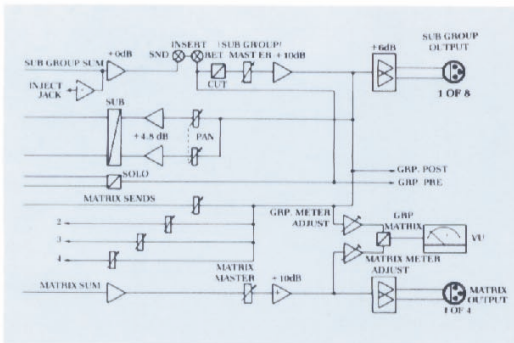
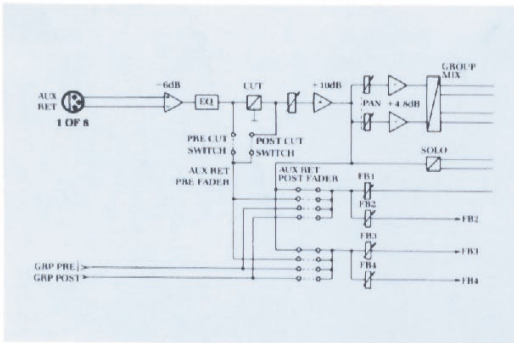
Ideally suited for PA applications, this module features two complete group output sections.

The signal from the group summing amplifier is fed via a 3 band EQ section with gain control of  $\pm 15\text{dB}$  at 10kHz (HF), 600-10kHz sweep (Hi-Mid), and 100Hz (LF).

It is then routed through CUT switching and the long-throw fader to the electronically balanced output. AFL allows the group output signal to be sent to the main monitors and stereo meters.

Routing of the output signal to the stereo mix with PAN is possible with the SUB switch, and the group signal is also fed to the Auxiliary buses 1/2 and 3/4 (switched). This signal feed is selectable Pre or Post fader.

*- aux 1 & 2 permanent*  
*- 2nd Master*  
*- 1st Master with pan cut etc.*



◁ PA Output

◁◁ Matrix Output



**SOUND THINKING**



## MONITOR CONSOLE

The Monitor version of the Q Series makes an ideal partner for the front-of-house models, providing a compact 10 bus mixer. Master level for each input is controlled by a long-throw fader, with 8 individual sends to the group outputs. The channel may also be routed to a stereo mix bus for use as sidefills. The Output module is the PA type as described on a separate sheet, giving three band equaliseable outputs.

The console also has four equaliseable auxiliary outputs fed from the groups, allowing group mixes to be fed out separately, and also four effects returns.

### MONITOR INPUT MODULE

Both Mic and Line inputs are electronically balanced and on XLR type connectors, with transformer balancing optional. The unbalanced insert sends and returns are on individual 1/4" jack sockets.

Mic/Line switching is followed by a Mic gain control of 20-55dB, 48V phantom power and a 20db pad. Phase reverse operates on the selected input, and is followed by a high pass filter with a 12dB/octave slope at 100Hz.

