# C3500 Technical Datasheet

Overview

- 24 faders, 6 layers
- Fully assignable layout – up to 144 fader strips
- Harmony UI integrates screen and wrap-around controls
    - 2 x 12" capacitive touchscreens
    - Gesture control – pinch, swipe, drag 'n drop
    - Dedicated multi-mode EQ view
    - Configurable widget areas for Scenes, meters, FX and more
    - 3 pages of 6 assignable rotaries
- 19 assignable SoftKeys
- Engineer's Wedge and IEM fader strips

- Comprehensive multipoint metering
- Daylight visibility
- USB stereo recording and playback
- 6 XLR mic/line in, 6 XLR line out
- 1 digital st AES3 in, 1 digital st AES3 out
- Connection hub
    - 1 x GigaACE gigabit link to MixRack
    - 1 x DX link for I/O expansion
    - 1 x I/O Port – 128 ch 96 kHz
    - 2 x Network ports
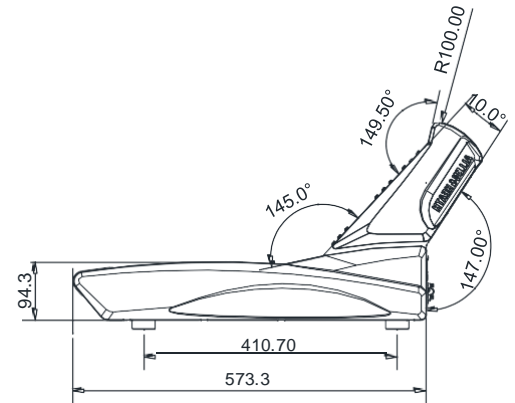   - Wordclock BNC I/O
    - Video output
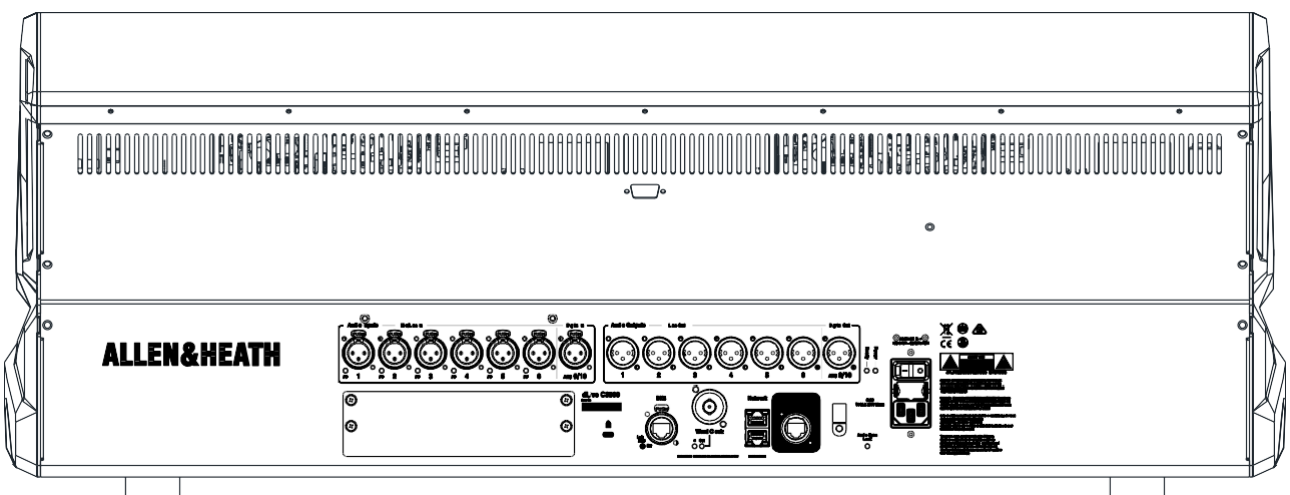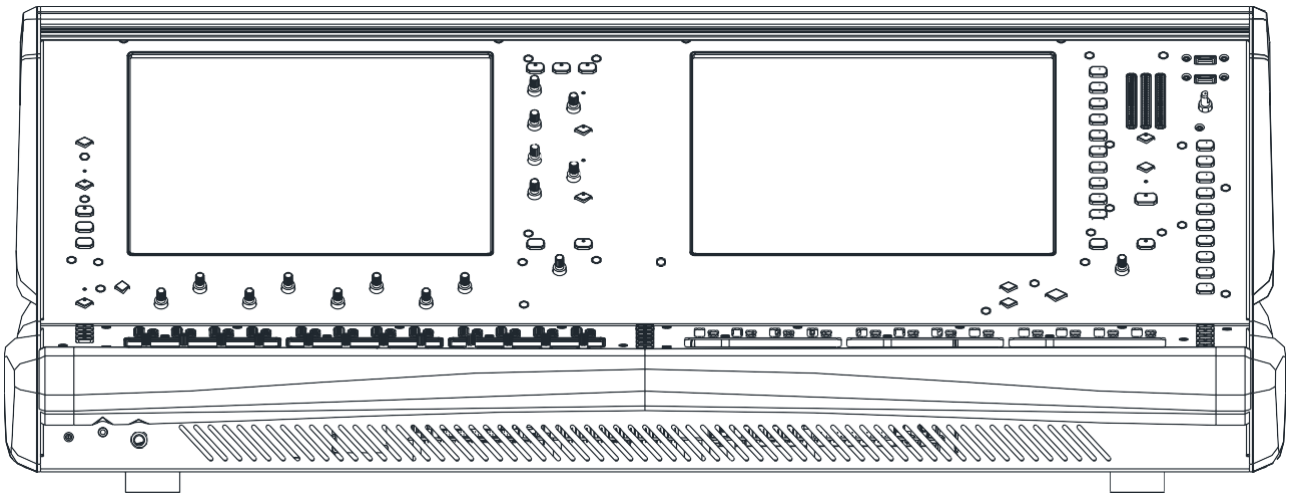
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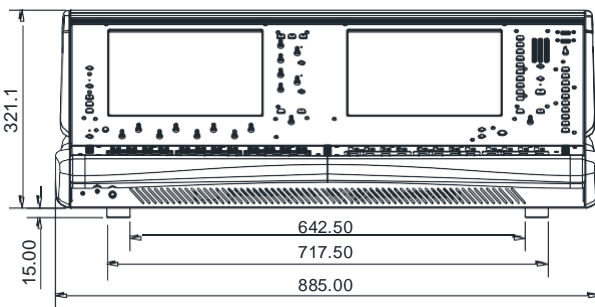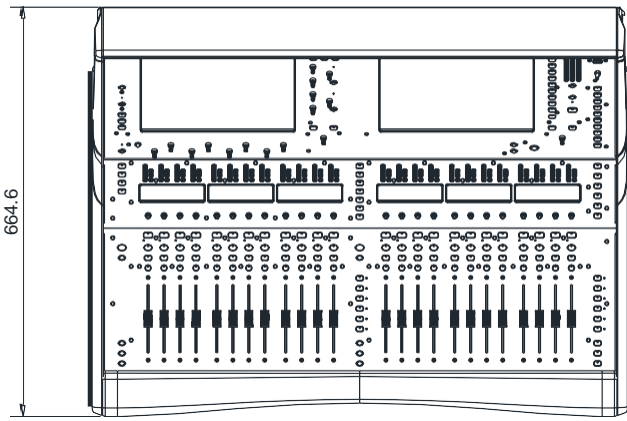
C3500
Height 325mm (12.8")
Length 665mm (26.2")
Width 885mm (34.8")
Weight 28kg (61.7lbs)

