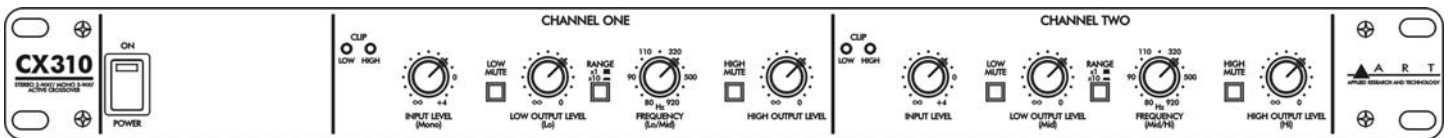


# CX310

## Stereo 2-Way / Mono 3-Way Active Crossover



## SERVICE GUIDE



## IMPORTANT SAFETY INSTRUCTIONS – READ FIRST



This symbol, wherever it appears, alerts you to the presence of uninsulated dangerous voltages inside the enclosure that may be sufficient to constitute a risk of shock.



This symbol, wherever it appears, alerts you to important operating and maintenance instructions in the accompanying literature. Please read the manual.

### Read instructions

Retain these safety and operating instructions for future reference. Heed all warnings printed here and on the equipment. Follow the operating instructions printed in this user guide.

### Do not open

There are no user serviceable parts inside. Refer any service work to qualified technical personnel only.

### Power sources

Only connect the unit to mains power of the type described in this user guide or marked on the rear panel. The power source must provide a good ground connection.

### Power cord

Use the power cord with sealed mains plug appropriate for your local main supply as provided with the equipment. If the provided plug does not fit into your outlet consult your service agent. Route the power cord so that it is not likely to be walked on, stretched or pinched by items placed upon or against.

### Grounding

Do not defeat the grounding and polarization means of the power cord plug. Do not remove or tamper with the ground connection on the power cord.

### Moisture

To reduce the risk of fire or electrical shock, do not expose the unit to rain, moisture or use in damp or wet conditions. Do not place container of liquid on it, which may spill into any openings

### Heat

Do not locate the unit in a place close to excessive heat or direct sunlight, as this could be a fire hazard. Locate the unit away from any equipment, which produces heat such as: power supplies, power amplifiers and heaters.

### Environment

Protect from excessive dirt, dust, heat, and vibration when operating and storing. Avoid tobacco ash, drink spillage and smoke especially that associated with smoke machines.

### Handling

Protect the controls from damage during transit. Use adequate padding if you need to ship the unit. To avoid injury to yourself or damage to the equipment take care when lifting, moving or carrying the unit.

### Servicing

Switch off the equipment and unplug the power cord immediately if it is exposed to moisture, spilled liquid or the power cord or plug becomes damaged during a lightning storm or if smoke odor or noise is noted. Refer servicing to qualified technical personnel only.

### Installation

Install the unit in accordance with the instruction printed in the user guide.

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## OVERVIEW

The ART CX310 Stereo 2-Way/ Mono 3-Way Active Crossover is a perfect addition to any sound reinforcement system. Designed for PA and fixed-installation applications, the CX310 employs 24dB/octave state-variable, fourth-order, Linkwitz-Riley filters. These filters guarantee in-phase outputs at all frequencies. This ensures the proper acoustic summing of common signals from adjacent drivers in the crossover region.

The CX310 may be used as either a stereo 2-way crossover network, splitting the signal in each channel into two separate frequency ranges (Lo and Hi), or as a mono 3-way crossover network, splitting one signal into three separate frequency ranges (Lo, Mid and Hi).

Each channel features input level, high and low output level and crossover frequency rotary controls. A frequency **x10** switch is provided for varying the crossover frequency from the standard 80Hz - 920Hz to 800Hz - 9200Hz. Front-panel output mute switches are provided for each individual output to ease system setup. The rear panel features balanced XLR and 1/4" TRS input and output connectors as well as a 2-way/ 3-way mode selector switch. Power for the CX310 is internal.

The ART CX310 Stereo 2-Way/ Mono 3-Way Active Crossover has the features and performance you need for any audio application requiring a crossover. Housed in a rugged all-steel chassis, the model CX310 will provide years of reliable and continuous service.