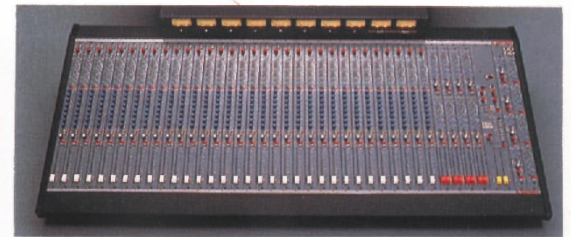
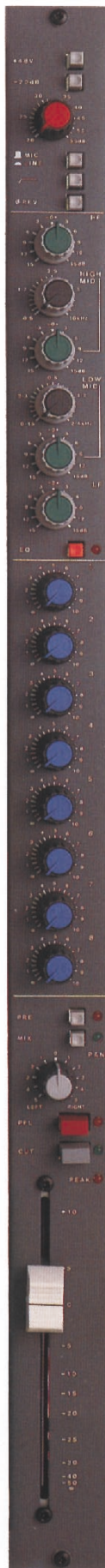
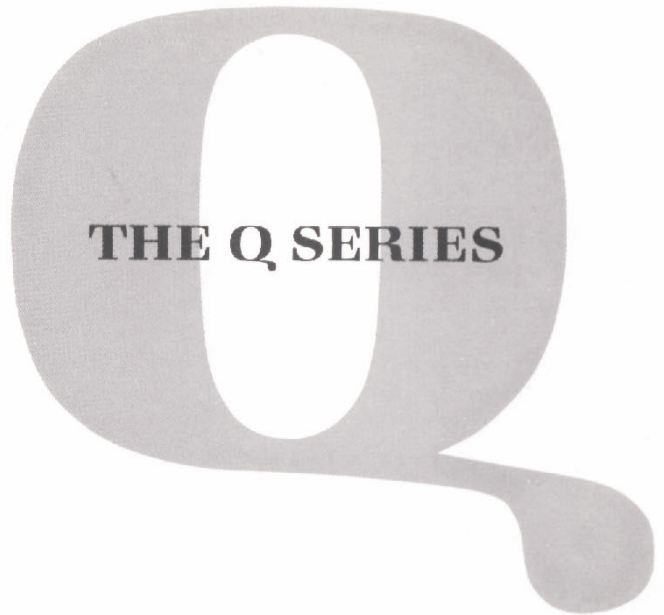
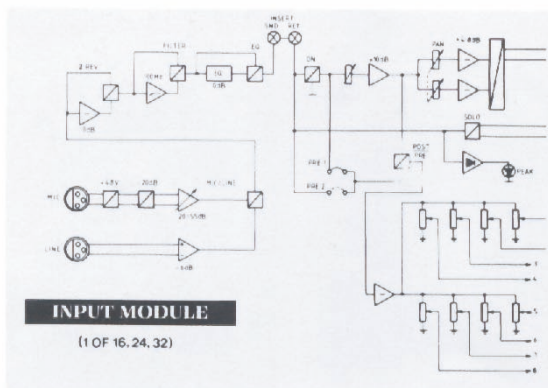
The equaliser is four band, with shelving LF and HF sections ( $\pm 15\text{dB}$  at 100Hz and 10kHz), and two sweep mids covering 150Hz-2.4kHz and 600Hz-10kHz,  $\pm 15\text{dB}$ .

The 8 monitor sends have individual controls for level, and the signal feed is front-panel switchable to be pre- or post-fader, with internal linking for pre- or post-cut.

Channel routing to the stereo bus is via MIX with PAN. The PEAK led warns of signals within 4dB of clipping.

PFL (solo) switches the channel signal to the main monitor outputs and stereo meters, and CUT will mute all post-fader signals, as well as pre-fader signals linked to be post-cut.

### ▽ Monitor Input Module block diagram



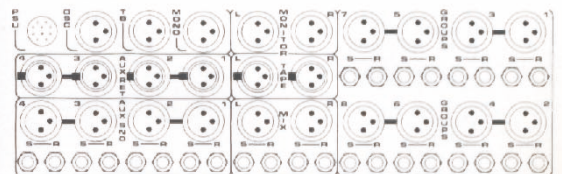
### OUTPUT MODULE

The Output Module is identical to the Q Series PA module described on a separate sheet.

### AUX OUTPUT/EFFECTS RETURN

An Aux master module (see main brochure) is fitted to provide equalised outputs for mixes derived from the group outputs and the four-input effects return module. These two modules may be used, for example, to set up additional mixes and feeds from a combination of group and external signals, such as a brass section mix feed to another part of the stage, keeping buses free. The effects return signals are automatically also routed to the stereo mix.

### ▽ Output Connectors





## STEREO INPUT MODULE

The Stereo Input module may be fitted anywhere in the input section of a Q Series (or S Series PA) console, the two line inputs (left and right) connecting into the existing XLR connectors used for Mic and Line. This means that the module may be factory-fitted or field retro-fitted with no special modifications. Insert points are provided for, and may be wired to an EDAC for example. Screened label overlays are provided for re-designation of the connectors.

Versions are available with or without the 8 mute groups (standard version shown) and should be specified on order.

### FEATURES

The input to the module is line level, at nominal +4dBm. Phase reverse switches are provided for both Left and Right channels independently, and the signal through the module can be switched from stereo, Left only, Right only, to Mono.

The input gain is adjustable by  $\pm 20$ dB, which allows connection of domestic type equipment with -10dBV outputs such as CD players and cassette machines, without gain modification. A balance control follows this input, which becomes a PAN when the signal is a mono feed.

The Stereo Width control, when switched in, can vary the stereo image from normal, through mono to reversed stereo.

