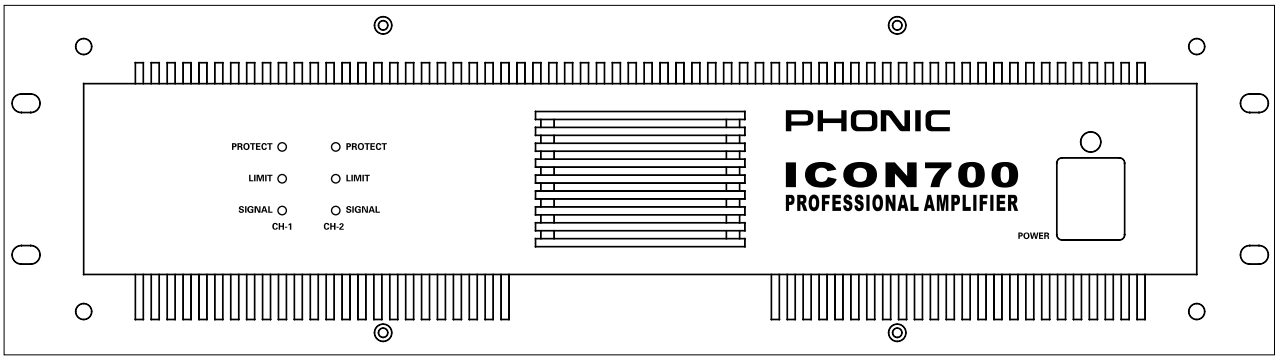
PHONIC

ICON 300
ICON 700

Contractor Power Amplifier



ICON 700

English

User's Manual

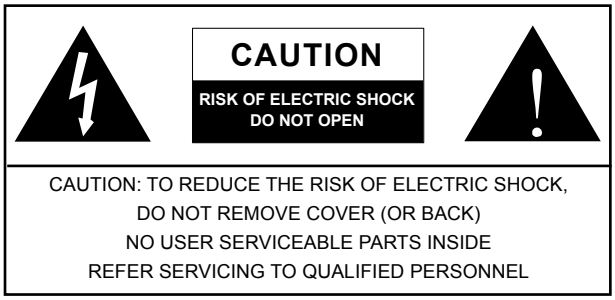
IMPORTANT SAFETY INSTRUCTIONS

The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus. The MAINS plug is used as the disconnect device, the disconnect device shall remain readily operable.

Warning: the user shall not place this apparatus in the confined area during the operation so that the mains switch can be easily accessible.

1. Read these instructions before operating this apparatus.
2. Keep these instructions for future reference.
3. Heed all warnings to ensure safe operation.
4. Follow all instructions provided in this document.
5. Do not use this apparatus near water or in locations where condensation may occur.
6. Clean only with dry cloth. Do not use aerosol or liquid cleaners. Unplug this apparatus before cleaning.
7. Do not block any of the 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 is 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 plug, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with a 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 lighting 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.



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.

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.

WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

CAUTION: Use of controls or adjustments or performance of procedures other than those specified may result in hazardous radiation exposure.

ICON 300/700

Contractor Power Amplifier

USER'S MANUAL

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Phonic reserves the right to improve or alter any information supplied within this document without prior notice.

V1.1 10/10, 2005

INTRODUCTION

Congratulations on your purchase of the Phonic Icon 300 or 700 power amplifier. The Icon Series is a line of professional power amplifiers specifically designed for contracting application. These two models each has independent channels and is available for driving 200V, 140V, 100V, 70V, 50V or 25V "constant voltage" lines. Each channel has its own power transformer (toroidal type) secondary to provide maximum audio separation (minimum sound leakage) between two channels, minimizing interaction that can otherwise occur on amplifiers with a common power supply.

