

Zone Revolution

Quick Start Manual



IMPORTANT SAFETY INFORMATION

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. This appliance shall not be exposed to dripping or splashing water and that no object filled with liquid such as vases shall be placed on the apparatus.
16. Connect the equipment to an appropriate wall outlet that is readily accessible.
17. The mains plug is used as the disconnect device and shall remain readily accessible. If the mains plug is not readily accessible due to mounting in a 19" rack, then the mains plug for the entire rack must be readily accessible.
18. **WARNING:** To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
19. An appliance with a protective earth terminal should be connected to a mains outlet with a protective earth connection.



PRÉCAUTIONS DURANT UTILISATION

1. LISEZ ces instructions.
2. Tenez ces instructions.
3. Notez tous les avertissements.
4. Suivez toutes les avertissements.
5. N'utilisez pas ce produit près de l'eau (la piscine, la plage, le lac, etc.).
6. Nettoyez seulement avec une étoffe sèche.
7. Ne bloquez aucuns trous de ventilation. Installez en accord avec les instructions du fabricant.
8. N'installez près aucunes sources de chaleur comme radiateurs, registres de chaleur, fours ou les autres équipements (y compris amplificateurs) qui produisent la chaleur.
9. Ne défaites pas le but de sécurité de la fiche polarisée ou base-type. Une fiche polarisée a deux tranchants avec un plus large que l'autre. Une fiche de base type a deux tranchants et une troisième pointe de base, le tranchant large ou la troisième pointe est fourni pour votre sécurité. Si la fiche donnée ne conforme pas votre prise de contact, consultez un électricien pour remplacement de la prise de contact obsolète.
10. Protégez le cordon de secteur contre être marchée dessus ou pincez en particulier aux fiches, aux douilles de convenance, et au point où ils sortent de l'appareil.
11. Seulement utilisez attachements/accessoires spécifiés par le fabricant.
12. Utilisez seulement avec un chariot, un stand, un trépied, un support ou une table indiquée par le fabricant, ou vendue avec l'appareil. Quand un chariot est utilisé, faites attention en déplaçant la combinaison d'appareil/chariot pour éviter de se déséquilibrer.
13. Arrachez la fiche du dispositif durant éclair et orage ou quand pas utilisé pour longues périodes de temps.
14. Référez au personnel qualifié de service pour toutes réparations. La réparation est donnée quand le système a été endommagé à n'importe façon, par exemple un fil ou une fiche endommagé(e) de la source d'alimentation. Avoir été exposé à pluie ou humidité, n'opère pas normalement, ou avoir été tombé.
15. L'appareil ne doit pas être exposé aux écoulements ou aux éclaboussures et aucun objet ne contenant de liquide, tel qu'un vase, ne doit être placé sur l'objet.
16. Branchez l'appareil à une source appropriée et faire que la prise à débrancher soit facilement accessible.
17. La prise du secteur ne doit pas être obstruée ou doit être facilement accessible pendant son utilisation. Pour être complètement déconnecté de l'alimentation d'entrée, la prise doit être débranchée du secteur.
18. **AVERTISSEMENT:** Pour éviter le risque d'incendie ou de chocs électriques, ne pas exposer cet appareil à la pluie ou à l'humidité.
19. Un appareil avec la borne de terre de protection doit être connecté au secteur avec la connexion de terre de protection.



ZONE REVOLUTION

Zone Revolution is a stereo zoning solution for the bar and club market, providing a combination of mono and stereo outputs with the flexibility to handle most foreground and background processing applications. Larger stereo installations may be achieved by linking two Zone Revolution units together. Zone Revolution has the comprehensive processing you would expect from a state of the art DSP processor. Zone Revolution also offers multi bus paging when used with the ergonomic and visually stunning ICON paging microphones. Zone Revolution supports ICON-CP wall panels as well as 3rd party network control which can be easily configured to recall global presets, select signal sources, control levels as well as a host of other parameters. An optional CobraNet card is also available for integration with larger articulated systems.

