CMC-SERIES

Live Mixing Console with FX/BT/USB

Item ref: 170.940UK CMC-14
170.942UK CMC-16
170.944UK CMC-18

User Manual

Version 1.0

Caution: Please read this manual carefully before operating
Damage caused by misuse is not covered by the warranty

Introduction

Thank you for choosing a Citronic CMC-series mixer as part of your professional sound system. This product has been developed to provide a wide range of facilities for live and studio sound applications. Please read and keep this manual to achieve the best results from your purchase and avoid damage through misuse.

SAFETY SYMBOL AND MESSAGE CONVENTIONS

CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN	AVIS RISQUE DE CHOC ELECTRIQUE NE PAS OUVRIR

This symbol indicates that dangerous voltage constituting a risk of electric shock is present within this unit

This symbol indicates that there are important operating and maintenance instructions in the literature accompanying this unit.

Warning

To prevent the risk of fire or electric shock, do not expose any components to rain or moisture. If liquids enter the housing, stop using immediately, allow the unit to dry out and have it checked by qualified personnel before further use. Avoid impact, extreme pressure or heavy vibration to the case.

No user serviceable parts inside – Do not open the case – refer all servicing to qualified service personnel.

Safety

- Use the IEC mains lead supplied or equivalent and ensure the correct supply voltage
- This unit must be earthed
- Avoid ingress of water or particles into any part of the housing. If liquids are spilled on the console, stop using immediately, allow the unit to dry out and have checked by qualified personnel before further use

Placement

- Keep the console out of direct sunlight and away from heat sources.
- Do not place heavy objects on top of the control surface
- Allow adequate space for airflow and keep the console away from damp or dust.

Cleaning

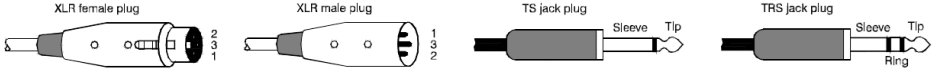
- Use a soft cloth to clean the housing as required.
- A soft brush can be used to clear debris from between controls without damaging them
- Do not use solvents for cleaning the unit.

Console layout

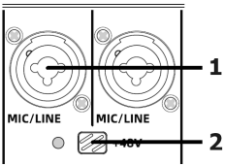
Each CMC-series mixing console has a bank of mono input channels which can accept a balanced microphone input or switchable line/instrument input. There is also a stereo input for playback devices or line level instruments. All preamps have studio grade, low noise architecture for the cleanest possible path throughout the signal chain. Console layout is set out in distinct sections to simplify operation.
The following pages are divided up into these stages to explain the details and function of each control.

Channel inputs

Channel inputs are provided as XLR or 6.3mm jack on combo sockets.
If an XLR is plugged in, this will be connected as low impedance (microphone) level.
If a 6.3mm plug is used, this will be connected as high impedance (line) level.
The connections for these inputs are assigned as shown below.



Mono input channels



1. Combo input: Connect a balanced microphone via XLR connection or a line level (or instrument) input via 6.3mm plug. An unbalanced XLR can be connected provided that +48V phantom power is not used. Wired as follows.

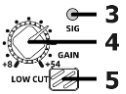
Balanced	Pin 1/Sleeve = Ground	Pin 2/Tip = Signal +	Pin 3/Ring = Signal –
Unbalanced	Pin 1/Sleeve = Ground	Pin 2/Tip = Signal +	Pin 3/Ring = Ground

2. +48V phantom Press this button in to enable +48V phantom power to the pair of XLRs and the LED indicator will light. This provides power to some condenser microphones and DI boxes.
Do not use phantom power with unbalanced XLR connectors. (this doesn't affect any 6.3mm inputs)

Channel controls

3. SIG LED — A green indicator LED which illuminates when the signal is present

4. GAIN — Adjust this to match the input signal level to be suitable for the channel.
Increase this setting if the input source is quiet.
Reduce this setting if the channel is overloading or sounds distorted.

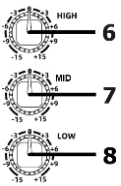


5. LOW CUT — Preset filter for removing the lowest frequencies on microphones to avoid handling noise or pops from close vocals.