FEATURES

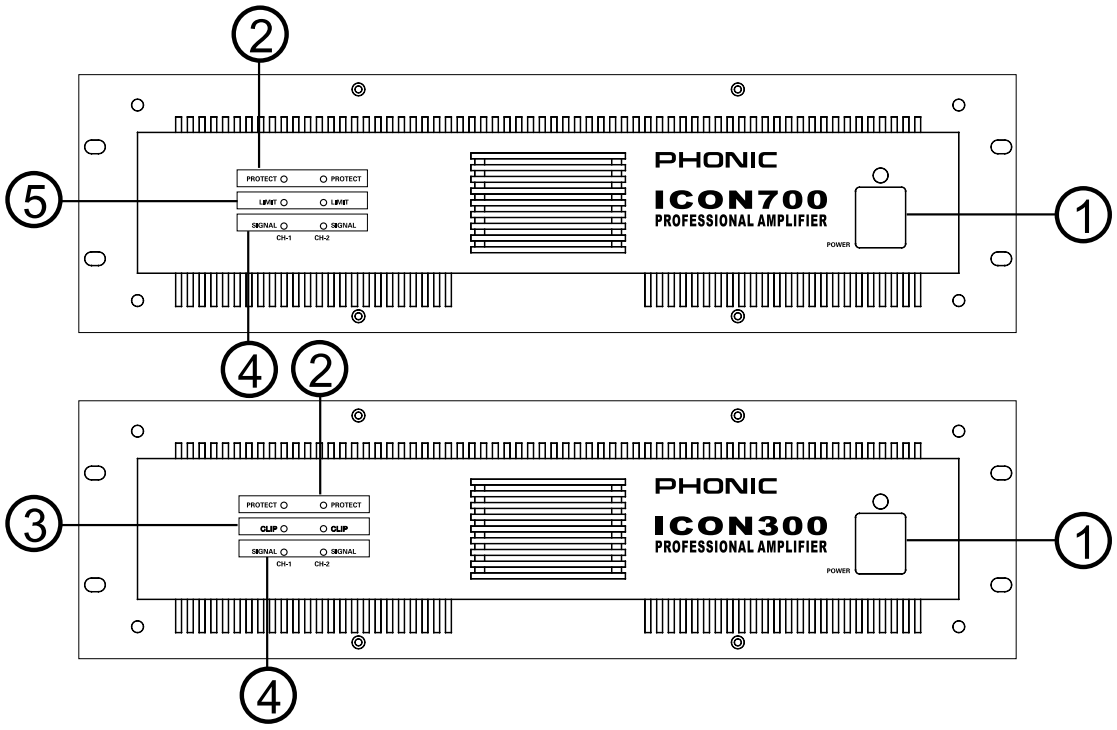
- Automatic dual-speed, high efficiency fan cooling
- Rear panel detented gain controls for security and resetability
- Stereo, bridge or parallel operating modes
- XLR and barrier strip inputs
- XLR in and outs for multiple amplifier operation & easy signal pass-through
- Fully short-circuit, temperature and DC offset protection
- Barrier strip connection determines output mode - 25V, 70V, 100V and direct outputs available simultaneously
- Toroidal output transformers provide full electrical isolation and meet worldwide safety agency approval
- Built-in 45 Hz subsonic filter prevents speaker transformer saturation with minimal effect on program material
- Power-up muting

PRECAUTIONS

1. When first powering up the amp, keep the amplifier gain controls all the off, in order to block potentially damaging or annoying sounds caused by defective cables or hookups. When turning up the gain, do it gradually, until normal operation is verified. These precautions are necessary with all high-power amplifiers, since they have enough power to blow most speakers in abnormal situations.
2. Check the AV Voltage before connecting the AC plug
3. Speaker Output Shock Hazard! The Icon 300 and 700 amps are capable of producing hazardous output voltages. To avoid electrical shock, make sure the cover is in place over the output terminals, and do not touch any exposed speaker wiring while the amplifier is operating.

ABOUT THIS MANUAL

Please be reminded that a power amplifier is a high-current, high-power device and should be treated with respect and care. Please read this manual before connecting and operating your unit, and file it in a safe place for future reference.