Box Contents

- Zone Revolution
- Software CD
- Quick Start Manual

INTRODUCTION	1
FRONT PANEL	2
REAR PANEL	3
SETUP	4
ADVANCED SETTINGS/AUDIO SETUP	5
ICON-CP CONTROL PANELS/PANEL SETUP	8
MASTER OVERRIDE/GLOBAL PRESETS	9
CONTROL PANEL OPTIONS	10
DIMENSIONS	11
SPECIFICATIONS	12

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WARNING!

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT USE THE PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

TO PREVENT ELECTRICAL SHOCK, MATCH WIDE BLADE PLUG TO WIDE SLOT, FULLY INSERT.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

CAUTION

**RISK OF ELECTRIC SHOCK
DO NOT OPEN**

WARNING: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

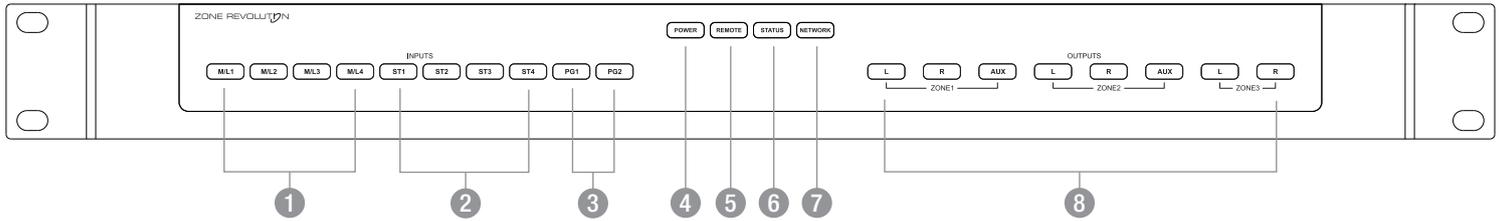


The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Rating plate and caution marking are marked on the back enclosure of the apparatus



FRONT PANEL



1 Mic/Line 1-4

Blue indicates signal presence

Pink indicates approaching signal clip

Red indicates signal clip

2 Stereo 1-4

Blue indicates signal presence

Pink indicates approaching signal clip

Red indicates signal clip

3 Page Inputs 1-2

Blue indicates signal presence

Pink indicates approaching signal clip

Red indicates signal clip

4 Power Indicator

Blue indicates mains power is present

5 RS485 Indicator

Blue indicates remote panels are present, the light will flash when data is passed across this network

6 Status Indicator

Blue indicates the system is running

Red indicates the system is busy or has an error

7 Network Indicator

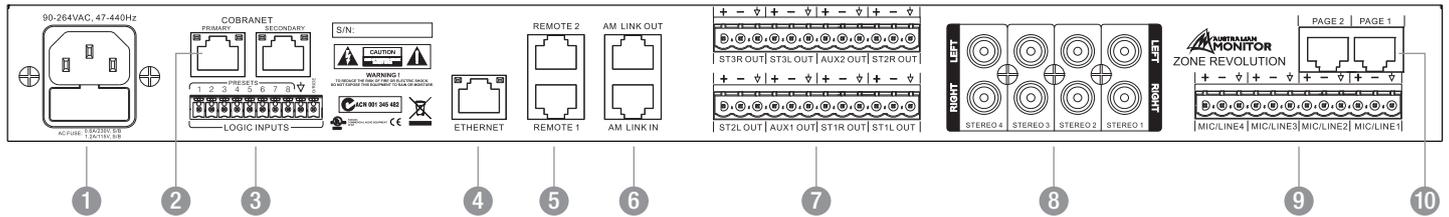
Blue indicates a network device is connected. The light will flash each time a packet is passed across this network

8 Zone Outputs

Blue indicates signal presence

Pink indicates approaching signal clip

Red indicates signal clip



1 IEC Mains Socket

This is a standard 3-pin IEC socket (IEC3020-C14). It accepts a standard IEC mains cable, provided. The fuse draw contains the mains fuse and a spare. The mains fuse is a time lag (slow blow) HRC 20mm x 5mm fuse, the fuse ratings are:

230V : 0.6A S/B

115V : 1.2A S/B

The power supply is universal so it will accept voltages from 90-264V.