6. HIGH EQ — This control can boost or cut the high frequencies by ±15dB (12 o'clock position is zero)

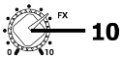
7. MID EQ — This control can boost or cut the mid frequencies by ±15dB (12 o'clock position is zero)

8. LO EQ — This control can boost or cut the low frequencies by ±15dB (12 o'clock position is zero)

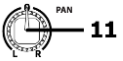


9. AUX — This control regulates the amount of the channel signal that is fed to the DSP effects section, varying the amount of effect.

10. FX — This control regulates the amount of the channel signal that is fed to the DSP effects section, varying the amount of effect.

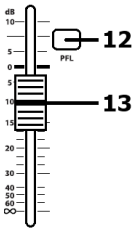


11. PAN — Sets the position of the mono input channel within the stereo field. Adjustable to the left or right of the mix with the "0" setting for centre.



12. PFL — Pre-Fader Listen when pressed in sends the channel direct to the monitoring section for level setting and signal checking.

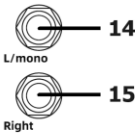
13. VOL — Rotary volume control for the mono or stereo input channel



Stereo inputs

14. L/MONO — Line level 6.3mm jack input. Left side of the stereo input, or will default to mono if connected alone (i.e. without a right-side input)

15. RIGHT — Line level 6.3mm jack input for right side of stereo input.

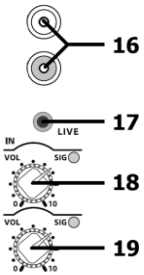


16. RCA L+R — Additional stereo line input channel on RCA connection.

17. LIVE — 3.5mm stereo line (or aux) input for mp3 player, smart phone etc.

18. VOL — Rotary Volume control for RCA line channel with signal LED.

19. VOL — Rotary Volume control for LIVE 3.5mm input with signal LED.



MP3 Player

CMC-series mixers have an inbuilt USB mp3 audio player/recorder and Bluetooth receiver.

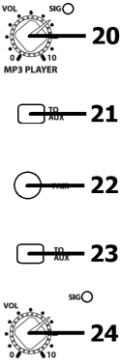
20. MP3 VOL — Volume control for USB mp3 playback with signal LED

21. TO AUX — Routes the MP3 player output to the Auxiliary bus

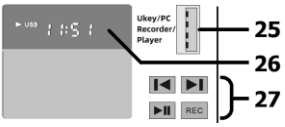
22. BT PAIR — Press this button to activate the Bluetooth receiver. (see below Operation section for pairing procedure)

23. TO AUX — Routes the Bluetooth receiver output to the Auxiliary bus

24. VOL — Volume control for the Bluetooth receiver with signal LED



25. USB port — Connect USB flash drive to play or record tracks on the media. Connecting to a PC using a USB A to A lead will present the mp3 input and main output as a 2-way stereo plug & play USB audio interface. This should appear in your PC software as an input/output option.



26. Display — The top part of the LED display shows USB playback or record status and time.

27. Controls — 4 button control panel for track playback and recording
⏮ = Previous track ⏭ = Next track (recorded tracks are stored on the USB flash drive as numbered files)
⏵⏸ = Play/Pause **REC** = Record

DSP Effects

CMC-series mixers have an internal 24-bit DSP processor for audio effects, as detailed on the DSP Table in the appendix of this manual.

28. Display — The lower part of the LED display shows the DSP preset number & MAIN OUT VU meter

29. MODE selector — Rotate until required preset is shown and press to select that preset

30. PARA1 — Parameter 1 of the preset - see appendix (the adjusted value is stored for that preset)

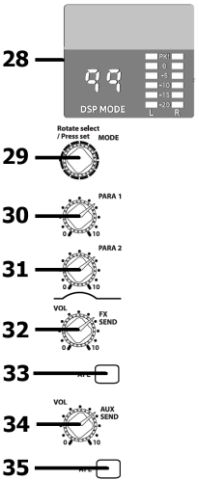
31. PARA2 — Parameter 2 of the preset - see appendix (the adjusted value is stored for that preset)