FRONT PANEL DESCRIPTION

1. Power Switch
The power ON/OFF switch with an LED indicator.

2. Protect LED Indicator
The Icon 300/700 features several types of protection to prevent damage to the circuitry during turn-on or fault conditions. If the LEDs light up, this indicates that one of the various protections is safeguarding the different sections of the amplifier and in these cases, the power output is normally switched off until normal operating conditions are restored.

- Loudspeaker protection: the power-on protection relay prevents damaging thumps to the speakers as the power comes on. When the amp is switched on, the protect LED will light for a few seconds, and then go out, indicating that the relay has closed.

- Thermal protection on the heat sink: If the amp overheats, thermal shutdown protects the circuitry until the temperature is reduced to a safe level.

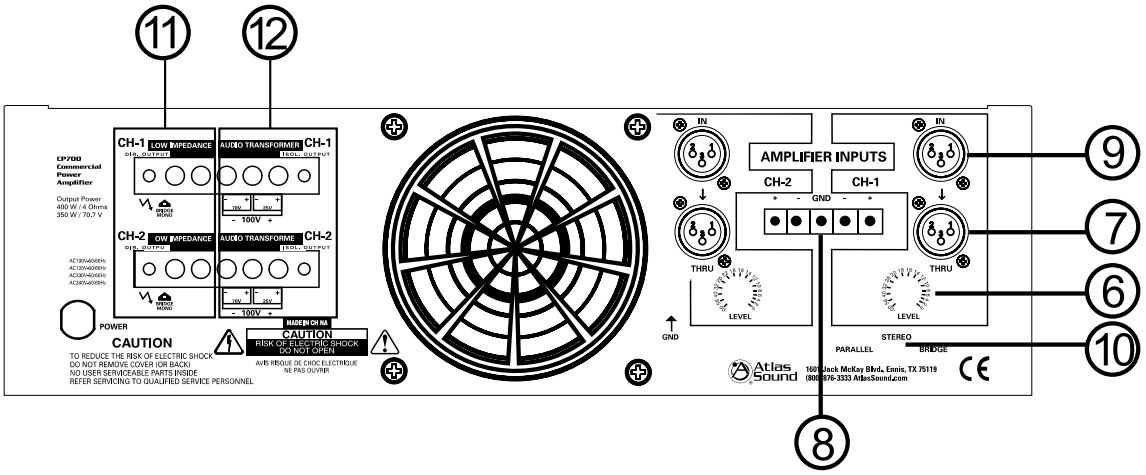
- Short circuit protection: The Protect LED Indicator will also light up if the speaker terminals are short-circuited, or the impedance of the load is too low. In these circumstances, the Protect LED will stay on until the fault conditions are rectified.

Some protection situations require the amplifier to be switched off and then back on for normal operating conditions to be restored.

3. Clip LED Indicator (Icon 300)
The LEDs light up at clipping status, whenever any conditions occur that could cause problems for the amp, such as an out-of-spec load and waveform distortion. Because of the Icon's ability to enter and exit clipping with as few audible artifacts as possible, you may not hear any distortion even if the indicator flashes. In general, a few flashes every now and then will not be a problem. However, if the LEDs flash often or remain on for any extended period of time, then turn down the volume controls to reduce the signal level going to the Icon amp. If this doesn't solve the problem, check your output cables and speakers.

4.Signal “Status” LED Indicator
Each channel of the Icon 300/700 features a signal LED to show that there is an audio signal at the input to the channel. The threshold for the indicator is -26dB, which should be enough to avoid noise triggering the LED.

5. Limit LED Indicator (Icon 700)
The Icon 700 has a built-in limiter on each channel to prevent clipping. Should the signal reach a level high enough to cause clipping (ie. output power is over 400W per channel), the limiter momentarily reduces the input signal level, just enough to prevent it. The limit LED lights whenever this occurs.