2 Optional Cobranet Card

Optional module available to enable Cobranet connectivity. This card will parallel all inputs and outputs to be available on Cobranet.

3 Override and Preset Contact Closures

Pins 1-8 are trigger pins for the global presets. When any one of these pins are momentarily joined to the COM pin that preset will be triggered.

Pin O/Ride is a trigger for the external Master Override function. This can be set up within the software.

4 Ethernet Port

The Ethernet port is a standard RJ45 port which allows the user control with the supplied GUI or a third party control system.

5 RS485 Ports

The RS485 ports allow for the connection of ICON-CP control panels using standard pin to pin wiring. Use of straight through CAT5 cable is suggested to keep the RS485 line twisted for optimal noise rejection

6 AM Linking Ports

The AM Linking ports allow multiple Zone Revolution units to be linked for expansion purposes.

This feature is for future use.

7 Balanced Zone Outputs

Balanced outputs for each zone are supplied on Euroblock connectors for easy termination. These are a standard 5.08mm pitch.

8 Unbalanced Stereo Inputs

Unbalanced RCA connections are supplied for all stereo inputs. They are in stereo pairs as the unit supports stereo straight through.

9 Balanced Mic/Line Inputs

Mic/Line inputs are supplied on Euroblock connectors for easy termination. These are also a standard 5.08mm pitch.

10 Page Ports

The Page Ports allow for the connection of ICON Paging Stations. ICON Paging Stations use standard pin to pin wiring. Use of straight through CAT5 cable is suggested to keep the RS485 & Audio lines twisted for optimal noise rejection

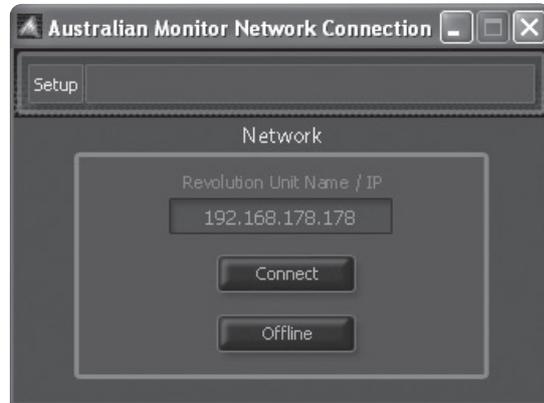


Network Connection:

When the Zone Revolution software is run for the first time a default connection page is launched. By clicking File > Settings it is possible to make this page not appear and have the software simply connect to the last known good connection. This allows the installer to have the software configured and connect automatically as the PC starts up.

The initial connection page also allows the user to update firmware and change the IP address within the Zone Revolution hardware. This can all be done from the Setup drop menu within the title bar.

All Zone Revolution units have a default IP address of 192.168.178.178.



Connection For the First Time:

It is suggested that when connecting to the Zone Revolution for the first time that a crossover cable is used straight between the unit and your PC. You will then need to change your network adapter to have an IP of 192.168.178.170 with a subnet of 255.255.255.0. Then all you will need to do is open the Zone Rev software and connect. Once you have connected for the first time you can set the units IP address or change it to DHCP.

Zone Control Page:

The main page of the Zone Revolution software allows the user to adjust all routing for a particular zone. In terms of DSP the zone routing page is after the input source processing but before the zone's output processing. All inputs within the Zone Revolution are available on all outputs. This page gives the user access to adjust basic functions such as volume, panning and mute controls.





Advanced Mode:

In the bottom right hand corner of the Zone Revolution software there is an “Advanced” button. The features allow the contractor to adjust DSP processing, min and max volumes and other advanced features. This section of the software can be password protected against inappropriate access. To set a new password click “Settings > Set Password”.

Out of the box the Zone Revolution does not have a password set. A password can be added by simply typing it into the new password box and a pop up will inform you that the change was successful. To remove a password simply type in the “Old password” and then leave the new password box blank, a prompt should appear telling you that the password has been removed.