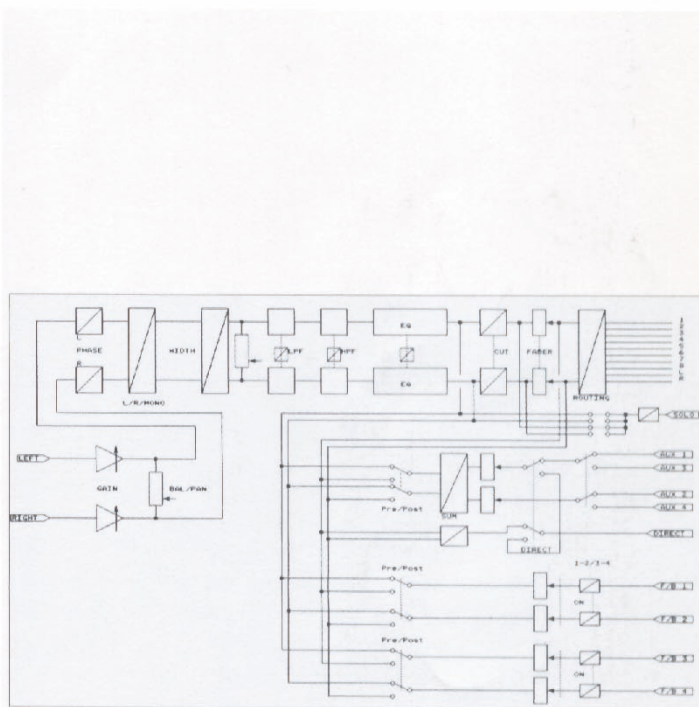
Two filters precede the EQ section, and can be switched in and out independently. Frequencies are selectable between 60Hz and 100Hz for the high pass, the low pass between 10kHz and 15kHz. Both filter In/Out switches have led indication.

The EQ is three band, with shelving LF and HF sections at 500Hz and 5kHz with variable gain of  $\pm 15$ dB. The MID is a sweep section, variable between 250Hz and 7kHz,  $\pm 15$ dB. The EQ In/Out switch has led indication.

Auxes 1-4 are two stereo sends (1/2 and 3/4), with independent pre/post and on/off switching.

Routing is to sub-groups or mix in pairs, i.e. 1-2, 3-4, 5-6, 7-8, and L-R. Peak led, solo (AFL) and CUT switches complete the module.

The Module may also be used with the S Series PA, but in this situation, only 4 groups are accessible for routing, of course, and there is no direct output available.



△ Stereo Input Module block diagram





Aux/Foldback Master Module

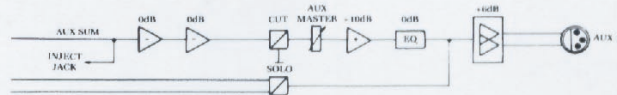


Effects Return Module

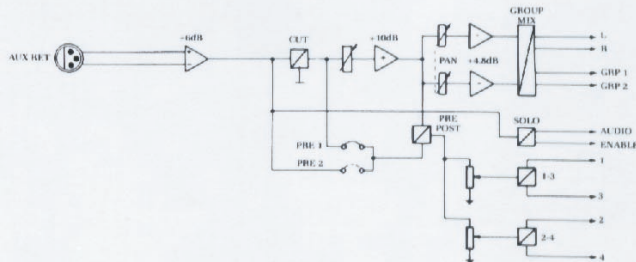


Master Module

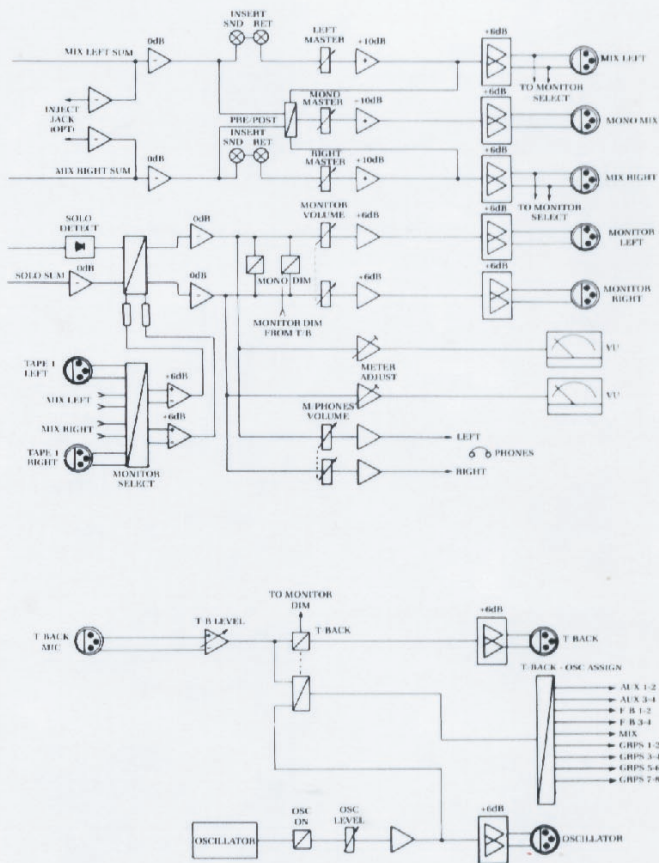
### AUXILIARY MASTER (1 OF 4)