32. FX SEND — Adjusts the level of signal fed to the DSP FX section

33. AFL — After Fader Listen routes FX send output to the monitor section when pressed in

34. AUX SEND — Adjusts the level of AUX mix fed out of the AUX SEND output

35. AFL — After Fader Listen routes output of AUX mix to the monitor section when pressed in



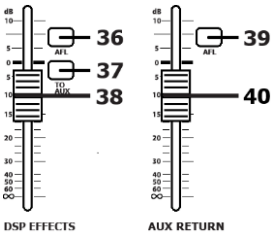
36. AFL — After Fader Listen routes FX output to the monitor section when pressed in

37. TO AUX — Routes FX output to the AUX bus

38. DSP EFFECTS — Master Effects level control

39. AFL — After Fader Listen routes AUX return to the monitor section when pressed in

40. AUX RETURN — AUX RETURN level control



Output Section

41. FOOT SW — FX mute footswitch input (momentary)

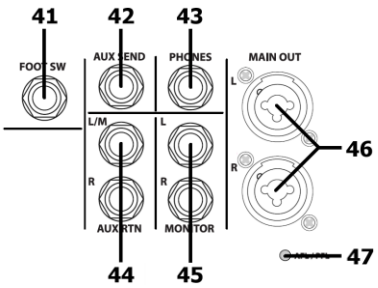
42. AUX SEND — Output of AUX bus from all channels

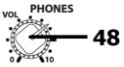
43. PHONES — Connect Headphones via 6.3mm stereo jack (32Ω min.

44. AUX RTN — L+R return inputs for AUX loop

45. MONITOR — L+R monitor line outputs

46. MAIN OUT — L+R Balanced XLR main line outputs

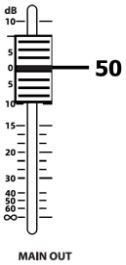




47. AFL / PFL — Indicator lit when channels or other sources are selected to AFL (after-fader listen) or PFL (pre-fader listen)

48. PHONES — Rotary volume control for PHONES and MONITOR outputs

49. MAIN MUTE — Mutes main outputs when pressed in



50. MAIN OUT — Main output volume fader

Setting Up

Connect microphones to the Mic / Line / Instrument combo inputs (1) via XLR, ensuring that the +48V button (2) is pressed in for any condenser microphones or D.I. boxes that require phantom power to operate (the +48V button activates phantom power to XLR inputs in pairs. If a microphone does not require phantom power, enabling it will not damage the microphone, but you must ensure that the XLR is wired as a balanced connection. i.e. separate +, -, and GND connections to avoid damage to the mixer)

For line inputs (such as CD, mp3 player, laptop, digital keyboard etc.) or instrument inputs (such as electric guitar), connect these via 6.3mm jack plug to the combo inputs (1)

For stereo line level signals, such as CD or mp3 players, computer sound cards or electronic keyboards, connect these via 6.3mm jack plug to the stereo inputs (14, 15) or if the input device is mono, just connect to the L/MONO input (14). The stereo channel has its own volume control (17)

Further stereo line inputs are provided on RCA or 3.5mm jack (16, 17) governed by separate volume controls (18, 19)

If headphones are to be used for monitoring the main output, connect these to the PHONES 6.3mm stereo jack (43) and turn the PHONES control (48) down fully before listening to the headphones, gradually turning this control up to the required level to avoid damage to hearing.

A mono AUX SEND output (42) may be used to feed outboard audio processors, such as effects machines, or as a separate monitor mix feed and controlled by the AUX SEND volume control (34).

AUX RTN (44) is a L+R pair of return inputs for feeding outboard equipment connected from the AUX send feed or as a separate stereo input, governed by the AUX RTN volume control (40)

FX SEND (32) is an overall volume control of all channels mixed into the DSP effects section, which should be set to avoid clipping or excessive noise, whilst the DSP EFFECTS fader (38) controls the level of effects to main outputs. This can also be routed to the AUX section by pressing in TO AUX (37)

The FX SEND, AUX SEND, DSP EFFECTS, or AUX RETURN signals can also be routed to the monitor section by pressing in respective the AFL button (33, 35, 36, 39)

Active monitor speakers or recording equipment may be fed from the L+R MONITOR jacks (45)

Connect the MAIN OUT L + R XLR outputs (46) to the receiving amplifier or recording device.