C3500 Packaged
Height 480mm (18.9")
Length 870mm (34.3")
Width 1060mm (41.7")
Weight 37.5kg (82.7lbs)

A&E Specifications

The control surface shall have 24 moving faders, each with 6 layers accessed by dedicated keys. All fader strips shall be configurable as input channels, mixes, FX sends, FX returns, DCA masters, or MIDI strips. Each fader strip shall have a dedicated PAFL, Mix, Select, and Mute button with indicators, 10-segment multi-point meter, 4-segment gain reduction meter, rotary encoder, and coloured LCD display with name, mode, status, and level indicating. 7 buttons with indicators shall provide global mode for the rotary controls being Gain, Pan, Sends and up to 4 custom functions. Send levels to mixes shall be adjustable using the faders.

Two 12" capacitive touchscreens shall be provided for access to channel processing, meters, FX, I/O, scene management, setup, utilities and diagnostics. Physical, dedicated controls shall be provided for the 4-band PEQ. Further physical controls shall be user assignable, including 6 rotary encoders arranged over 3 layers, and 19 user-defined keys. Dedicated keys shall be provided for quick Copy/Paste/Reset of mixes and processing parameters, pre/post and mix assignments, scene safes, GEQ fader flip, PAFL clear, scene automation, talkback, and access to libraries.

22-segment meters shall indicate the 3 Main mix levels, the PAFL signal shall override the LR meters accompanied by a PAFL-active indicator. ¼" and 3.5mm jacks for the surface PAFL headphones output shall be provided, plus an analogue output level control. The mixer shall include a 2-track record and playback system for optional USB drives. The surface shall have 2 USB ports on the front, one of which dedicated to record / playback.

