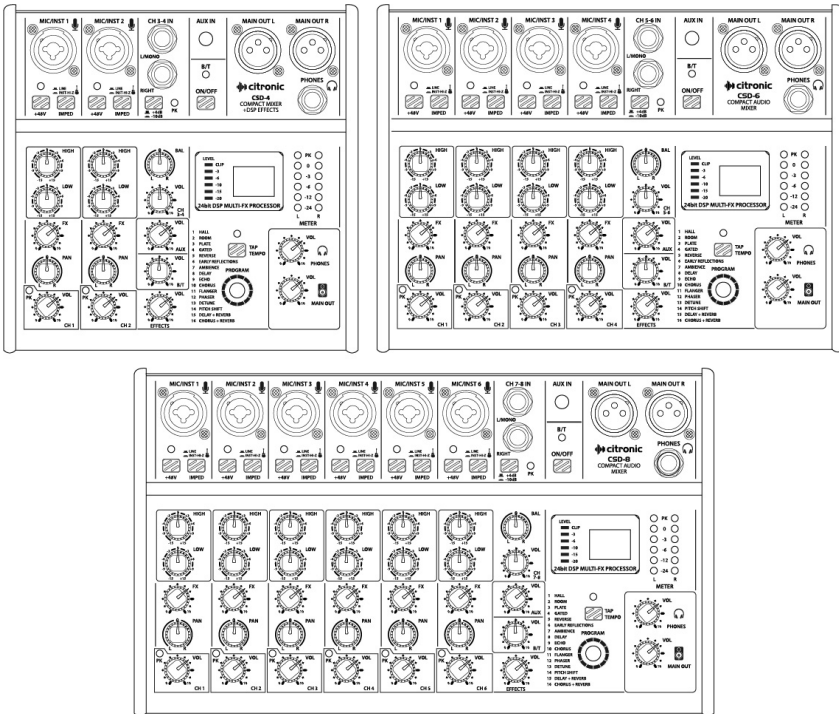**CSD-series**

Compact Mixers with B/T and DSP

Item ref:	170.875UK
	170.876UK
	170.877UK

User Manual

Version 1.1

⚠️ 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 CSD-series mixer as part of your professional sound system. This product has been developed to provide a wide range of facilities for professional and reliable sound reinforcement. 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 5Vdc power adaptor supplied or equivalent.
- 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 with a neutral detergent 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 CSD compact 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 of this manual 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 either line or instrument level (switchable)

The connections for these inputs are assigned as follows.
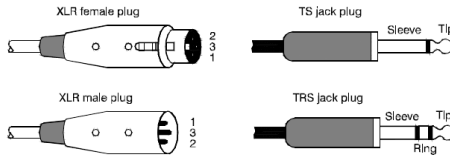
Mic / Line / Instrument input

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 = Ground | Pin 2 = Signal + | Pin 3 = Signal – |
| Unbalanced | Pin 1 = Ground | Pin 2 = Signal + | Pin 3 = Ground |
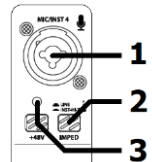
2. IMPED switch Press this button in to set the input impedance to instrument level or leave the button in the up position for a line level input. (instrument level is usually for pickups, such as those on a guitar. Electronic keyboards usually produce a line level output)

3. +48V phantom Press this button in to enable +48V phantom power to the XLR and the LED indicator will light. This provides power to some condenser microphones and DI boxes.
Do not use with unbalanced XLR connectors. This does not affect any jack inputs.

Channel controls

4. HIGH EQ   This control can boost or cut the high frequencies by ±15dB
             (12 o'clock position is zero)
5. LO EQ   This control can boost or cut the low frequencies by ±15dB
             (12 o'clock position is zero)
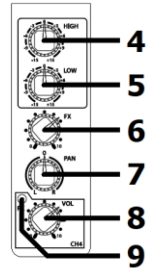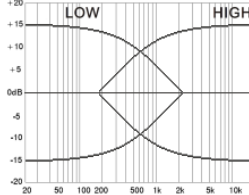
6. FX   This control regulates the amount of the channel signal that is fed to the DSP effects
             section, varying the amount of effect

7. PAN   "PAN" is short for Panoramic, meaning the position that the signal appears in the stereo
             field. Moving the control clockwise fades the signal over to the right-hand output and
             moving the control anticlockwise fades the signal over to the left-hand output.