Advanced Mode Set Up:

At the base of the advanced mode screen, there are four buttons added to the GUI. These allow set up of functions relating to the Audio Setup, Control Panels, Master Override and Presets.



Audio Setup

The Audio Setup page allows the user to control all DSP functions of each input and output signal. The page also allows the user to see the signal flow from input to output. Within this screen there are small signal indicators for each input and output. This page makes a great trouble shooting guide to see signal entering and leaving the DSP functions.





AUDIO SETUP CONTINUED

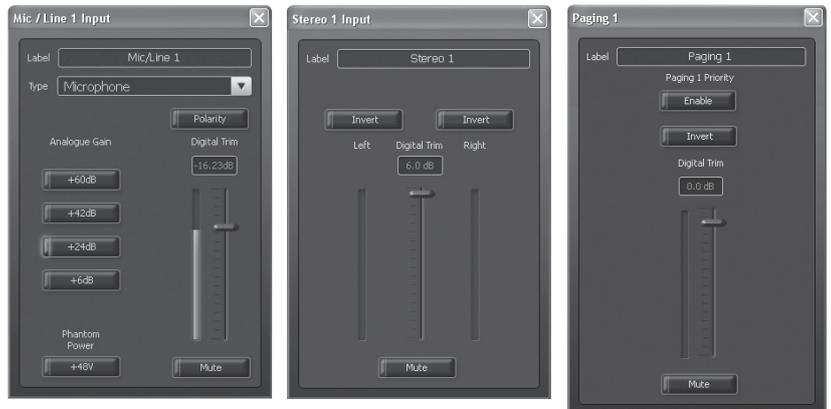
Inputs

Each Mic/Line input can be configured as either Microphone level or Line level. The user has options such as polarity, analog gain sensitivity and digital trim. Each Mic/Line input also supports full +48V phantom power.

The Analog gain steps are gain adjustments in the Analog domain where as the fader represents control of the DSP domain.

The stereo inputs follow most of the same functions that relate to line level inputs on the mic/line input.

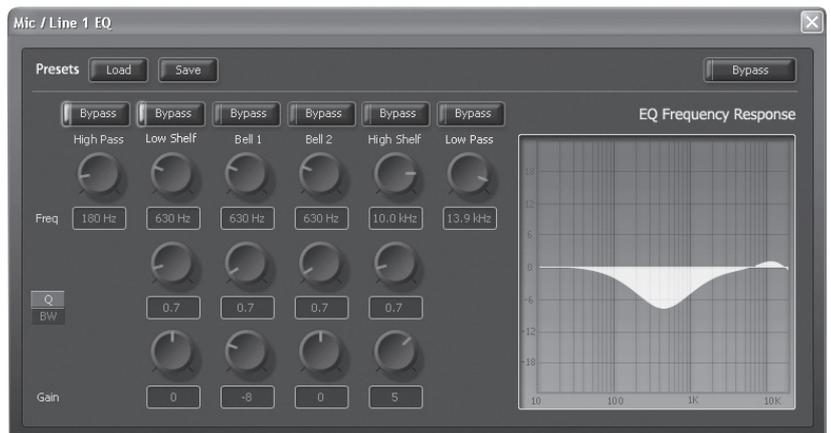
The page inputs provide a single digital trim fader, phase invert and mute buttons. Paging Input 1 also provides a priority enable feature than when enabled provides priority paging to this input.



Input EQ

Each input has comprehensive EQ functions: high and low pass filters, high and low shelf and two parametric filters. Each EQ can be adjusted in either Q or BW. All processing is represented on the EQ frequency response graph on the right hand side of that window.

You can save processing preset files for each block from the EQ onwards. This allows a user to have some preset EQ files such as "Gooseneck Microphone" or "Lapel EQ".



Dynamics

The dynamics page allows the user to adjust a Noise Gate for each input and also a Compressor or AGC for each input. Every block that contains two or more processing options has an overall "bypass" in red and a per function "bypass" in blue.





EQ/Crossover

The EQ/Crossover block allows you to set up a crossover and apply equalisation to each output. All stereo functions have a stereo link button. This will copy all functions from the left to the right in stereo applications.

