46/50 Four Zone Integrated Amplifier

Cloud

When a one stop solution is required for many differing venues, look no further than the versatile and powerful Cloud 46/50 for the answer.

Power and control are normally separate functions within a venue sound system, but now, with the Cloud 46/50, they have been fully integrated into a single compact unit. The 46/50 offers simple, direct connection of up to two microphones and six music sources which can be mixed and fed to four different output zones in any combination, with up to 50 Watts (@ 4 Ohms) of crisp, clean audio power available for each zone.

A large range of accessories and options are available for the 46/50 which greatly extend the flexibility of this unit. These include Cloud speaker EQ modules for use with Bose® speakers, the ability to accept active modules AE-1, DM-1 and LM-1, a dedicated four zone paging mic with pre-announcement chime

(CPM-4), and direct connection of user-friendly remote controls for music level (via RL-1) or of both music and source selection (via RSL-6). For use in line distribution systems, an internally housed 100V (or 70V) four channel line transformer module CXL-4160 is available. As well as several installer pre-set options, the 46/50 also offers tamperproof music equalisation on all four zones, voice operated priority over music and fire alarm music mute when interfaced with an alarm system. For installer convenience, although the unit operates in mono, all line inputs are via stereo RCA type phono connectors, with mono mixing of signals taking place internally.

Because it is a Cloud, the 46/50 is built to the highest professional standards for exemplary audio quality and long life.

Applications

Key applications for this versatile and powerful unit are seen as:

- *Simplified operation of background/foreground music systems in pubs with general announcement requirements and extra mic applications such as quiz nights, poetry readings, impromptu speeches etc.*

- *Retail premises using background music, typically split into separate areas such as, sales floor, warehouse, loading bay and offices, accessed using the CPM-4 paging microphone.*

- *Restaurants, requiring music play in both eating area and bar announcements in bar only.*

- *Small to medium sized hotels with 4-zone paging mic and one other mic in conference or banqueting suite.*

- *Leisure centres of all types.*

Line Inputs

The 46/50 has six line level inputs; for installer convenience, stereo inputs are provided and the left and right signals are summed internally to form a mono signal. The line inputs are suitable for a wide variety of music signal sources such as CD players, tuners, cassette players etc. Connection is by way of RCA phono sockets on the rear panel and the gain of each input can be optimised by the rear panel preset controls.

Microphone Inputs

Two mic inputs are provided on the 46/50; these have electronically balanced, low noise circuitry and connection is by way of 3 pole plug in screw terminals. Each input is suitable for microphones with an impedance in the range of 200 to 600 ohms. A pre-set gain control is provided adjacent to the respective input connector.

Both microphone inputs can provide phantom power; this is selected by means of internal jumpers. Each of the four zones has two front panel mounted mic level controls; this allows the two microphone channels to be routed to any zone at the optimum level or not at all. The microphone signals are autonomous and are not controlled by the remote control facilities. Mic 1 has priority over Mic 2 and all the microphone signals have priority over the music signals; when a mic signal is detected, the music signal will be reduced by 30dB, smoothly restoring to it's previous level when the announcement ceases.

Microphone Equalisation

Pre-set treble and bass controls are provided for both Mic 1 and Mic 2 and these are located on the rear panel, adjacent to the input socket and gain control. The equalisation is optimised for vocal use and a high pass filter operates at 100Hz; this reduces handling noises and breath blasts to a minimum and therefore improves intelligibility.

Paging Microphones

The CPM-4 four zone paging microphone is available as an accessory and features a pre-announcement chime which can be enabled or disabled as required. The logic controlled zone switching routes the signal to any combination of the four zones and a concealed switch allows the zone selection to be retained or automatically reset; a 'call all' facility is also provided for instant announcements in all four zones. A small internal chime sounder can be enabled for installations where the CPM-4 is located in a position where the pre-announcement chime cannot be heard through the PA system. The CPM-4 is connected to the 46/50 via the Mic 1 input for audio and a plug in screw terminal block for the zone access.

Facility Input

Zone 1 has a facility port; this is intended to extend the capabilities of the zone by allowing the connection of a remotely located active control device such as the AE-1, DM-1 & LM-1; the facility port can also be used as a means to directly inject a signal into the zone via a line level balanced input. The AE-1 has inputs for a microphone plus a line input for a stereo music source. A level control is provided for each input and the AE-1 has the facility to mute the music source from the venue mixer.
The AE-1 is optimised for applications such as aerobic instruction.

The DM-1 is a two input microphone module which can be used in multiples when wired in a 'daisy chain' format; tamperproof HF & LF controls are provided. The LM-1 has a line input, a balanced mic input and remote control of the mixer's music source and level (a built-in RSL-6).

Zone Controls

Each of the four zones has the following user controls:

Music source

The rotary 6 position switch is used to select the desired music. On Zone 1, line 6 can be switched to have priority over any other selected source.

Music level

This control adjusts the level of the selected music source.