### EFFECTS RETURN (1 OF 4)



### MASTER MODULE



Q Series consoles can be configured in combinations of input and output modules according to your application; eg Standard Inputs/PA Outputs, or Q-MUTE Inputs/Matrix Outputs.

## SOUND THINKING

### Total Mixing Flexibility

No matter what your mixing requirements, you never seem to get all the features you want out of a console without having access to a large budget. Times have changed, however.

The Q Series is the first console to bring total mixing flexibility at a reasonable price. In such a relatively small surface area, the Q Series offers 8 audio sub-groups, 8 auxiliary buses, 4 band EQ, controllable direct outputs from each channel, 8 effects returns, and a matrix section.

Yet there has been no compromise in performance to achieve these facilities. The Q Series follows in DDA's great tradition of outstanding audio quality, with noise, distortion and crosstalk figures close to the theoretical minimum.

### All Applications

Sound Reinforcement, location recording, Studio Recording, Broadcast, Video production. Each can be served by a Q Series mixer.

The overall architecture of the console is designed to be as flexible as the engineer needs. Signal routing and control features are simple to use, and signal path reconfiguration can be adjusted quickly and easily.

Further flexibility is offered with the option of 8 Automute groups for rapid scene changes, or mass muting.

One of the unique features of the Q Series is the direct output. Under normal conditions this is a fixed level send from the channel. Press "DIR" however, and it becomes adjustable from the AUX 1 level control, making it ideal for use as a dedicated effects send, or send to a multitrack machine, retaining the ability to use the 8 audio sub-groups and 8 auxiliary buses as normal. Both simple and very complex mixes are easily achieved.

All main switch functions have led tallies, for easy identification under low-light conditions, and the frame features a detachable meter bridge for unobstructed viewing or slimline flightcase construction.

### Modules and Configurations

Based around a standard Stereo master section, there are different input and output modules to exactly fit your requirements, covering PA, Theatre sound, Recording etc. These modules are detailed on separate sheets.

The Stereo Master has facilities for Talkback, and an internal oscillator, either of which can be routed to groups and auxiliaries.

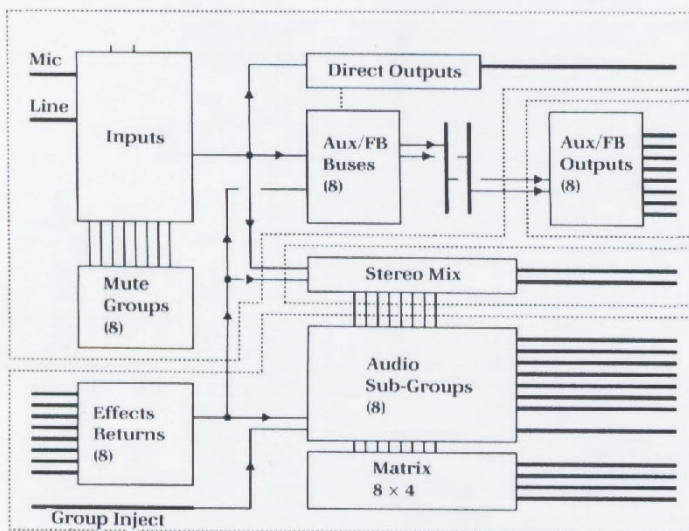
A headphone output with level control is provided, and a mono mix, derived from the sum of the Stereo Left and Right is available on the rear connector panel.

The main monitoring, of Mix or stereo return, is switchable to mono for compatibility checks.

The master Auxiliary and Foldback outputs are routed through the respective master modules, each bus having 3 band EQ ( $\pm 15$ db of gain at 10kHz, 600-10kHz sweep, and 100Hz) level, solo and cut facilities.