Crossover

The crossover section of each output allows the user to set up a high pass, low pass and all pass filter. Each high and low pass filter can be either Butterworth, Linkwitz Riley or Bessel and can have slopes up to 48dB per octave.

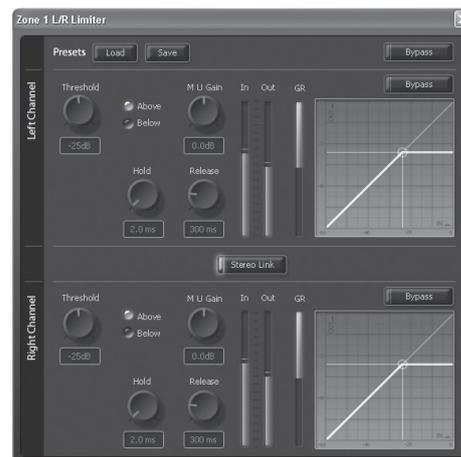
EQ

Each output also offers comprehensive EQ functions. These allow a user to configure a low and high shelf and 4 parametric filters.



Limiter

Each output features a fully optioned limiter with stereo link function on stereo zones.



Delay

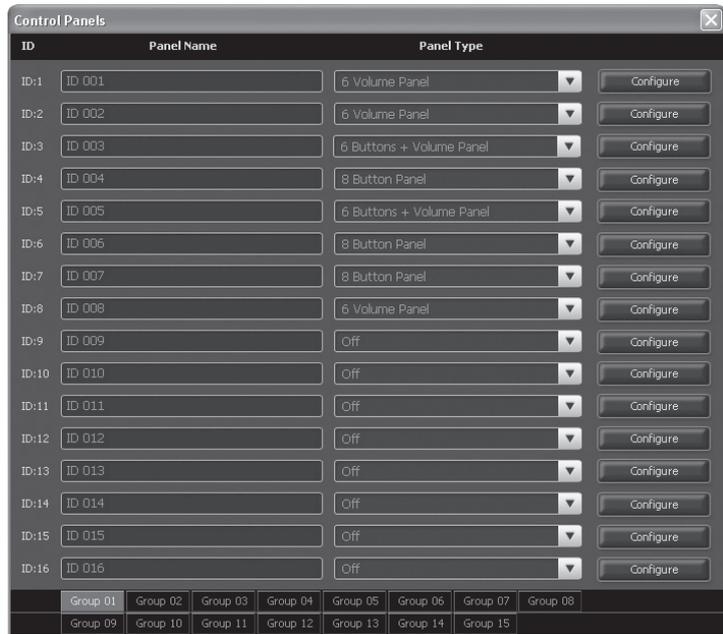
Each output has a delay for both the left and the right channel. It has coarse and also fine control for setting in precise delays. The user can also simply type in the required distance or time. At the bottom of the delay section a user can also adjust temperature for even more precise adjustment of delays and also switch the measurements between metric and imperial.





ICON-CP Control Panels:

The control panel screen allows the user to set up all control panels connected to their system. Each remote panel can be renamed for easy identification. Once a name is given to a panel the user can specify its type; options are 6 Volume, 6 buttons + volume or 8 buttons.



Panel Set Up:

From the "Configure" screen the user can set up the zone to be controlled and what parameter the control panel affects.





Master Override:

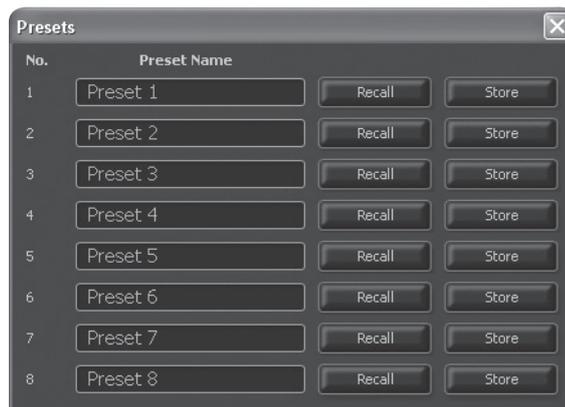
The master override screen allows a user to set up all aspects of the master override. This would be typically used for closure. The trigger source can be either signal presence or closed contact.

