

sound evolution

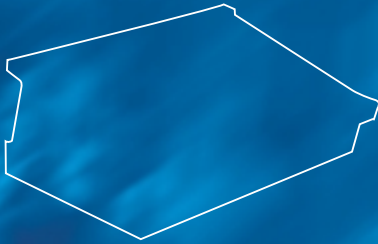
C type

5.1 C-TYPE
LOCATION
RECORDING
CONSOLE



cadac

CLASSIC RECORDING

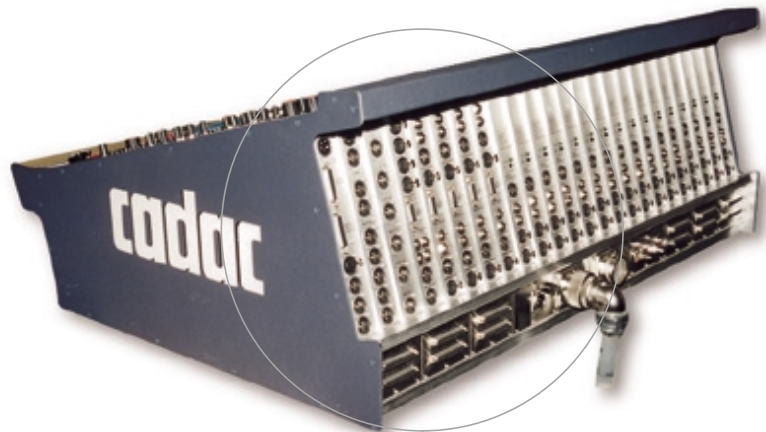


The 5.1 C-Type Location Recording Console is the first Cadac recording console to go into production in 21 years. Throughout the late 1960s and 1970s, the Cadac name represented a pioneering force in the recording industry. Its consoles were used by the world's top artists - producing legendary recordings, such as Queen's Bohemian Rhapsody and Rod Stewart's Maggie May. The Cadac combination of innovative engineering and superb audio quality became a legend in its own right, with many of the original 70s desks remaining highly sought after some 30 years on.

The 5.1 C-Type has been designed to provide the ultimate combination of analogue quality and high end location recording performance, within a compact and portable frame. It includes extensive facilities specifically for surround sound recording and monitoring up to 5.1, and is available in standard frame sizes with 12, 16 or 24 input channels, together with up to 8 main output groups, plus a dedicated stereo group. Users of M-S microphone techniques are also catered for, with each channel incorporating "Right Group Only" phase reversal. The C-Type channels can accommodate microphone and line inputs, and include a three-band EQ with HP filter.

The console incorporates extremely comprehensive panning facilities, enabling a wide variety of options to be selected. For example, when selecting surround in place of stereo, the normal Left-Right pan control is switched to operate in Left-Centre-Right mode. When 5.1 surround format is selected, the Front-Back pan control becomes operative, together with a separate level control for the subwoofer. Solo-in-place monitoring operates in any of the panning formats selected, including 5.1.

The Cadac 5.1 C-Type console maintains the company's tradition for combining the highest audio quality with a robust yet versatile, innovative design - responding to the classical recording engineer's demand for the purest achievable signal path. The C-Type combines this with the sophisticated facilities demanded for 2.0, 4.0 and 5.1 surround sound recording and monitoring.



The C-Type emphasises Cadac's quality approach, rivalling many full-sized studio consoles with its facilities and performance. Particular attention has been paid to the output metering, which is both accurate and fast responding. Additionally, the recording engineer's preferred external metering can be connected to all recording outputs and tape returns, giving the user a flexible set of options. Noise, distortion and low frequency phase shift have been kept to a minimum at all stages - for example, the console provides an audio path devoid of VCAs, and the mixing amplifiers have been designed so that with ALL input channels routed to one group, the phase shift at 20Hz is less than 1°.

COMPREHENSIVE FACILITIES

The console's input section is easily expandable, with buss extension connectors allowing additional channel frames to be added at any time - in line with Cadac's modular frame concept. The main outputs may be used as sub-groups, with each capable of being panned to the stereo mixing busses. Extensive communications provide independent talkback facilities for the producer, musical director and the engineer.

FLEXIBLE MONITORING

The console's comprehensive monitoring caters for 2.0, 4.0 and 5.1 surround sound. Level trims are available for each of the 6 outputs, together with individual muting and phase reversal switches. A highly unusual feature is the ability to listen to SOLO in 5.1, and at the same time, blend in the remaining programme to the channel(s) being SOLOed. Both the stereo programme and 5.1 mix can be listened to respectively in mono. An additional feature is the provision of an accurately matched 6-section volume control for the loudspeaker outputs.