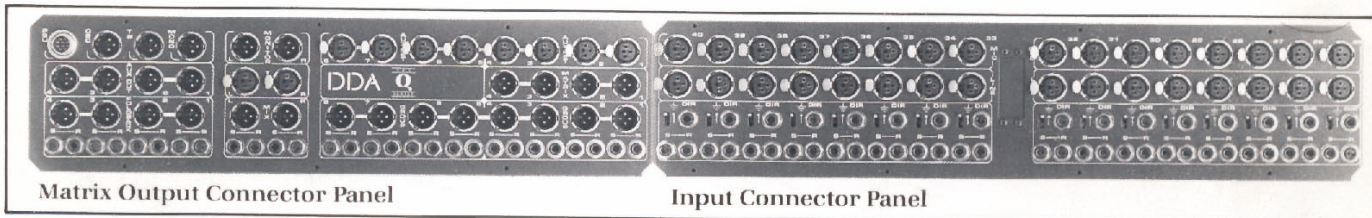
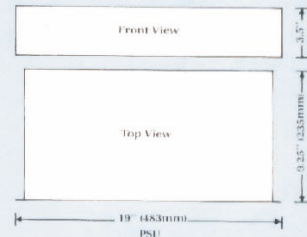
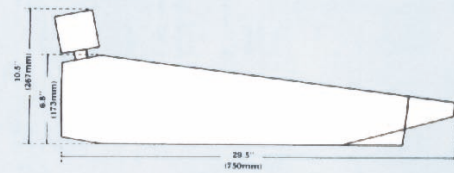
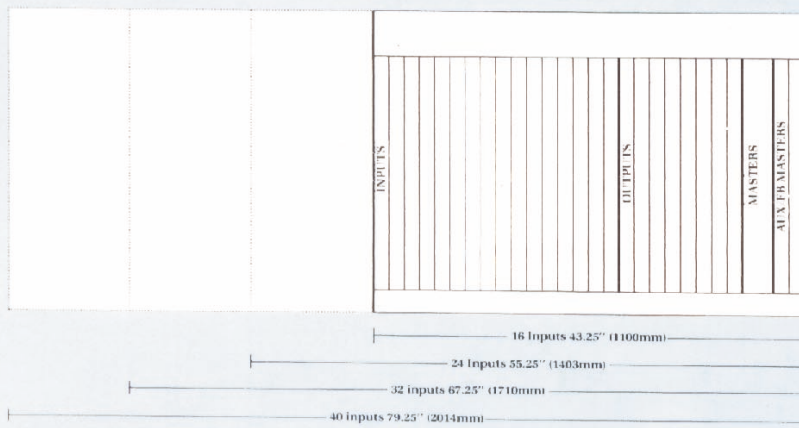
An optional Effects Return module can be fitted where space permits. Each module has four return sections, with level, pan and routing to Auxiliaries 1-4.

Configuration of a Q-Mute Console with Matrix Outputs





## Frame Configurations



## Technical Specifications

### Input impedance

Microphone >2kOhm  
 Line >10kOhm

### Gain

Microphone (Channel input to Mix output) 65dB  
 Line (Channel input to Mix output) 10dB

### Frequency response

Mic. to Mix (Gain = 55dB)  
 20Hz -0.75dB  
 20kHz -0.25dB  
 Line to Mix (Gain = 0dB)  
 20Hz -0.75dB  
 20kHz -0.25dB

### Noise (DIN Audio)

Microphone (Gain = 55dB, EIN ref. 200 Ohm) <-127dBv  
 Line (Gain = 0dB, 16 Inputs) <-84dBv

### Distortion

Microphone (-50dBv input, +4dBv output) <0.05%  
 Line (+4dBv input, +4dBv output) <0.05%

### Output impedance

All outputs (Electronically balanced) <75Ohm

### Output capability

All outputs (to balanced input) +26dBv

### Crosstalk

Adjacent channel 1kHz -90dB  
 Group to mix 1kHz -80dB

N.B. 0dBv = 0.775 Volt

DDA reserve the right to alter the design and specification of its products without prior notice.



**DDA**

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**SOUND THINKING**

Unit 1, Inwood Business Park,  
 Whitton Road, Hounslow,  
 Middlesex, TW3 2EB,  
 United Kingdom.

Telephone: (0)81-570 7161  
 Fax: (0)81-577 3677

Klark-Teknik Electronics Inc.,  
 200 Sea Lane,  
 Farmingdale,  
 NY 11735.

Telephone: (516) 249-3660  
 Fax: (516) 420-1863

Klark-Teknik Singapore PTE,  
 75002 Beach Road,  
 05/305/6 The Plaza,  
 Singapore, 0719

Telephone: 293 9736  
 Fax: 293 9738

The Queens Award for Export 1986 to Klark-Teknik 1987 & 1988 to Dearden Davies Associates