REAR PANEL DESCRIPTION

6. Gain Controls
These two knobs and the level controls for channels one and two respectively. Turning clockwise will increase its gain and counter clockwise will decrease its gain. Please always power-up with the volume all the way down, and increase the volume slowly to make sure that no conditions exist which could annoy your audience or harm your speakers.

7. CH1/CH2 Inputs (XLR Connectors)
These inputs are provided for making balanced connection to mixers, preamps, etc. The XLR inputs are wired as per the following convention:

8. Balanced Barrier Strip Inputs
These connection points provide the best option for permanent or long-term installation. Connections should be screwed down tight to exclude oxygen, and care should be taken to avoid loose strands of wire that may cause short circuits.

9. CH1/CH2 Parallel Pass Through XLR Connectors
These XLR output connectors are provided for parallel connection to another Icon or other amplifier.

10. Stereo/Parallel/Bridge Switch
In **Stereo** operation, two separate signals are treated separately by channels 1 and 2 of the amplifiers.

In **Parallel** operation, one signal is treated by bother channel 1 and 2 of the amplifier. In other words, a signal connected to Input CH1 (6) or CH2 (7) is sent to both Output CH1 (10) and CH2 (11).

In **Bridge** operation, both channels are configured to drive a single load with a single signal to CH1 (only CH1 is operative, and CH2 input must be vacant) at twice the power.

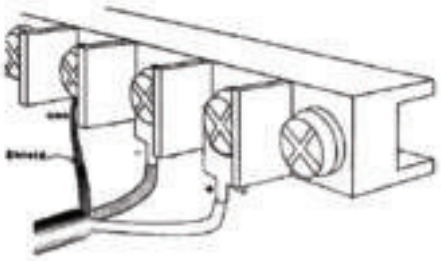
This switch should only be used when the Amplifier is off; otherwise the speakers' components could be damaged.

11. Direct Output Connectors, CH1/CH2
These are barrier strips to connect low impedance speakers. Spade lugs and bare wires should both be screwed down tight to exclude oxygen, and care should be taken to avoid loose strands of wire that may cause short circuits.

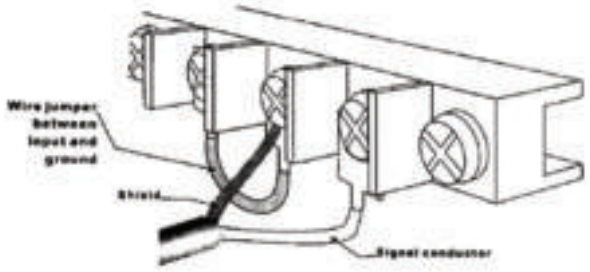
12. Audio Transformer Outputs, CH1/CH2
These are barrier strips to connect distributed line (25V, 70V, 100V, 140V and 200V). Spade lugs and bare wires should both be screwed down tight to exclude oxygen, and care should be taken to avoid loose strands of wire that may cause short circuits.

Balance Barrier Strip Input Connections

Balanced connection - Attach as shown. Connect the (+) wire and ground wire to terminal pins as marked.



Unbalanced connection - Attach input signal wires as shown. Use the non-inverting (+) input and the ground terminals of the header, and also connect a wire jumper between the inverting (-) input and the ground terminal. The wire jumper will prevent a reduction in gain caused by a floating unbalanced input.



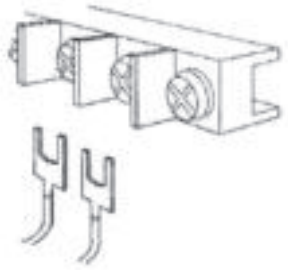
Input sensitivities - Audio signals of these levels will produce full rated output power at 8 ohms.