### Features

- Stereo 2-way or mono 3-way configurations
- Fourth-order Linkwitz-Riley filters
- Balanced XLR and 1/4" TRS input and output connectors
- Adjustable crossover frequency range (80Hz to 920Hz or 800Hz to 9.2kHz)
- Independent output level control for each output
- Individual output muting switches
- Clipping indicators on all outputs
- Rugged, fully shielded all-steel chassis
- Internal AC power supply
- Three year warranty

## INSTALLATION

The ART CX310 may be used in a wide variety of applications and environments. Enclosed in a 1U (1.75 inches high) rack-mountable, all-steel enclosure, the unit is designed for continuous professional use. The depth is 6.5 inches, exclusive of the power cord. Mounting location is not critical. However, for greater reliability, we recommend that you not place the unit on top of power amps or other sources of heat.

### AC POWER HOOKUP

The CX310 has an internal power supply designed to operate from 105 to 120VAC at 50/60Hz. Export units are configured with a different power cord and the voltage switch is set for the country of destination. Before plugging the CX310 into the AC mains, make sure that all of the equipment following the crossover outputs are turned off or that all of the outputs are turned down.

### INPUT/OUTPUT CONNECTIONS

The CX310 has XLR and 1/4" TRS phone jack connectors for each input and output. All connections are active balanced although the 1/4" phone jack connections can easily be converted to unbalanced operation by using two-conductor phone plugs. Inserting a plug into a 1/4" jack disconnects the associated XLR connector.

### MONO 3-WAY CONFIGURATION

This information is intended to clarify how the CX310 is used in the mono 3-way configuration.

#### Connections:

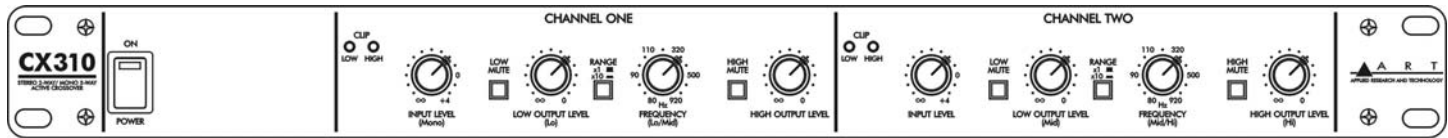
Input	Channel One INPUT (Channel Two INPUT not used)
Low Output	Channel One LOW OUTPUT
Mid Output	Channel Two LOW OUTPUT
High Output	Channel Two HIGH OUTPUT (Channel One HIGH OUTPUT not used)

#### Controls:

Input Level	Channel One INPUT LEVEL control
Low Output Mute	Channel One LOW MUTE switch
Low Output Level	Channel One LOW OUTPUT LEVEL control
Low/Mid Crossover	Channel One RANGE switch and FREQUENCY control (Channel One HIGH MUTE switch and HIGH OUTPUT LEVEL control not used) (Channel Two INPUT LEVEL control not used)
Mid Output Mute	Channel Two LOW MUTE switch
Mid Output Level	Channel Two LOW OUTPUT LEVEL control
Mid/High Crossover	Channel Two RANGE switch and FREQUENCY control
High Output Mute	Channel Two HIGH MUTE switch
High Output Level	Channel Two HIGH OUTPUT LEVEL control

# OPERATION

## FRONT PANEL CONTROLS



### POWER SWITCH

The POWER switch applies and removes power to the unit. Make sure that all equipment after the CX310 is either off or the outputs are turned all the way down before turning the CX310 on or off.

### CLIP INDICATORS

Separate HIGH and LOW CLIP indicators are provided for each channel of the CX310. These indicators will light at approximately 3dB before clipping occurs in any stage of the channel. To prevent overloading the channel, either turn down the CX310 input control or turn down the output level of the piece of equipment feeding the CX310 (i.e. mixer, equalizer or other piece of processing equipment.).