Mic level controls

These provide independent level control of the two mics in each zone; each of the four zones has two front panel mounted mic level controls. The level of the microphone signals is not affected by the remote control facilities. Microphone 1 has priority over microphone 2 and in addition, a microphone signal present on any of the four zones will have priority over any music signal present on the same zone.

Remote Source/Level Control

The music program selection and music level of each zone can be controlled remotely if required by connecting up to four RSL-6 remote source/level control plates. Configuration switches on the rear panel allow any of the four zones to operate with local control or remote control. If appropriate, internal jumpers can be set to split the functions to allow, for example, control of the source via the front panel with the level controlled remotely using the RL-1 remote level control. When using the remote control function, the front panel mounted music level control is defeated. The music treble and bass controls for each of the four zones are concealed behind a front panel mounted tamperproof cover; once the cover has been removed, the pre-set controls can be optimised for each of the four zones. The equalization characteristics are optimised for music signals.

Remote Music Mute

A facility to remotely mute the music signals is provided and can be used to comply with Local Authority or Fire Service requirements. A rear panel mounted 2 pole connector can interface with a fire alarm control panel and when an alarm condition exists, the music signals will mute, leaving the microphone circuits unaffected which can be used for evacuation announcements.

Outputs

The 46/50 features four rugged 50 watt fan cooled power amplifiers which can deliver their full rated output for long periods without problems. Each power amplifier section has extensive protection facilities: thermal protection, switch on delay, DC protection, dynamic clip limiting, short circuit and adverse load protection. Low impedance speaker outputs are terminated on the rear panel by plug in screw terminals which accept cables of up to 2.5mm². For 100V or 70V line installations and distributed sound systems, the CXL-4160 four channel transformer module is available, in both 100V and 70V versions; this module is mounted within the chassis of the 46/50 and output termination is by way of a shrouded screw connector strip. For the protection of the transformers and speakers in the line distribution system, 65Hz high pass filters are provided for each output.

*46/50 with
security
cover removed*
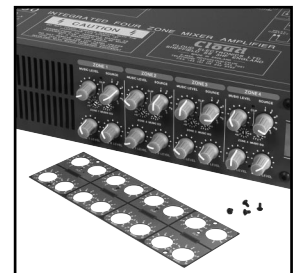
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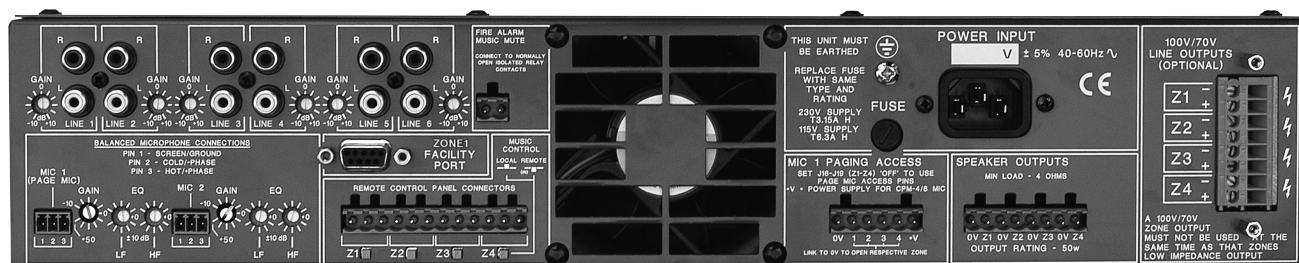
Line Inputs

Frequency response	20Hz-20kHz ±0.5dB
Distortion	<0.05% 20Hz -20kHz
Sensitivity	195mV (-12dBu) to 2.0V (+8dBu)
Input impedance	47kΩ
Input gain control	20dB range
Headroom	>20dB
Noise	-90dB A weighted (0dB gain)
Equalisation	HF ±10dB/10kHz
	LF ±10dB/50Hz

Microphone Inputs

Frequency response	100Hz/-3dB (filter) 20kHz ±0.5dB
Distortion	<0.05% 20Hz-20kHz
Gain range	10dB-50dB
Input impedance	>2kΩ (balanced)
Common mode rejection	>70dB 1kHz typical
Headroom	>20dB
Noise	-126dB EIN 22Hz-22kHz (150Ω)
Equalisation	HF ±10dB/5kHz
	LF ±10dB/100Hz

Outputs

Speaker outputs	50watts rms/4Ω 35watts rms/8Ω via phoenix type connector
100V line output	100volts balanced – 250Ω min load (optional module)
70V line output	70volts balanced – 125Ω min load (optional module)
Protection	Dynamic clip limiting, DC offset, Thermal & switch-on delay
Cooling	Variable speed DC fan

Facility Input

Input impedance	10kΩ (balanced) pin 3(+) pin 4(-)
Sensitivity	0dBu – 775mV
Noise gate	Ground pin 5 to open

General Specifications

Power input	230V ±5% (115V ±5% available)
Fuse rating	230V – T3.15A 115V – T6.3A
Fuse type	20mm x 5mm class 3T 250V
Dimensions	482.6mm x 88.0mm (2U) x 320.3mm deep (+con)
Weight	6.15kg net

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