CADAC AUDIO QUALITY

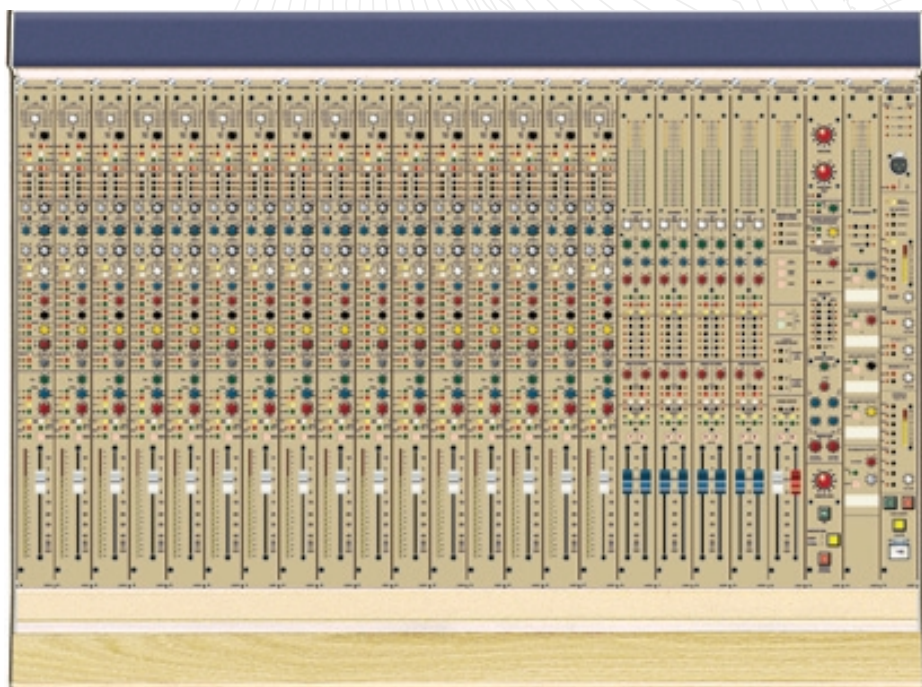
All inputs and outputs are electronically balanced, with adjustment for both high and low frequency input common mode rejection and output impedance balance. All outputs are capable of delivering up to +28dBu into 1kΩ. In addition, all mixing busses are fully balanced - further enhancing the common mode rejection figure and providing an improvement in noise figure of 6dB compared with traditional unbalanced and pseudo-balanced busses. A high overload point of +22dBu is maintained throughout the input channel.

In its quest for the purest audio quality, the C-Type design team has also avoided placing any polarised electrolytic capacitors in the signal path - all inter-stage coupling uses high quality non-polarised types with extremely low leakage.

Cadac's specially developed Switch Mode power supplies are designed to maintain the exceptional audio integrity, providing output noise performance equivalent to a high quality linear power supply. The console can be powered by two separate PSUs, in redundant configuration, both functioning at the same time.



ING PERFORMANCE

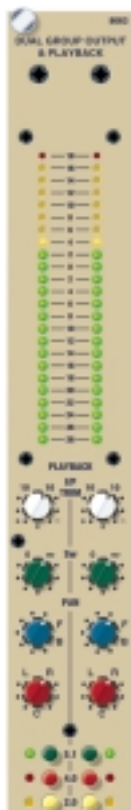


THE GROUP OUTPUTS

The Group output module comprises two parts ~ the Group output and the Returns.

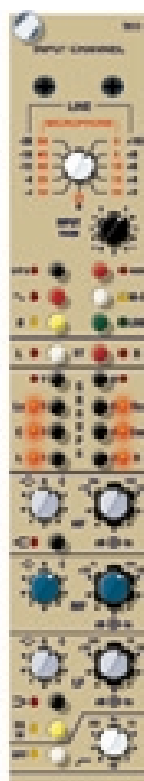
GROUP OUTPUT

- Each group module has two output groups with identical facilities.
- The main outputs may be used as sub groups; each can be assigned to either the left or right stereo mixing busses.
- Independent PAN of Left and Right signal to L and/or R mix busses.
- Insert point, can be selected Pre-fader.