### INPUT LEVEL CONTROLS

An INPUT LEVEL control is provided on each channel of the CX310. If you are using the CX310 as a mono 3-way crossover, the Channel One INPUT CONTROL is the only one used. The INPUT LEVEL control should be set at its 0 marking in most cases. Increasing or decreasing gain should only be done to make up for deficiencies in other parts of the system.

### MUTE SWITCHES

MUTE switches are provided for each output on the CX310. These are intended for use when setting up your system and testing either the crossover frequency point or the separate amplifiers and speakers they are feeding. These switches allow you to isolate a specific frequency output on a specific channel for fine-tuning or troubleshooting. It is not recommended that you mute or un-mute any frequency band during normal usage. Levels should be turned down when the MUTE switches are activated or de-activated.

### LOW AND HIGH OUTPUT LEVEL CONTROLS

Each channel of the CX310 has LOW and HIGH OUTPUT LEVEL controls. These controls are used to trim the output levels to the LOW and HIGH OUTPUT jacks on the rear of the unit, respectively. If you are using the CX310 as a mono 3-way crossover, the **Channel One** LOW OUTPUT LEVEL control sets the level of the LOW OUTPUT, the **Channel Two** LOW OUTPUT LEVEL control sets the level of the MID OUTPUT, and the **Channel Two** HIGH OUTPUT LEVEL control sets the level of the HIGH OUTPUT.

These controls attenuate only (there is no gain). In most cases you would set them to **0** (fully clockwise). You can use these controls to prevent overdriving the inputs of your amplifiers or to compensate for variations in amplifier gain or speaker efficiency. Additionally, you can use these controls to balance the level between highs and lows in your system.

## CROSSOVER FREQUENCY CONTROLS and RANGE SWITCHES

Each channel of the CX310 has a crossover FREQUENCY control and RANGE switch to set the crossover point for the high and low frequencies. These controls cover the frequency range of 80Hz - 920Hz, with the RANGE switch in the **out** position (x1), or 800Hz to 9.2kHz, with the RANGE switch in the **in** position (x10). All frequencies below the set frequency will be sent to the LOW OUTPUT and all frequencies above will be sent to the HIGH OUTPUT.

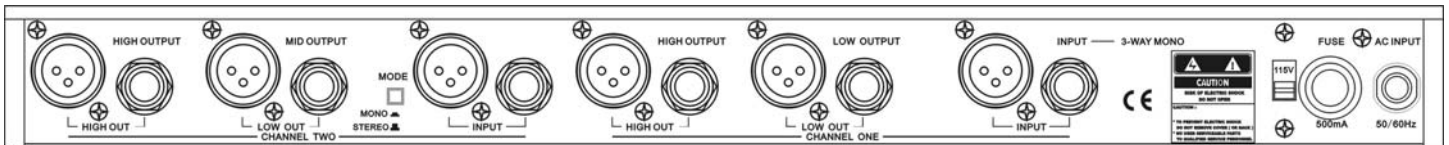
When the CX310 is used as a stereo 2-way crossover, both RANGE switches will most commonly be used in the **out** position (80Hz-920Hz). When used as a mono 3-way crossover, the **Channel One** FREQUENCY control is used to set the Low/Mid frequency point and the **Channel Two** FREQUENCY control is used to set the Mid/High frequency point. In this case, the **Channel One** RANGE switch will most commonly be used in the **out** position (80Hz-920Hz), while the **Channel Two** RANGE switch will most commonly be used in the **in** position (800Hz-9.2kHz).

The crossover filters are 4-pole Linkwitz-Riley designs (24dB/octave). This yields a sharp roll off to help protect speakers and the outputs sum to a flat response.

### NOTE:

**Never change the frequency range switches (from x1 to x10 position - or vice versa) with the crossover passing audio signals. This may produce transients that can damage speakers.**

## REAR PANEL CONNECTORS and CONTROLS



It is easy to interface the unit with a wide variety of equipment. The rear panel has balanced XLR and 1/4" phone jack connectors.

### XLR JACKS

The XLR connections are balanced and follow the AES standard for wiring: Pin 1 = Ground, Pin 2 = Hot (+) and Pin 3 = Cold (-). These connectors directly parallel the associated 1/4" connectors.