ICON 300 - 1.02Volts (+2.4dBu)
ICON 700 - 1.02Volts (+2.4dBu)

Barrier Strip Output Connections

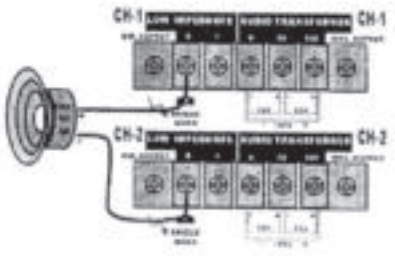
Barrier strips located on the rear panel allow speaker cable connections to the amplifier output. See the diagrams for details on connecting speakers and/ or distributed (23-, 70-, or 100-volt) lines. Insulated connectors of the type shown are recommended.

Always make sure the amplifier is turned off before you change any output connections.

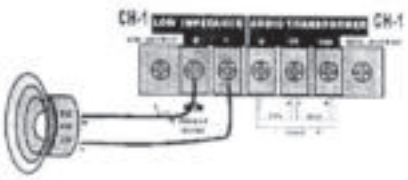


Loose screw terminals, insert wire connectors under screws. Tighten screw terminals.

Direct low impedance:



Output connection for Icon 300/700, bridge mono mode



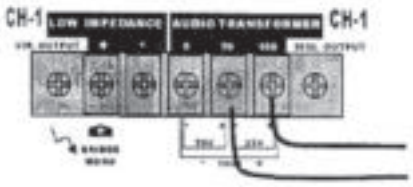
Output connection for Icon 300/700, direct low impedance

Bridge Mono Configuration for Direct Outputs

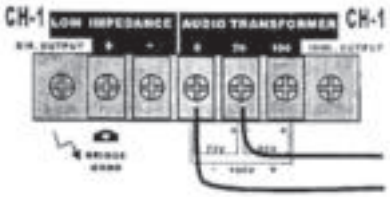
1. Set into bridge mode
2. ***Connect the signal to channel 1's input only. Do not connect an input signal to channel 2.***
3. **Use on channel 1's gain control to set the level.** Both channels' signal and clip indicators should flash identically when the amplifier is operating.

Audio Transformer Outputs

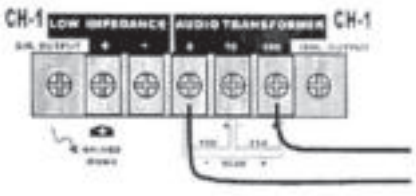
Make sure the sum of the power settings of all the speakers does not exceed the power rating of the amplifier. It is a good practice to allow a 20% safety margin. For example, if the amplifier has a power rating of 300W, it is always a good idea to make sure the sum of the loudspeaker loads on the distributed line is 240W or less.



25 volt line output connection



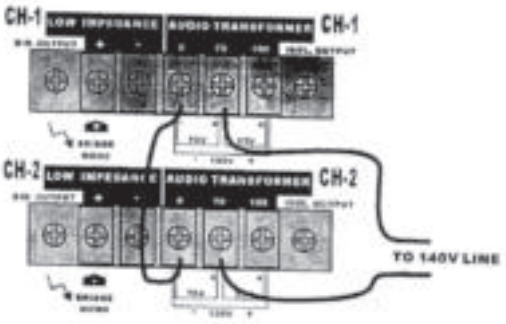
50 volt line output connection



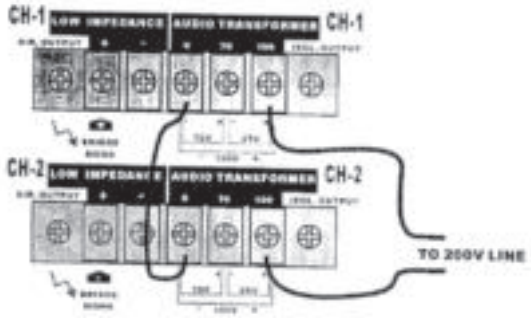
100 volt line output connection

Bridge Mono Configuration for Audio Transformer Outputs

1. For driving 140V or 200V distributed lines, the amplifier must be set into bridge mono mode.
2. ***Connect the signal to channel 1's input only. Do not connect an input signal to channel 2.***
3. ***Use only channel 1's gain control to set the level.*** Both channels signal and clip indicators should flash identically when the amplifier is operating.