THE INPUT CHANNEL

- Microphone and line inputs, with a stepped gain control calibrated in dB with trim.
- Three band EQ with HP filter
- Four mono auxiliary sends and a stereo foldback.
- Direct output - with dedicated level control.
- Routing to 8 groups plus a separate stereo mix.
- Solo-in-place for all of the panning formats selected, including 5.1.
- An LED meter spanning 57dB is positioned beside the channel fader and shows the pre-fader signal level.



RETURNS

- Independent routing to all surround monitor speakers.
- Panning assignment for 2.0 (stereo), 4.0 (surround) and 5.1 (surround, centre and sub-woofer)

THE STEREO GROUP OUTPUT

- Insert point can be selected Pre-fader
- User selectable inputs to meters
- Input select for playback
- M-S safety check

THE AUXILIARY GROUP OUTPUT

- 4 mono groups with independent controls for output level and PFL for each output.
- Foldback output with pan and SOLO
- Independent meter select for each output

THE MONITORING

- Fully variable SOLO level
- Fully variable BLEND into SOLO
- Full control over each surround monitor speaker
- Independent user controlled levels for both DIM and RTB dim
- 5.1, 4.0 and 2.0 formats can each be switched to MONO
- Headphone monitor output selectable to Stereo output, PFL or RTB
- External loudspeaker for PFL and RTB
- Monitor select from GROUP or STEREO
- Playback monitor for all tape returns



THE COMMUNICATIONS

- Full power supply monitoring
- Provision for integral TB microphone
- Tone and Pink Noise Generator for line up of channels and surround monitor speakers
- Comprehensive, and independent, Talk Back for Producer, Music Director and spare (TB2)
- Console TB routing to all Aux. Groups, Studio, TB1, TB2 and MD
- Cue light control
- Slate marker for 'audio ident' on a record track

THE 5.1 C-TYPE IN THE FIELD



The 5.1 C-Type is Cadac's first recording console design for over 21 years, joining its comprehensive line-up of proven consoles for sound reinforcement and monitoring applications.



BROADCASTING WITH AUGSBURG RADIO+TELE.1

A private broadcaster, Augsburg Radio+Tele.1 transmits across two frequencies throughout Bavaria. In addition, it operates a 300 sq. metre TV studio to service a number of public and private TV companies,



including BR, WDR and SAT.1. The two 16-input 5.1 C-Types were chosen for their ability to handle 5.1 surround sound, in line with the 16:9 TV production format. Harald Dalm, technical manager at Radio+Tele.1

commented that *"the analogue Cadac C-Types are the best possible extension of our multi-channel digital audio workstations."*

RECORDING THE SWEDISH CHAMBER ORCHESTRA

This Hyperion Record project involved recording the Swedish Chamber Orchestra with double bass soloist Chi Chi Nwanoku on location in Orebro, Sweden. Engineered by Ken Blair of BMP, the recording was conducted by Paul Goodwin during a 5-day recording session, with the album produced by Martin Compton. The mid range 16-input 5.1 C-Type was used principally for the stereo recording, with Ken Blair using the



C-Type's independent direct outputs to send to 16 tracks of multi-track, mixing this back through the desk on his return to the UK. *"You know you are working with a serious mixing console with the*

C-Type - from the moment you plug up the military-spec circular bayonet connectors! My immediate impression was that the audio quality is superb - it is quiet and clear, combined with a robust feel to the whole console. You have access to a wide, flexible range of routing, communications and playback features, which make the task of running such sessions considerably easier, with no need for any special monitor switching systems when working in surround.

The desk has a comprehensive range of the usual features, together with some not so usual ones - it is clear that they have done a lot of research to find out what engineers in the field actually want to do with such a console.