Finally, connect the rear IEC inlet to a suitable mains outlet for power, ensuring correct supply voltage and that the circuit is earthed.

Before switching power on, it is advised to turn all volume controls fully down to avoid any loud noises through the connected speakers or recording equipment.

Operation

Set the MAIN OUT control (50) fully down, switch on the POWER at the rear and the display will light.

Check the output of any channel by starting with its VOL (13), AUX (9) and FX (10) set fully down.
HIGH, MID and LOW EQ controls (6, 7, 8) should all be set in the mid position (12 o'clock).
Make sure MAIN MUTE (49) is not pressed in and turn up the MAIN OUT or PHONES (50, 48) part way up and listen whilst playing the signal (or speaking into the microphone) and increasing its VOL control gradually. Stop when the desired output level is reached. Avoid aiming the microphone or instrument pickup towards the loudspeaker(s), which can cause feedback, which is a loud whistling or howling sound caused when a mic or pickup hears its own output.

To adjust the tone characteristics of a Mic, Line or Instrument input signal, the high, mid and low frequency content can be individually cut or boosted using the HIGH, MID and LOW EQ controls (6, 7, 8)

Turning the HIGH control clockwise from 12 o'clock boosts the high frequencies (treble) for a brighter sound and turning it anticlockwise cuts them for a duller sound.
Turning the MID control clockwise from 12 o'clock boosts the middle frequencies (mid) for a more prominent sound and turning it anticlockwise cuts them for a less intrusive sound.
Turning the LOW control clockwise from 12 o'clock boosts the low frequencies (bass) for a thicker sound and turning it anticlockwise cuts them for a thinner sound.

Boosting these too much can increase the chance of feedback, whereas cutting can sometimes help to reduce feedback, so experimentation is often necessary.

Adding some DSP presets to a mic or instrument can create a spatial or rotating effect. To add the effect, move the DSP EFFECTS fader up (38) and gradually increase the FX control (10) on the input channel. There are 99 pre-set types available by rotating and pressing the MODE selector (29) including digital reverbs, delays and modulation effects. Each effect has 2 adjustable parameters (30, 31) to enable you to tailor the effect as required. Experimentation is advised to achieve the best results from this section. See the previous "DSP Effects" controls description and the appendix for details about the DSP effects.

If a smart phone or tablet is to be connected as a wireless music source, press the BT PAIR button (22) and it will flash blue rapidly.

Search on the smart phone or tablet for a device called "Citronic" and select to connect for audio playback. The BT PAIR button (22) will be lit blue constantly when paired successfully.
When a track is being, the BT PAIR button will flash slowly. Turn up the BT VOL control (24) to hear the track being played. This can also be routed to the AUX buss by pressing in TO AUX (23). Pressing the BT PAIR button again will disable the Bluetooth receiver.

The USB player/recorder section will playback mp3 or wma files stored on a USB flash drive.
If the content does not play automatically, press the Play/Pause button.

Pressing the Play/Pause button during playback will pause the current track until it is pressed again.

Use the Previous track and Next track buttons to navigate through tracks stored on the USB media.

Pressing the REC (record) button arms the CMC mixer to record to the USB media.
Press Play/Pause to begin recording and press again to pause or press REC to stop recording.

Any recorded tracks are stored on the USB flash drive as numbered audio files, which can be played back like the other files that are stored on the flash drive.

This same USB port can be used to connect to a PC or Mac computer using a USB-A to USB-A lead.
When connected, the computer will see the CMC mixer as a generic USB audio interface.

Set this USB audio device as the input source in order to play audio into the computer DAW software.
Likewise, setting it as the output device will enable the audio output from the computer to play directly into the main stereo bus of the CMC mixer.

Turn down the volume controls before powering down to avoid loud noises through connected equipment.

Unplug from the mains if not being used for long periods of time.