### 1/4" PHONE JACKS

The 1/4" connections are balanced with Tip = Hot (+), Ring = Cold (-), and Sleeve = Ground. A two-conductor (tip and sleeve) shorts the Cold (-) and Ground connections together to convert to unbalanced operation. Inserting a plug into a 1/4" jack disconnects the associated XLR connector.

### MONO/STEREO MODE SWITCH

This switch configures the CX310 for stereo 2-way operation with the switch in the **out** position or for mono 3-way operation with the switch in the **in** position.

## APPLICATIONS

The following guidelines refer to a P.A. system, but the same basic ideas apply to a home recording setup or a Hi-Fi system.

### Typical Setup

For a stereo 2-way system, separate high frequency (horn or tweeter) and low frequency (bass or subwoofer) speaker cabinets are used for each channel (left and right) of the stereo sound system and are driven by their own power amplifiers. For a mono 3-way system, separate high frequency (horn or tweeter), mid frequency (mid or full range) and low frequency (bass or subwoofer) cabinets are used for each channel of the sound system.

The crossover is used to split each channel's signal into two or three frequency bands, which feed separate amplifiers. This delivers the proper frequencies to each speaker cabinet as well as allowing its associated amplifier to produce acoustic power more efficiently.

**Note:** You will need **two** 310 crossovers if your three-way system is stereo.

**It is very important that you use caution when selecting the crossover points for any system. Refer to the documentation that came with your speaker cabinets for information on their proper frequency ranges. This is especially important for high frequency horns; damage may occur from sending lower frequencies than specified into the drivers!**

### Signal Flow

In most situations, the crossover is the last piece of equipment in the signal chain before the power amplifiers. Signal flow is as follows:

Mixer → Equalizer → Crossover → Power Amplifier → Speaker Cabinets

Sometimes a limiter is placed between the mixer outputs and the equalizer or after the equalizer for system protection.

### Initial Setup Tips

1. Set all level controls to their full counter-clockwise position.
2. Connect the output(s) of your mixer (or equalizer) to the input(s) of the CX310. If stereo, Channel One is left.
3. Connect the LOW OUTPUT of each channel (LOW OUTPUT of Channel One for mono 3-way configuration) to the power amplifier powering the low frequency cabinet(s).
4. If set for mono 3-way, connect the MID output (LOW OUTPUT of Channel Two) to the power amplifier powering the mid frequency cabinet.
5. Connect the HIGH OUTPUT of each channel (HIGH OUTPUT of Channel Two for mono 3-way configuration) to the power amplifier powering the high frequency cabinet(s).
6. Set the crossover frequency for each channel (they should be the same if your PA cabinets are the same) or each frequency band for mono 3-way configuration.
7. With the power amplifier volume controls turned all the way down, turn on all equipment in the system.
8. With a program source running through the system, turn up the power amplifier volume controls and slowly turn up the crossover input level controls while checking for clipping.
9. Turn up each of the crossover's output level controls while checking each individual output for sound and performance.



## SERVICE PARTS

PART #	DESCRIPTION	PART USAGE	LOCATION
100-5021-101	SWT DPDT LATCHING	switches for low mute, range, high mute, mono/stereo	(ALL)
100-5225-102	CON JACK 1/4" STEREO	input and output jacks	
310-2001-101	RSP POT 10KB	level pots	IN/OUTPUTS
310-2002-101	RSP POT 50KX4	frequency pots	FREQUENCY
310-2003-101	MLD CAP SWITCH BLACK	switch caps for low mute, range, high mute, mono/stereo	All switches
310-2004-101	MLD CAP POT BLK,GREY CAP W/WHITE LINE		All pots
310-2005-101	CON FUSE 1/2 A 5X20MM SLO-BLO	fuse	
341-2008-101	CON JACK XLR MALE	output jacks	X4, X6, HIGHOUTPUT*2
341-2009-101	CON JACK XLR FEMALE	input jacks	X1, X5
310-2006-101	XFM POWER SUPPLY BOARD UPDATED	New XFM TFC006EIS1	
3102007101	DIG I.C. JRC2068	IC101-104, IC108-109, IC 111-112	
3102008101	DIG I.C. HCF4068	IC113, IC213	
1005269104	Pwr swt SPST 6A w/LED		Front panel