The surface shall provide 6 XLR inputs of high quality and capable of handling microphone or line signals, with remote controlled analogue gain adjustable in 1dB steps, a 20 dB PAD, and phantom power. It shall also provide 6 XLR line outputs, 1 AES-3 stereo XLR inputs with SRC, and 1 AES-3 stereo XLR outputs

with SRC. There shall be an option to bypass the Sample Rate Conversion on the digital inputs or outputs.

A 128-channel I/O port for an optional digital interface module shall also be provided. Optional interface modules shall include: MADI, EtherSound, Dante, Waves SoundGrid, and ACE.

An Ethercon port shall be provided for connection to the rack engine via the Allen & Heath gigaACE protocol. This connection shall carry over 300x300 channels of uncompressed audio at 96kHz, control data and tunnelling of third party Ethernet traffic. An Ethercon port shall be provided for I/O expansion via an audio connection carrying up to 32x32 channels of uncompressed audio at 96kHz. A range of optional expansion racks shall be provided and shall include a modular rack with 8-channel card options including analogue or digital I/O.

A BNC connector shall be provided on the unit for Wordclock input and output. A pair of RJ45 sockets shall also be provided for gigabit Ethernet network connections to laptops or other control systems.

The unit shall have a fixed power supply accepting AC mains voltages of 100~240V, 50/60 Hz, 110W max via an earthed 3-pin IEC male connector. A rocker switch shall be provided near the mains inlet to isolate the unit from the incoming mains supply.

An option shall be provided for password protection for log-in of several users with different levels of system access and permissions.

The control surface shall be the Allen & Heath dLive C3500.

Inputs

Mic/Line XLR Inputs	Balanced XLR, +48V phantom power
Mic/Line Preamp	Fully recallable
Input Sensitivity	-60 to +15dBu
Analogue Gain	+5 to +60dB, 1dB steps
Pad	-20dB Active PAD
Maximum Input Level	+30dBu (PAD in)
Input Impedance	>4kΩ (Pad out), >10kΩ (Pad in)
Mic EIN	-127dB with 150Ω source
Phantom Power indication	Per socket, internal or external phantom power sensing, triggered at 24V
Digital Inputs	AES3 2 Ch XLR, 2.5Vpp balanced terminated 110 Ω
	SRC range 32k - 192kHz, with bypass option

Outputs

Analogue XLR Outputs	Balanced, Relay protected
Output Impedance	<75Ω
Nominal Output	+4dBu = 0dB meter reading
Maximum Output Level	+22dBu
Residual Output Noise	-92dBu (muted, 20-20kHz)
	-90dBu (muted, 20-40kHz)
Digital Outputs	AES3 2 Ch XLR, 2.5Vpp balanced terminated 110 Ω
	96kHz sampling rate, switchable to 48kHz, 44.1kHz

Dimensions and Weights

	Width x Depth x Height x Weight
C3500	665 x 885 x 325mm (26.2 x 34.8 x 12.8") x 28kg (61.7lbs)

System

	Measured balanced XLR in to XLR out, 20-20kHz, minimum Gain, Pad out
Dynamic Range	110dB
System Signal to Noise	-92dB
Frequency Response	20Hz - 30kHz +0/-0.8dB
THD+N (analogue in to out)	0.0015% @ +16dBu output, 1kHz 0dB gain
Headroom	+18dB
Internal operating Level	0dBu
dBFS Alignment	+18dBu = 0dBFS (+22dBu at XLR output)
Meter Calibration	0dB meter = -18dBFS (+4dBu at XLR out)
Meter Peak indication	-3dBFS (+19dBu at XLR out)
Sampling Rate	96kHz +/- 20 PPM
ADC	24-bit Delta-Sigma
DAC	24-bit Delta-Sigma
Latency	0.7 ms (MixRack XLR in to XLR out, Input to Mix)
	+ 5 samples, Surface to Mixrack (GigaACE hop)
	+ 8 samples, DX32 to Mixrack (DX hop)
Operating Temperature Range	0 deg C to 35 deg C (32 deg F to 95 deg F)
Mains Power	100-240V AC, 50-60Hz, 110W max
USB Audio playback	Mono/stereo .WAV files, 16/24bit, 44.1/48/96kHz
USB Audio recording	Stereo .WAV files, 24bit 96kHz

	Width x Depth x Height x Weight
C3500 - boxed	870 x 1060 x 480mm (34.3 x 41.7 x 18.9") x 37.5kg (82.7lbs)