Specifications

Model	CMC-14	CMC-16	CMC-18
Inputs: Mic/Line	6 x XLR/6.3mm jack	8 x XLR/6.3mm jack	10 x XLR/6.3mm jack
Dimensions	345 x 310 x 80mm	400 x 310 x 80mm	455 x 310 x 80mm
Weight	3.30kg	3.80kg	4.10kg
Power supply	100-240Vac, 50/60Hz (IEC)		
Fuse	T1.6AH		
Effects	99 program DSP (2 parameter controls)		
Inputs: Line	2 x stereo L+R 6.3mm, stereo RCA + stereo 3.5mm		
Audio source	Bluetooth receiver, USB mp3 player/recorder		
Bluetooth version	v5.1 (+BR+EDR+BLE)		
EQ: low	±15dB @ 80Hz		
EQ: mid	±15dB @ 2.5kHz		
EQ: high	±15dB @ 12kHz		
Phantom power	+48V switchable in pairs (XLR inputs only)		
Frequency response	20Hz - 22kHz (±1dB)		
Input level	Mic +10dBu max. / Line +22dBu max.		
Input impedance	Balanced XLR 2k Ohm, Balanced TRS jack 10k Ohm (unbal 20k Ohm)		
THD +N	<0.05% @ 1kHz		
Noise	EIN -122dBu (22Hz - 22kHz)		
CMRR	>75dB (Mic 1kHz)		
Sensitivity	XLR -60 to +10dBu, TRS jack -20 to +20dBu, Stereo -20 to +14dBu		
Crosstalk	>80dB (1kHz fader shutoff)		
Outputs	Main L+R XLR, L+R Monitor 6.3mm, Headphones 6.3mm		
Max. output level	XLR +22dBu, TRS +20dBu		
Sends: returns	1 Aux send, L+R return		

Disposal: The "Crossed Wheelie Bin" symbol on the product means that the product is classed as Electrical or Electronic equipment and should not be disposed with other household or commercial waste at the end of its useful life. The goods must be disposed of according to your local council guidelines.

Hereby, AVSL Group Ltd. declares that the radio equipment type 170.940UK, 170.942UK, and 170.944UK are in compliance with Directive 2014/53/EU

The full text of the EU declaration of conformity for 170.940UK is available at the following internet address: http://www.avsl.com/assets/exportdoc/1/7/170940UK%20CE.pdf

The full text of the EU declaration of conformity for 170.942UK is available at the following internet address: http://www.avsl.com/assets/exportdoc/1/7/170942UK%20CE.pdf

The full text of the EU declaration of conformity for 170.944UK is available at the following internet address: http://www.avsl.com/assets/exportdoc/1/7/170944UK%20CE.pdf

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DSP Effects Presets & Parameters

No	Name	Para 1	Para 2
1	KTV Echo 3	Dly Time	Decay Time
2	KTV Echo 2	Dly Time	Decay Time
3	KTV Echo 1	Repeat	Decay Time
4	Bright Hall Mid	Pre-Delay	Decay Time
5	Bright Room Mid	Pre-Delay	Decay Time
6	Plate Mid	Pre-Delay	Decay Time
7	Mono Delay 220	Repeat	Delay Time
8	Stereo Delay 220	Repeat	Delay Time
9	Ping Pong Delay 220	Repeat	Delay Time
10	Tape Delay 220	Repeat	Delay Time
11	Modulation Delay	Depth	Delay Time
12	Chorus Slow	Depth	Speed
13	Chorus Fast	Depth	Speed
14	Flanger Light	Depth	Speed
15	Flanger Heavy	Depth	Speed
16	Distortion FX	Drive	Gain
17	Wah Wah	Depth	Speed
18	Tremolo	Depth	Speed
19	Pitch Shift	Cent	Key
20	Chorus + Room	Speed	Decay Time
21	Chorus + Hall	Speed	Decay Time
22	Delay + Chorus	Speed	Delay Time
23	Delay + Flanger	Speed	Delay Time
24	Delay + Chorus + Room	DlyTime	Decay Time
25	Delay + Chorus + Hall	DlyTime	Decay Time
26	Bright Hall Small	Pre-Delay	Decay Time
27	Bright Hall Large	Pre-Delay	Decay Time
28	Warm Hall Small	Pre-Delay	Decay Time
29	Warm Hall Mid	Pre-Delay	Decay Time
30	Warm Hall Large	Pre-Delay	Decay Time
31	Bright Room Small	Pre-Delay	Decay Time
32	Bright Room Large	Pre-Delay	Decay Time
33	Warm Room Small	Pre-Delay	Decay Time
34	Warm Room Mid	Pre-Delay	Decay Time
35	Warm Room Large	Pre-Delay	Decay Time
36	Plate Small	Pre-Delay	Decay Time
37	Plate Large	Pre-Delay	Decay Time
38	Reverb + Gate Short	Gate Time	Decay Time
39	Reverb + Gate Mid	Gate Time	Decay Time
40	Reverb + Gate Long	Gate Time	Decay Time
41	Doubling Small	DlyTime	Decay Time
42	Doubling Mid	DlyTime	Decay Time
43	Doubling Large	DlyTime	Decay Time
44	Early Reflections Small	Pre-Delay	Decay Time
45	Early Reflections Mid	Pre-Delay	Decay Time
46	Early Reflections Large	Pre-Delay	Decay Time
47	Slap Short	None	Delay Time
48	Slap Mid	None	Delay Time
49	Slap Long	None	Delay Time