# FULL BILL OF MATERIALS

## Assembly

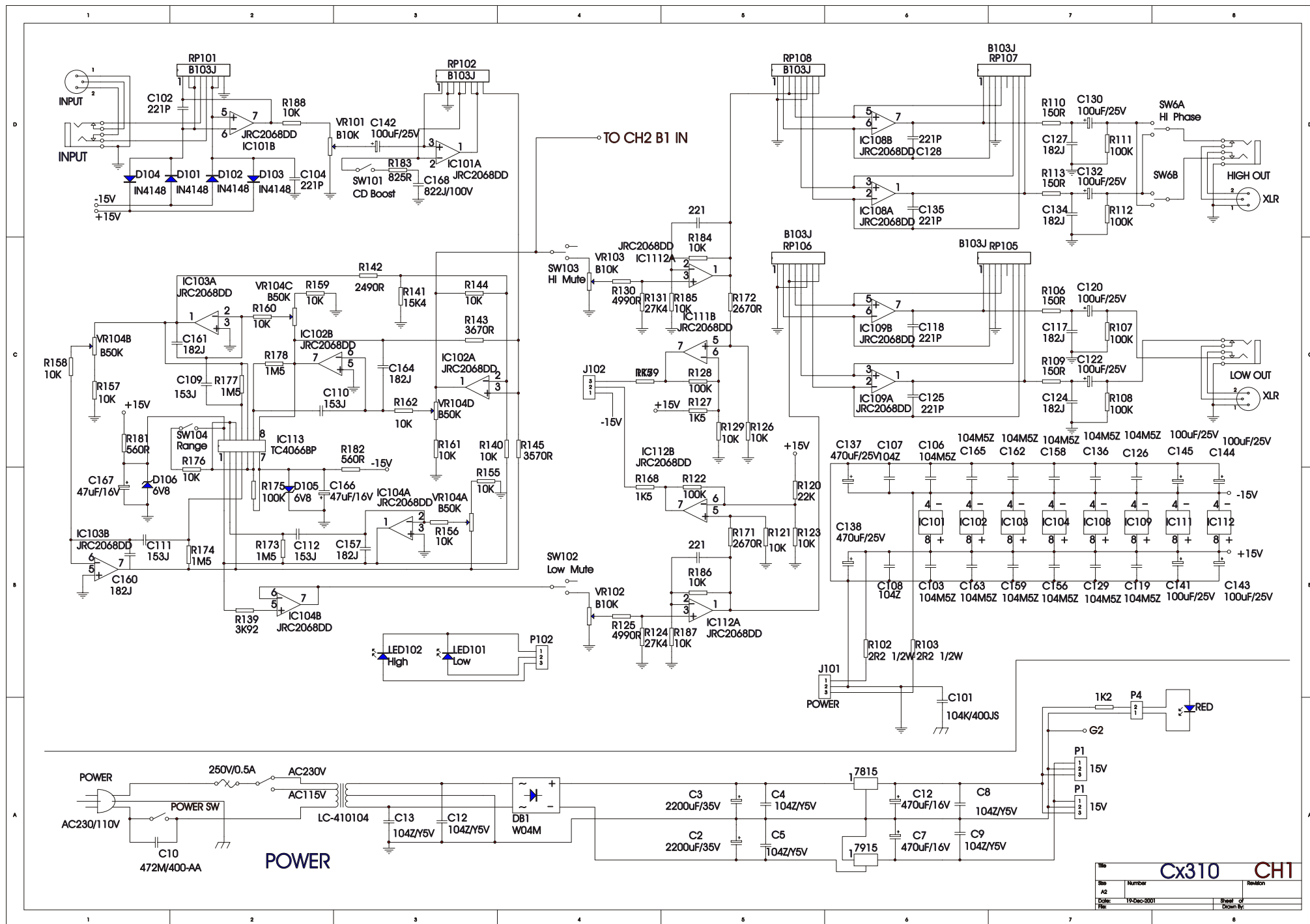
ART part#	Vendor part#	DESCRIPTION	LOCATION	QTY
3102006101	APDR016001	power board module CX-152/SE-100A	Shelf-finished	1
	APDR016002	ART-310 main board DIP	Shelf-finished	1
	APDR056002	LED board DIP	Shelf-finished	2
1001094110	FU31502D21	fuse 0.5A/250V 5*20mm SLOW BLOW	Slow-off type	1
	JAH2062211	FUSE-HOLDER CQ-206F		1
3102003101	KPCR061201	button P-08 M704Y1001H01 SQ BLK SWT CAP		7
3102004101	KPCT131602	knob CP-MB1-5-T18(M704D0001H15 POT KNOBS		8
3102001201	MBP00R0261	chassis FOR ART-311 black		1
3102003201	MCP00R0261	top cover, black		1
3102002201	MPP00R0261	front plate CX311 black silk-printing		1
	MFS00R0561	front stand		1
	NSA3006RB1	screw M3*6mm black	lock LED board to the front stand	4
	NNN3025HN1	nut M3*2.5mm tinning		1
	NSA3006FB1	screw M3*6mm black	lock cover, front stand, L type plate to chassis	16
	NSA3016PB1	screw M3*16mm ,round, black FOR 1U	lock front plate to front stand	4
	NSM3008PB1	screw M3*8mm round black	lock ground lug	2
	NSS3006PB1	screw M3*6mm round black	lock XLR	12
	NWG35071N1	Plum meson d=3.5mm*D=7mm	lock ground lug	1
1005269104	SW18110002	switch 6A with LED		1
	NSM3006PB1	screw M3*6mm round black	lock switchable switch	2
	SW09120001	switch 115V/230V		1
	WPE13633F2	power cord USA round 180 degree SVT 18#*3G	USA +205# terminal	1
	WPS08663H1	power cord Europe 90 degree ,H030 75m 2*3G	Europe +205# female terminal	1
<b>CX-310 packaging</b>				
	GE026BAGL1	plastic bag 170*270*0.04mm	for manual	1
	GR025INBP1	gift box FOR ART-CX	FOR UNIT	1
	GE136BAGL1	plastic bag 260*570*0.07mm	FOR UNIT	1
	GA136BAGL3	plastic bag 120x250x0.07mm w/warning mark	FOR POWER CORD	1
	GE136CSHC1	rubber feet 1U EPE EPE, white		2
3102004102	GR026G0001	manual FOR CX-310		1