8. VOL   "VOL" is short for Volume. Moving this control clockwise increases the level of the signal
             to the output section.

9. Peak LED The peak LED will light when the channel is overloaded. Take care to only allow this to
             happen very briefly on the loudest parts of the audio or not at all. If this LED lights
             continually for any length of time, reduce the input level, channel volume or EQ until it
             only lights momentarily.

Stereo input

10. L/MONO   Line level 6.3mm jack input.
             Mono if connected alone or left side if right side input is connected.

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

12. Peak LED The peak LED will light when the channel is overloaded. Take care
             to only allow this to happen very briefly on the loudest parts of the
             audio or not at all. If this LED lights continually for any length of time,
             reduce the input level, channel volume or EQ until it only lights
   momentarily.
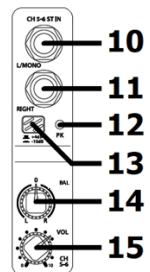
13. Level   Sets the line input level to -10dB if pressed in or +4dB if not pressed in.

14. BAL   "BAL" is short for Balance, varying the ratio of left and right sides of the stereo signal.
             Moving the control anticlockwise reduces the signal on the right side or moving the control
             clockwise reduces the signal on the left side.

15. VOL   "VOL" is short for Volume. Moving this control clockwise increases the level of the stereo
             signal to the output section.

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AUX and B/T Wireless Receiver

CSD-series mixers have an additional stereo AUX input and B/T wireless section.

16. AUX IN   3.5mm stereo input for connecting mp3 player or smart phone.

17. B/T LED   Flashes when B/T receiver is active and stays lit when paired.
                Flashes slowly when a track is playing.

18. B/T on/off Press to enable or disable the B/T receiver

19. AUX VOL   Volume control for AUX input

20. B/T VOL   Volume control for B/T receiver
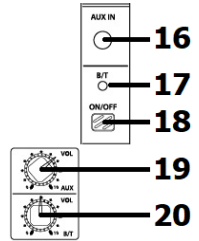
DSP Effects

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

21. 6-segment LED   Indicates the overall input level to the DSP section

22. Program display Indicates selected program (see table in appendix)

23. TAP LED   Flashes to show the current tap tempo timing

24. TAP TEMPO   Tap the TAP button rhythmically more than twice to set a tempo for time effects. In edit mode, press to adjust PARAMETER 2 settings.

25. PROGRAM   Turn to change program and press in to confirm the program.

Press again to enter edit mode and turn to adjust PARAMETER 1.

Press again to confirm PARAMETER 1 setting

(press TAP to edit the PARAMETER 2 setting)

26. EFFECTS   Overall volume control for DSP effects output
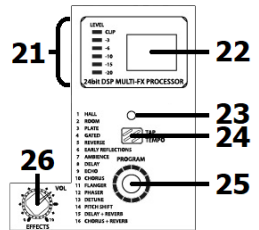
Press the encoder to confirm the selection, the display will stop flashing & selected program will be active.

Press the encoder again and a dot will appear in the display indicating PARAMETER 1.

Turning the encoder will change PARAMETER 1 for the selected program as detailed in the DSP Table on the following page.

Pressing the TAP button (26) will switch to PARAMETER 2 and then turning the encoder will change PARAMETER 2 for the selected program.

These parameter changes are stored for when the program is selected in future.