No.	Name	Para 1	Para 2
50	Mono Delay 60	Repeat	Delay Time
51	Mono Delay 100	Repeat	Delay Time
52	Mono Delay 150	Repeat	Delay Time
53	Mono Delay 300	Repeat	Delay Time
54	Mono Delay 500	Repeat	Delay Time
55	Mono Delay 600	Repeat	Delay Time
56	Mono Delay 800	Repeat	Delay Time
57	Mono Delay 1000	Repeat	Delay Time
58	Mono Delay 1200	Repeat	Delay Time
59	Mono Delay 1400	Repeat	Delay Time
60	Mono Delay 1800	Repeat	Delay Time
61	Mono Delay 2500	Repeat	Delay Time
62	Mono Delay 3000	Repeat	Delay Time
63	Mono Delay 3500	Repeat	Delay Time
64	Stereo Delay 60	Repeat	Delay Time
65	Stereo Delay 100	Repeat	Delay Time
66	Stereo Delay 150	Repeat	Delay Time
67	Stereo Delay 300	Repeat	Delay Time
68	Stereo Delay 500	Repeat	Delay Time
69	Stereo Delay 600	Repeat	Delay Time
70	Stereo Delay 800	Repeat	Delay Time
71	Stereo Delay 1000	Repeat	Delay Time
72	Stereo Delay 1200	Repeat	Delay Time
73	Stereo Delay 1400	Repeat	Delay Time
74	Stereo Delay 1800	Repeat	Delay Time
75	Ping Pong Delay 60	Repeat	Delay Time
76	Ping Pong Delay 100	Repeat	Delay Time
77	Ping Pong Delay 150	Repeat	Delay Time
78	Ping Pong Delay 300	Repeat	Delay Time
79	Ping Pong Delay 500	Repeat	Delay Time
80	Ping Pong Delay 600	Repeat	Delay Time
81	Ping Pong Delay 800	Repeat	Delay Time
82	Ping Pong Delay 1000	Repeat	Delay Time
83	Ping Pong Delay 1200	Repeat	Delay Time
84	Ping Pong Delay 1400	Repeat	Delay Time
85	Ping Pong Delay 1800	Repeat	Delay Time
86	Tape Delay 60	Repeat	Delay Time
87	Tape Delay 100	Repeat	Delay Time
88	Tape Delay 150	Repeat	Delay Time
89	Tape Delay 300	Repeat	Delay Time
90	Tape Delay 500	Repeat	Delay Time
91	Tape Delay 600	Repeat	Delay Time
92	Tape Delay 800	Repeat	Delay Time
93	Tape Delay 1000	Repeat	Delay Time
94	Echo 1 100	Repeat	Delay Time
95	Echo 1 400	Repeat	Delay Time
96	Echo 2 100	DlyTime	Decay Time
97	Echo 2 400	DlyTime	Decay Time
98	Echo 3 100	DlyTime	Decay Time
99	Echo 3 400	DlyTime	Decay Time