## Main Ckt Board

ART part#	Vendor part#	DESCRIPTION	LOCATION	QTY
<b>CX310 MAIN CKT BOARD</b>				
<b>1001037111</b>	CC1040B4M2	.1uf/50v CC ±20% 5.0mm TAPING	C107 108 207 208	4
	CC2210B4K2	220P/50V CC 10% 5.0mm TAPING	C104 102 118 125 128 135 204 202 218 225 228 235	12
	CC2210B4M2	220PF/50V CC ±20% 5.0mm TAPING	R184 186 284 286	4
<b>1001162124</b>	CE107022M2	100UF/25V EC ±20% 5.0mm TAPING	C120 122 130 132 141-145 220 222 230 232 241-245	18
<b>1001162109</b>	CE476021M2	47UF/16V EC ±20% 5.0mm TAPING	C166 167 266 267	4
	CE477022M2	470uF/25V EC ±20% 5.0mm TAPING	C137 138 237 238	4
	CM1530B5J2	0.015UF/100V PEI ±5% 5.0mm TAPING	C109-112 C209-212	8
	CM1820B5J2	1800PF/100V PEI ±5% 5.0mm TAPING	C117 124 127 134 157 160 161 164 217 224 227 234 257 260 261 264	16
	CM8220B5J2	8200PF/100V PEI ±5% 5.0mm TAPING	C168 267	2
	CZ1040B4M2	0.1UF/50V±20% 5.0mm X7R TAPING	C103 106 119 126 129 136 156 158 162 163 165 200 203 219 226 229 236 159 256 258 259 262 263 265	24
<b>1001029101</b>	DE24148001	diode IN4148 TAPING	D101-104 D201-204	8
<b>1001030104</b>	DE35235001	diode IN5235B(1/2W 6.8V) TAPING	D105 106 205 206	4
	RE115043J4	1.5M1/4W ±5% TAPING	R173 R174 R177 R178 R273 R277 R274 R278	8
<b>1001001401</b>	RE810023F4	10K1/4W ±1% TAPING	R121 123 126 129 140 144 155-162 176 221 223 226 229 240 244 255-262 276 184-188 284-288	40
	RE810033F4	100K1/4W ±1% TAPING	R107 108 111 112 122 128 175 207 208 211 212 222 228 275	14
	RE815003F4	1501/4W ±1% TAPING	R106 109 110 113 206 209 210 213	8
	RE815013F4	1.5K1/4W ±1% TAPING	R168 179 268 279	4
	RE815423F4	15.4K1/4W ±1% TAPING	R141 241	2
<b>1001001339</b>	RE824913F4	2.49K1/4W ±1% TAPING	R142 242	2
	RE826713F4	2.67K1/4W ±1% TAPING	R171 172 271 272	4
	RE827423F4	27.4K 1/4W ±1% TAPING	R124 131 224 231	4
<b>1001001354</b>	RE835713F4	3.57K1/4W ±1% TAPING	R143 145 243 245	4
<b>1001001358</b>	RE839213F4	3.92K1/4W ±1% TAPING	R139 239	2
<b>1001001368</b>	RE849913F4	4.99K1/4W ±1% TAPING	R125 130 225 230	4
	RE856203F4	5621/4W ±1% TAPING	R181 182 281 282	4
	RE875013F4	7.5K1/4W ±1% TAPING	R127 227 120 220	4
	RE882503F4	8251/4W ±1% TAPING	R183 283	2
	CS1040IDK1	0.1UF/400V±10% 15.0mm	C101	1
<b>3102007101</b>	IC2068DD11	IC NJM2068DD DIP8	IC101-104 108 109 111 112 201-204 208 209 211 212	16

ART part#	Vendor part#	DESCRIPTION	LOCATION	QTY
3102008101	IC4066BP11	IC TC4066BP DIP	IC113 213	2
	JAB00321I1	jack BASE A2501-WV2-3P	J101	1
	RE6220B4J4	2.2R MO 1/2W $\pm 5\%$ TAPING	R102 103	2
	RE7B1032G5	8PIN 1/8W B103 $\pm 2\%$	RP101 102 105 106 107 108 201 202 205 206 207 208	12
1005225102	JA406311L2	jack PHONE D=6.3mm JLJ0661-6	IN1*2 X2-4 X6	6
3412009101	JA700311L1	jack XLR JACK female 94M-007P1	X1 X5	2
3412008101	JA700321L1	jack XLR JACK male 93M-108P1	X7 X8 HIGH OUT1*2	4
3102002101	VR3B503213	B50K*4 VR RV124NG KQ15mm $\pm 10\%$	VR104 VR204	2
3102001101	VR5B10321D	B10K VR RV1210 KQ 15mm $\pm 20\%$	VR101 102 103 201 202 203	6
1005021101	SW03220001	SWT DPDT LATCHING switch PS-909L-22	SW102--SW104 SW202-SW205	7
<b>CX310 LED ASSEMBLY</b>				
	PCR056251A	printing circuit FOR CX-152LED board \ 94V0 1.6mm		1
1001031111	DE51103001	diode D=3mm red		2
	EXLED R0561	LED SUPPORT LED-8 L= 8mm白色		2
<b>CX-310 POWER CKT BOARD ASSEMBLY</b>				
1001037111	CC1040B4M2	CC 0.1UF/50V $\pm 20\%$ 5.0mm TAPING	C4 5 8 9 12 13	6
	CC4720DDM1	4700PF/400V $\pm 20\%$ 10.0mm	C10	1
	CD4710DTK1	Surge absorber 14D 471 $\pm 10\%$ 10.0mm	C1	1
1001162112	CE108021M1	EC 1000UF/16V $\pm 20\%$ 5.0mm	C6 7	2
1001162107	CE228033M1	EC 2200UF/35V $\pm 20\%$ 7.5mm	C2 3	2
	DE70W04001	Bridge rectifier W04M 1A/400V	DB1	1
1001042102	IC00781552	IC 7815 TO-220	IC1	1
1001042101	IC00791552	IC 7915 TO-220	IC2	1
	RE112013J1	1.2K 1/4W $\pm 5\%$ MINI F-TYPE	IC3 1-3	1
	TFC006EIS1	power supply EI-41 115/230V PIN TYPE FOR CX		1