140 volt line output connection,
bridge mono mode



200 volt line output connection,
bridge mono mode

Parallel Mono Configuration

The "Parallel mode" ties the two channel inputs together so that both are driven by the same signal, without the need for external jumpers or wiring. After the inputs, both channels operate independently. Though they carry the same signal, their gain controls affect only their respective channels, which must be used separately. Please refer to the previous Rear Panel Description. *Never parallel the speaker outputs.*

Low-Impedance and Distributed Speakers on Icon Amplifiers

If your application calls for connection of an 8 ohm speaker and a distributed line to the same amplifier channel, the Icon 300 and Icon 700 are among the very few amplifiers that can do that. However, since most of the audio power is drawn by the direct-connected speaker, you must derate the distributed line; and the distributed line should have a total power load of no more than one-fourth of the amplifiers normal distributed line power rating.

- Computing maximum allowable distributed line load with a known low-impedance load

MaxTOP = [MaxRatedPL - ((2 x MaxRatedPL)/ Impedance)]/2

MaxTOP is the sum of the power taps of the speakers connected to the Audio Transformer outputs.
MaxRatedPL is the maximum rated power of the amplifier into a two ohm load.
Impedance is the load impedance connected to the direct outputs.

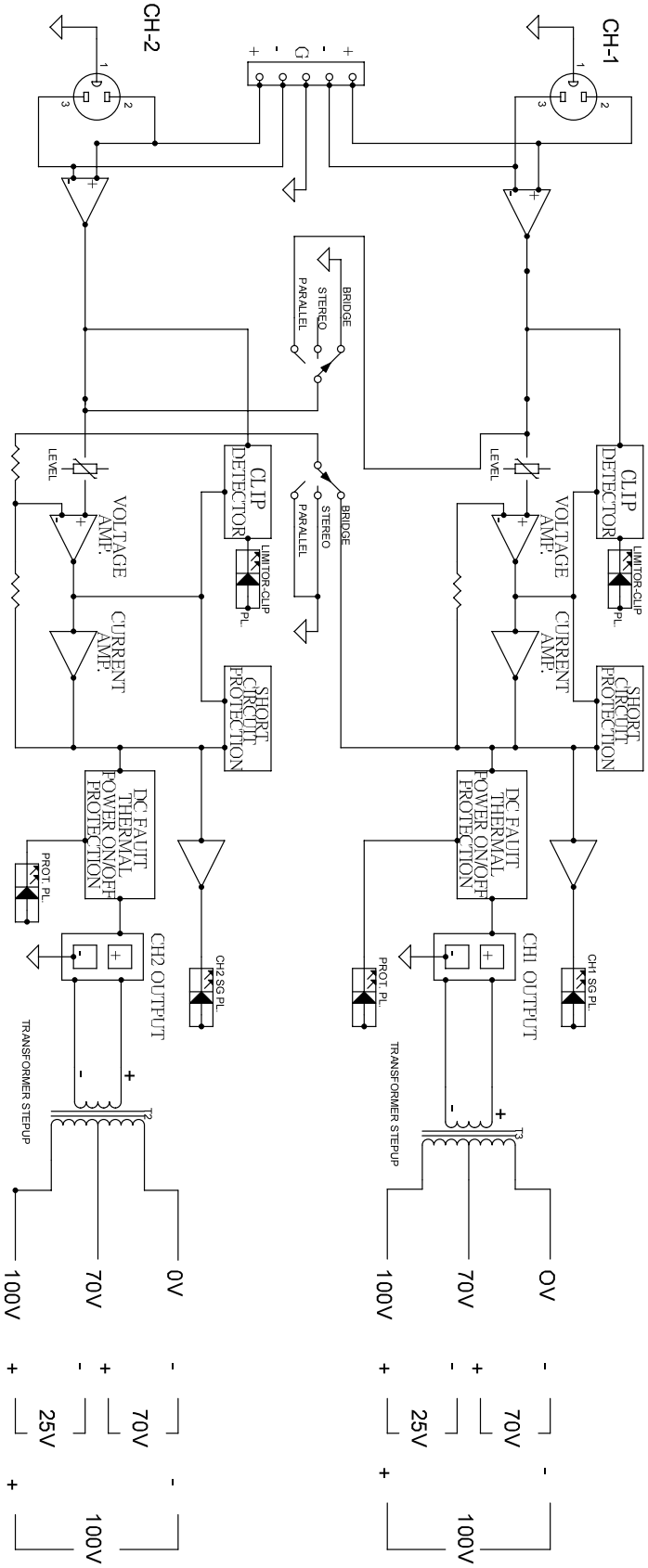
Example: One channel of an Icon 700 has an 8-ohm load connected to the Direct (low impedance) output. Then the maximum power left available to drive a distributed line is: MaxTOP = [550-((2x550/8)/2)] = 206 Watts