Output Section

27. MAIN OUT L+R	Left and Right main balanced line outputs via XLRM connectors to be fed onto amplification or recording equipment.	**27**
28. PHONES output	Stereo 6.3mm jack output for headphone monitoring	**28**
29. VU Meters	Left & Right LED main out level indicators.	**29**
30. PHONES	Controls the volume of the main output to the PHONES socket	**30**
31. MAIN OUT	Master level control for MAIN OUT L+R	**31**

Rear Panel

32 33
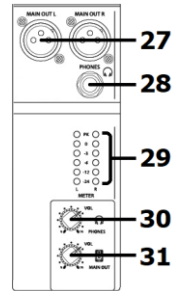
32. DC Power In	5.5 x 2.1mm DC jack to connect the supplied 5Vdc adaptor
33. POWER ON/OFF	Power switch – press for power on, press again for power off

Setting Up

Connect microphones to the Mic / Line / Instrument combo inputs (1) via XLR, ensuring that the +48V button (3) is pressed in for any condenser microphones or D.I. boxes that require phantom power to operate.

For line or instrument inputs (such as electric guitar), connect these via 6.3mm jack plug to the combo inputs (1), ensuring that the IMPED button (2) is pressed in if it is a Hi-Z instrument.
(Hi-Z means high impedance, such as guitar pickups)

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 (10, 11) or if the input device is mono, just connect to the L/MONO input (10)

A further stereo AUX input (16) is provided on 3.5mm jack for connecting a stereo line level audio source, such as an mp3 player, smart phone, tablet or laptop. This is governed by the AUX VOL control (19)

If headphones are to be used for monitoring the main output, connect these to the PHONES 6.3mm stereo jack (28) and turn the PHONES control (30) down fully before listening to the headphones, gradually turning this control up to the required level to avoid damage to hearing. (this control is pre-master fader, which means that it can also be used as an independent output)

Connect the MAIN OUT L + R XLR outputs (27) to the receiving amplifier or recording device.

Finally, connect the supplied 5Vdc plug-in adaptor to the EXT DC IN jack (32) on the rear panel and the plug-top to a suitable mains outlet, ensuring the correct mains supply voltage.

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

Turn the MAIN OUT control (31) fully down and press in the POWER button (33) on the rear panel and the POWER LED on the top panel will light.

Check the output of any channel by starting with its VOL (8, 15) and FX (6) turned fully down.
HIGH and LOW EQ controls and PAN/BAL controls should all be set in the mid position (12 o'clock).

Turn up the MAIN OUT or PHONES (31, 30) 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 and low frequency content can be individually cut or boosted using the HIGH and LOW EQ controls (4, 5)

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 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.

Adjust the PAN or BAL control towards left or right as desired. It is sometimes beneficial to bias individual channels to different sides of the stereo field to give separation and allow more detail in the mix.

Adding some DSP presets to a mic or instrument can create a spatial or rotating effect. To add the effect, turn the EFFECTS VOL control up (26) and gradually increase the FX control (6) on the input channel.
There are 16 pre-set effect types including digital reverbs, delays and modulation effects.
Each effect has 2 adjustable parameters 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" section and appendix for details about the DSP effects.

If a smart phone or tablet is to be connected as a wireless audio source, press the B/T button (18) until the B/T LED is flashing (17).

Search on the smart phone or tablet for a device called "Citronic" and select to connect for audio playback. The B/T LED will stop flashing when connection is successful.

When a track is being, the B/T LED will flash slowly. Turn up the B/T VOL control (20) to hear the track being played.

Pressing the B/T button again will disable the B/T receiver and the B/T LED will be off.

Turn down the MAIN OUT volume control before powering down to avoid loud noises through connected equipment.