Once a trigger source has been selected you can configure the Master Override to “Mute all Inputs”, “Route Mic/Line 4 to all” and/or “Enable Paging”. Any combination of these settings is permitted. When “Route Mic/Line 4 to all” is selected, the controls for that channel disappear from the front page so the end user is unable to adjust the settings.



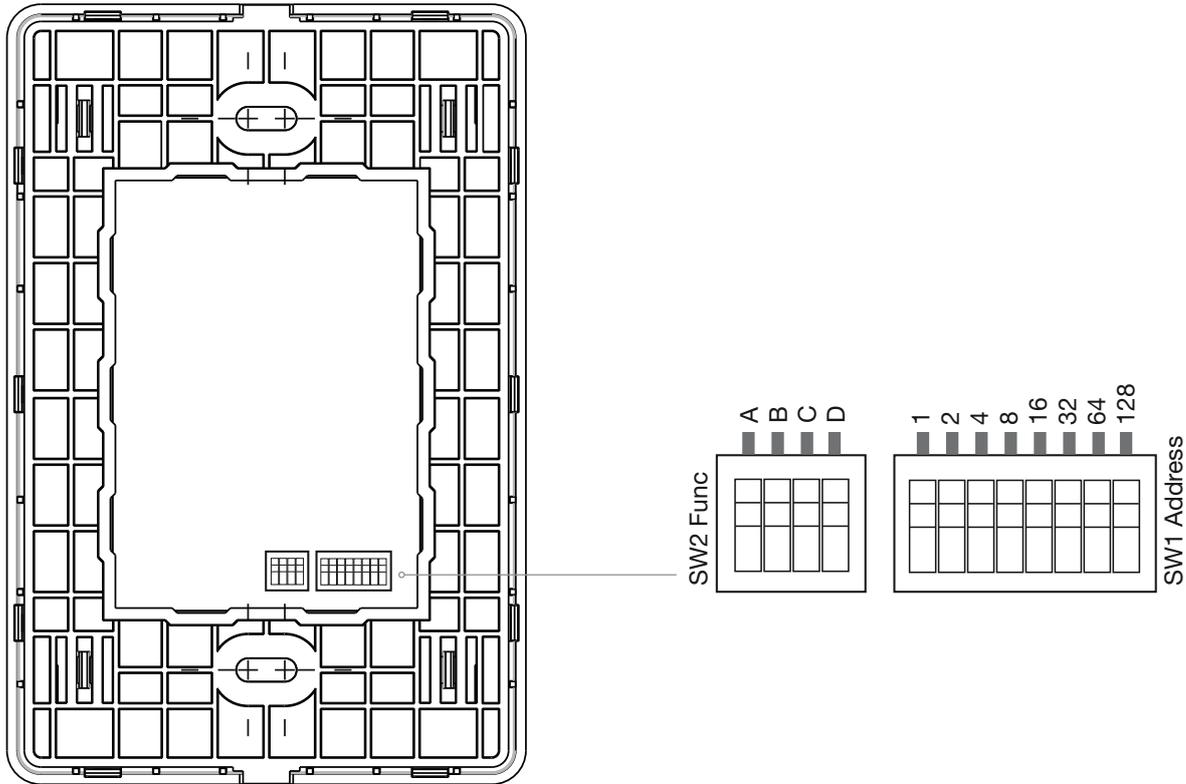
Global Presets:

The presets window allows the user to define up to 8 global presets. From this page you can recall presets for set up and also store current system information to a specific preset.





ICON-CP Control Panel



The Revolution series control panels (ICON-CP) have two banks of DIP switches on the rear of the control panel. The first bank of switches labeled SW1 allows the user to address the panel for RS485 communications. The second bank of switches allows the user to set up the LED functions for the remote panel.

SW1:

RS485 addresses 1-240 are allowed. With any other address the unit will blink its error LED's.