Specifications

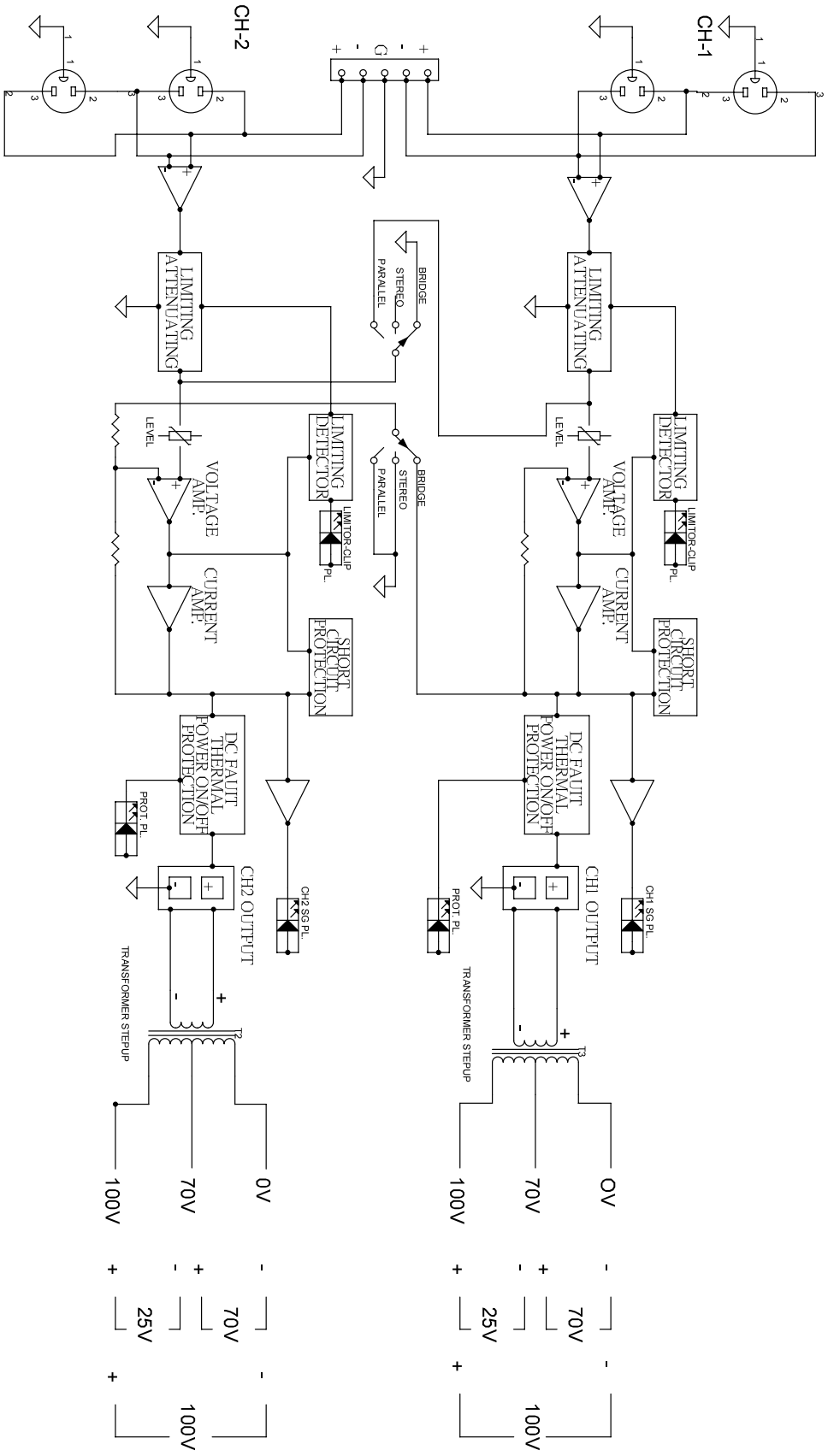
	ICON 300	ICON 700
Direct Power Out		
Max.average power at 45Hz-20kHz With 0.1% THD		
8 ohm	120W×2	240W×2
4 ohm	200W×2	400W×2
2 ohm,1kHz,1%THD	300W×2	550W×2
Bridged mono 8 ohm,1kHz,1%THD	420W	850W
Bridged mono 4 ohm,1kHz,1%THD	540W	1100W
Isolated Constant Voitage Out		
200V or 140V Bridege	300W	700W
100V or 70V	150W×2	350W×2
25V	120W	280W×2
Frequency Response		
Direct Outputs (+0/-2dB)	50Hz-50kHz	
Isolated Outputs (+0/-2dB)	50Hz-16kHz	
Total Harmonic Distortion	<0.05	<0.05
Sensitivity (fro full output)	1.02V	1.02V
Voitage Gain	28dB	32dB
Input Impedance		
Balanced/Unbalanced	20k/10k ohm	
Damping Factor	>200(direct output)	
S/N Ratio	Less than 100dB below rated output (20Hz-20kHz)	
Protection Circuits	● Output offset voitage protection ● Heat sink overheat protection ● Transformer overheat protection ● Load shorting protection ● Power on/off protection	
Controls		
Front Panel/	Power Switch/	
Rear Panel	Ch1 & Ch2 gain controls (41 click); Parallel/Stereo/ Bridge switch	
Connectors		
Input/	XLR jack ×2,Barrier strip ×1/	
Output	Covered Barrier strip ×2;heavy-duty binding post	
Cooling	One dual speed fan	
Indicators	Clip:Red Signal:Green Protect:Yellow Power: Red	Limit:Red Signal:Green Protect:Yellow Power: Red
Dimensions(H×W×D)	132×480×428mm	132×480×428mm
Net Weight	24.3KG	24.3KG
Shipping Weight	26.0KG	26.KG

BLOCK DIAGRAM

ICON 300 BLOCK DIAGRAM



ICON 700 BLOCK DIAGRAM



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WARRANTY INFORMATION

Phonic stands behind every product we make with a no-hassles warranty. Warranty coverage may be extended, depending on your region. Phonic Corporation warrants this product for a minimum of one year from the original date of purchase against defects in material and workmanship under use as instructed by the user's manual. Phonic, at its option, shall repair or replace the defective unit covered by this warranty. Please retain the dated sales receipt as evidence of the date of purchase. You will need it for any warranty service. No returns or repairs will be accepted without a proper RMA number (return merchandise authorization). In order to keep this warranty in effect, the product must have been handled and used as prescribed in the instructions accompanying this warranty. Any tempering of the product or attempts of self repair voids all warranty. This warranty does not cover any damage due to accident, misuse, abuse, or negligence. This warranty is valid only if the product was purchased new from an authorized Phonic dealer/distributor. For complete warranty policy information, please visit http://www.phonic.com.

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