Specifications

Model	CSD-4	CSD-6	CSD-8
Inputs	2 x combo XLR/jack + stereo jack	4 x combo XLR/jack + stereo jack	6 x combo XLR/jack + stereo jack
Power supply	5Vdc 1A (adaptor included)		
Power consumption max.	5W		
EQ: low	±15dB @ 80Hz		
EQ: high	±15dB @ 12kHz		
Phantom power	+48V individually switchable (XLR inputs only)		
Effects	16 program DSP (24-bit sigma-delta, 40kHz)		
Audio source	B/T wireless receiver		
B/T wireless version	2.1 + EDR		
Input impedance: mic	2k Ohms		
Input impedance: instrument	1M Ohms		
Input impedance: line	20k Ohms		
Frequency response	20Hz - 20kHz (±0.5B)		
THD +N	<0.03% @ 1kHz		
Dynamic range	102dB		
Crosstalk: stereo	92dB		
Output	Left + Right balanced XLR		
Output impedance	120 Ohms		
Max. output level	3Vrms		
Dimensions	171 x 166 x 66mm	224 x 166 x 66mm	274 x 166 x 66mm
Weight	0.92kg	1.19kg	1.46kg

Hereby, AVSL Group Ltd. declares that the radio equipment types 170.875UK, 170.876UK and 170.877UK are in compliance with Directive 2014/53/EU

The full text of the EU declaration of conformity for 170.875UK is available at the following internet address: http://www.avsl.com/assets/exportdoc/1/7/170875UK%20CE.pdf

The full text of the EU declaration of conformity for 170.876UK is available at the following internet address: http://www.avsl.com/assets/exportdoc/1/7/170876UK%20CE.pdf

The full text of the EU declaration of conformity for 170.877UK is available at the following internet address: http://www.avsl.com/assets/exportdoc/1/7/170877UK%20CE.pdf

DSP EFFECTS TABLE

PROGRAM	EFFECT	PARAMETER 1	MIN	MAX	PARAMETER 2	MIN	MAX	TAP
01	Hall	Reverb time	01 (approx 1 second)	10 (approx 8 seconds)	Brilliance	OFF	ON	LED on/off
02	Room	Reverb time	01 (approx 0.5 second)	10 (approx 4 seconds)	Brilliance	OFF	ON	LED on/off
03	Plate	Reverb time	01 (approx 0.5 second)	10 (approx 5 seconds)	Brilliance	OFF	ON	LED on/off
04	Gated	Reverb time	01 (approx 0.1 second)	10 (approx 1 second)	Brilliance	OFF	ON	LED on/off
05	Reverse	Reverb time	01 (approx 0.1 second)	10 (approx 1 second)	Brilliance	OFF	ON	LED on/off
06	Early Reflections	Room size	01 (small)	10 (very large)	Brilliance	OFF	ON	LED on/off
07	Ambience	Area size	01 (small)	10 (very large)	Brilliance	OFF	ON	LED on/off
08	Delay	Repeats	01 (no regeneration)	20 (max regeneration)	Delay Time (bpm)	07 (72bpm)	60 (600bpm)	Blinking BPM Tempo
09	Echo	Repeats	01 (no regeneration)	40 (max regeneration)	Delay Time (bpm)	07 (72bpm)	60 (600bpm)	Blinking BPM Tempo
10	Chorus	Depth	01 (1%)	99 (99%)	Mod Speed bpm	02 (24bpm)	48 (480bpm)	Blinking Mod Speed
11	Flanger	Depth	01 (1%)	99 (99%)	Mod Speed bpm	02 (24bpm)	48 (480bpm)	Blinking Mod Speed
12	Phaser	Depth	01 (1%)	99 (99%)	Mod Speed bpm	02 (24bpm)	48 (480bpm)	Blinking Mod Speed
13	Detune	Depth	01 (1%)	99 (99%)	2nd voice delay	05 (5ms)	50 (50ms)	LED on/off
14	Pitch Shift	Semitone steps	-12 (1 octave down)	+12 (1 octave up)	Detune	OFF (0%)	ON (25%)	LED on/off
15	Delay + Rev	Ratio	-9 (90% Dly / 10% Rev)	9 (10% Dly / 90% Rev)	Delay time (bpm)	11 (116bpm)	60 (600bpm)	Blinking BPM Tempo
16	Chorus + Rev	Ratio	-9 (90% Cho / 10% Rev)	9 (10% Cho / 90% Rev)	Reverb time	12 (1.2sec)	24 (2.4secs)	LED on/off