SW2

A: ON = LED Brightness varies based on ambient light, OFF = Fixed Brightness

B: ON = Low Brightness (if switch A is on fixed brightness mode), OFF = Normal Brightness

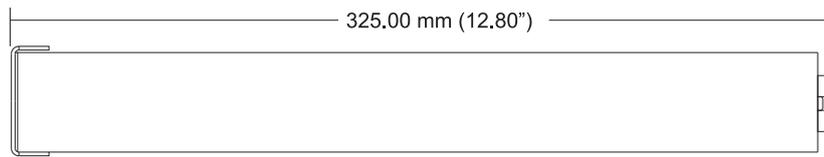
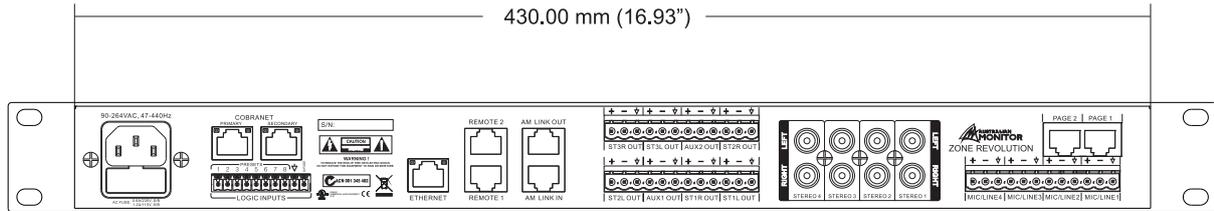
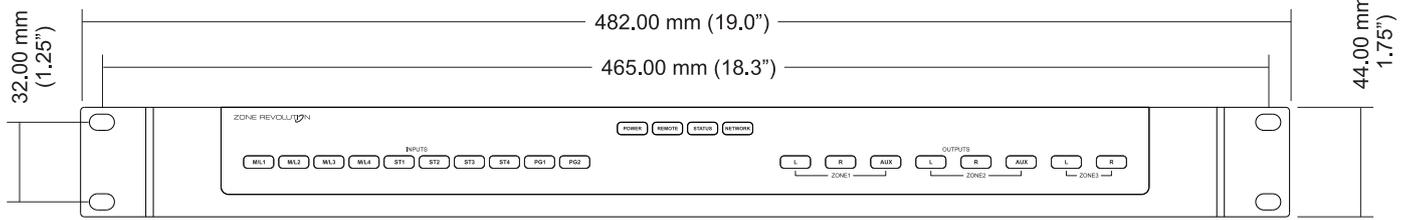
C: Unused on Revolution series