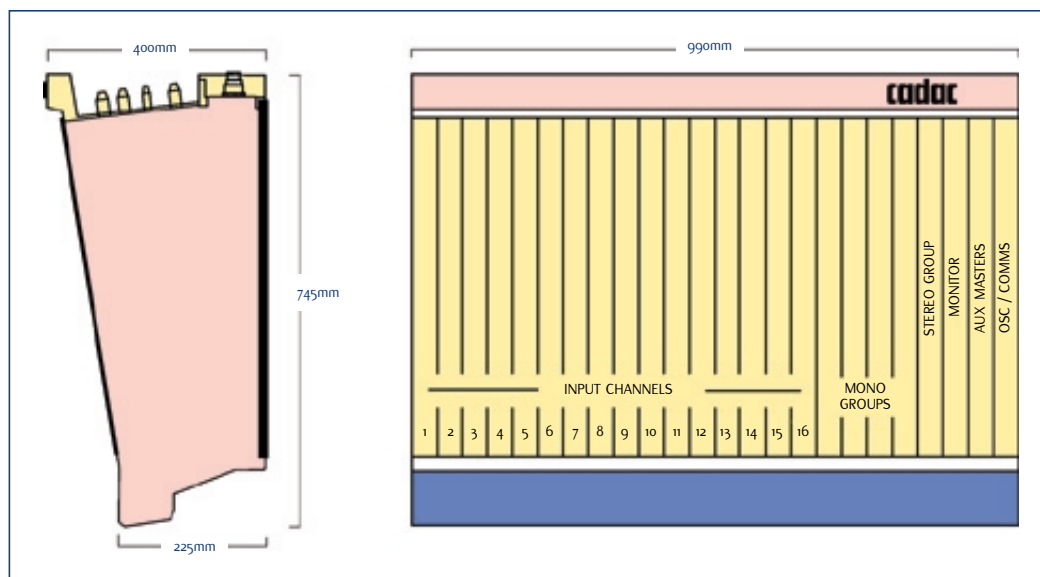
A very impressive result."

THE GLOBAL SOUND OF CADAC

The Cadac name has been synonymous with top quality sound mixing consoles since 1968 - from its earliest designs for recording studios and broadcast applications, through to the latest sound reinforcement consoles. Design, manufacture and test are all conducted at the company's comprehensive facilities in Luton, Bedfordshire, UK, which are equipped with

the latest CAD design equipment and state of the art test equipment. Close attention is paid to issues of EMC compliance, with Cadac operating its own comprehensively-equipped EMC test chamber. In the field, a global network of Cadac dealers provides fast access to local technical expertise, complemented by Cadac's responsive help line service.

GENERAL SPECIFICATION



OVERALL LENGTH OF A 12-INPUT CONSOLE IS 827MM

OVERALL LENGTH OF A 16-INPUT CONSOLE IS 990MM

OVERALL LENGTH OF A 24-INPUT CONSOLE IS 1315MM

FRAME

The C-Type is constructed from extruded aluminium bearers, fixed to 7mm two-part aluminium end profiles. This allows multiple frames to be positioned so that modules are almost adjacent.

Internal audio bussing is balanced and uses ribbon cables, with 'floating' connectors fitted on to steel cradles. All power bussing is rated at 40A per rail. Frame-mounted inputs include diode-mixed power inlets, earth points and headphone XLRs, as well as optional bus expansion connectors. The frames are designed to incorporate multiple cooling fans with a 5-speed control. Frame size may be specified from 14 to 40 modules wide.

MODULES

The C-Type module's design features a motherboard, with plug-in daughter boards for all audio and control functions. This ensures servicing simplicity and fast replacement of any faulty component. Each module may be plugged into any

position in the console frame, by means of a top quality two-part connector system, which is designed as a mating pair to provide excellent mechanical and electrical reliability. A rail system is used to guide each module into its correct position. The console design allows modules to be removed or inserted without powering down.

CONNECTORS

Audio connections will be determined by the user's specification and whether a patchbay is required. XLR type connectors are standard for all inputs and outputs. 1/4" jack sockets are used for insert sends and returns.

POWER SUPPLIES

Each C-Type console requires the following:

- ±18v for the audio electronics
- +13v for LEDs, relays and logic circuits
- +48v for phantom powering of microphones

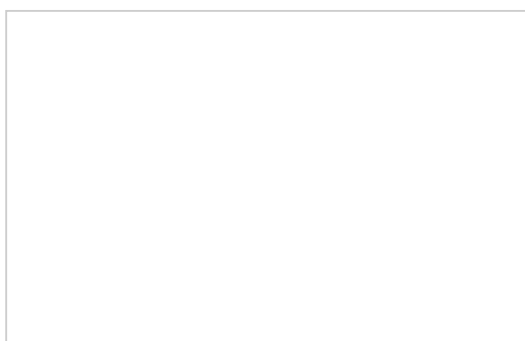
The power supplies are suitable for rack-mounting or flight cases, and are connected via a heavy duty, shielded multicore cable with military circular bayonet connectors at each end. Each console may be powered by two independent power supply systems, operating simultaneously.

FINISH

All Cadac front panels are machined from custom-designed 3mm aluminium extrusion, which is stove enamelled, silk-screened and lacquered. The silk-screened legend is designed to withstand arduous operating conditions. Custom-made flight cases are available for the C-Type console, as required.

STANDARDS

The C-Type is designed to the following standards: EN55103-1:1997, EN55103-2:1997 and EN60065:1998



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