## SCHEMATICS





## WARRANTY INFORMATION

### Limited Warranty

Applied Research and Technology will provide warranty and service for this unit in accordance with the following warrants:

Applied Research and Technology, (ART) warrants to the original purchaser that this product and the components thereof will be free from defects in workmanship and materials for a period of **three** years from the date of purchase. Applied Research and Technology will, without charge, repair or replace, at its option, defective product or component parts upon prepaid delivery to the factory service department or authorized service center, accompanied by proof of purchase date in the form of a valid sales receipt.

**This warranty does not apply in the event of misuse or abuse of the product or as a result of unauthorized alterations or repairs. This warranty is void if the serial number is altered, defaced, or removed.**

ART reserves the right to make changes in design or make additions to or improvements upon this product without any obligation to install the same on products previously manufactured.

ART shall not be liable for any consequential damages, including without limitation damages resulting from loss of use. Some states do not allow limitations of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific rights and you may have other rights, which vary, from state to state.

For units purchased outside the United States, an authorized distributor of Applied Research and Technology will provide service.

## SERVICE

The following information is provided in the unlikely event that your unit requires service.

1. Be sure that the unit is the cause of the problem. Check to make sure that the unit has power supplied, that all cables are connected correctly, and that the cables themselves are in working condition. You may want to consult with your dealer for assistance in troubleshooting or testing your particular configuration.
2. If you believe that the ART unit is at fault, go to [www.artproaudio.com](http://www.artproaudio.com). You may contact Customer Service for more assistance, or directly request a Return Authorization for service in the “resources” area of the website.
3. If you are returning the unit for service, pack the unit in its original carton or a reasonable substitute. The original packaging may not be suitable as a shipping carton, so consider putting the packaged unit in another box for shipping. Print the RA number clearly on the outside of the shipping box. Print your return shipping address on the outside of the box.
4. Include with your unit: a note with the RA number and your contact information, including a return shipping address (we cannot ship to a P.O. box) and a daytime phone number, and a description of the problem, preferably attached to the top of the unit. Also include a copy of your purchase receipt.

Fill in the following information for your reference:

Date of purchase	_____
Purchased from	_____
Serial Number	_____



## SPECIFICATIONS

Input Connections	XLR, 1/4" TRS, balanced
Output Connections	XLR, 1/4" TRS, balanced
Frequency Response	10Hz to 20kHz, +0/-1.5dB
Crossover Frequency Range	
x1	80Hz to 920Hz
x10	800Hz to 9.2kHz
Crossover Filter Type	Fourth-order Linkwitz-Riley, 24dB/octave
Dynamic Range	118dB
Signal to Noise Ratio	>85dB
Input Impedance	20k Ohms
Output Impedance	150 Ohms
Maximum Input Level	+13dBu
Maximum Output Level	+21dBu
Total Harmonic Distortion (THD)	<0.05% (20Hz-20kHz)
Maximum Gain	+4dB
Power Requirements	105-120V AC, 50-60hz, 3VA (USA) Export units configured for country of destination
Dimensions (HWD)	1.75" x 19" x 6.5" 44mm x 483mm x 165mm
Weight	7.1 lbs. (3.2 kg)

ART maintains a policy of constant product improvement. ART reserves the right to make changes in design or make additions or improvements to this product without any obligation to install these changes on products previously manufactured. Therefore, specifications are subject to change without notice.



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**CX310**  
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