D: Unused on Revolution series

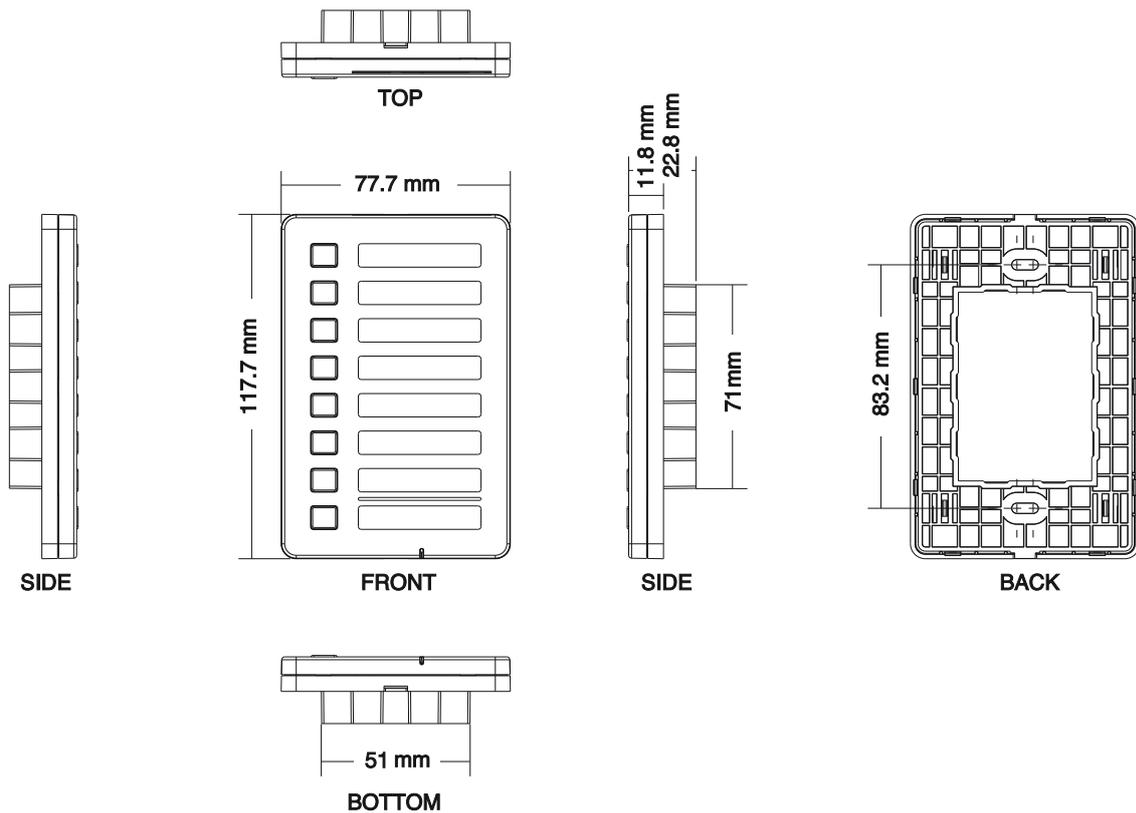
The ICON-CP control panels do not hold any project data so if a panel was to fail or be broken it could simply be swapped out with a unit set to the same address. All control panels are constantly polling the RS485 network for status. This will allow the user to update settings via 3rd party, other control panels or the software GUI and have all panels constantly up to date.

Each RS485 port on the Revolution series allows you to run up to 20 control panels to a maximum distance of 500 metres. With each unit featuring two RS485 ports, this allows the AV Revolution to run up to 40 ICON-CP's on two separate 500m runs. The 500m limitation of the control panels is due to power loss over distance and not RS485 limitations meaning if lengths longer than 500m are required you need to inject power locally for greater distances.

ZONE REVOLUTION DIMENSIONS



ICON-CP DIMENSIONS





SPECIFICATIONS

Parameter	Specification	Unit	Conditions
Analog I/O			
Balanced Mic Input	Euroblock Connectors		
Impedance	2	K Ohm	
Phantom Power	48	V	Selectable per input
Gain / Max Input	Gain	Max Input	
	6 dB	6 dBu	
	24 dB	-12 dBu	
	42 dB	-30 dBu	
	60 dB	-48 dBu	
Balanced Line Input	Euroblock Connectors		
Impedance	5	K Ohm	
Gain / Max Input	Gain	Max Input	
	-12 dB	24 dBu	
	+6 dB	6 dBu	
Unbalanced Line Input	RCA Connectors		
Impedance	15	K Ohm	
Maximum Input	6.2	dBu	
Balanced Outputs	Euroblock Connectors		
Impedance	50	Ohm	
Maximum Output	24	dBu	
System			
Frequency Response	20 – 20000	Hz	
THD + N	0.003	%	From Input to Output (1KHz +4dBu)
Dynamic Range	108	dB	
Sample Rate	48	kHz	
Latency	2.1	ms	Analog to Analog
Processor	2 x Analog Devices Sharc DSP (ADSP-21375) 32/40 bit floating point		
Processing Power	2 x 1596	MFLOPS	
Communications			
Ethernet	100 Base T		
Icon Control Panel RS485	500	m	Max cable length per port without external power
	20		Max number of remote panels per run
			240 Total using external power
Icon Page Stations	500	m	Max cable length per port
Hardware			
Net Weight	4.15	kg	
Size (w x d x h)	482 x 330 x 44	mm	
Chasis Style	1	RU	
Voltage	90 – 264	VAC	
Power Consumption	<30	VA	
Compliance	ETL	ETLc	
	CE		
	CTICK		

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