Crimson Instruction Manual CS640E

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INTRODUCTION

Congratulations on the purchase of your Crimson CS640E mono power amplifiers.

These units have been hand built for your enjoyment and are constructed to the highest standards and specifications. This manual contains installation and operating instructions to enable you, the user, to obtain the best possible performance from your Crimsons.

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PRECAUTIONS

Always follow the instruction handbook and retain it in a safe place for future reference.

PRECAUTIONS

Before proceeding with installation of the CS640E's, ensure that the following items are included in the accessory boxes:

- Instruction manual.
- IEC power cables.
- Guarantee card.

After removing these items please retain the packaging for future use.

SUPPLY VOLTAGE

The Crimson CS640E's are factory set to operate from a fixed mains supply voltage of 115V. Before connection check that this voltage is the same as your mains supply.

230V Products	Range 220V-240V
115V Products	Range 110V-120V

CS640E

INSTALLATION

LOCATION

You should install your CS640E's in a well ventilated location. Avoid positioning the CS630E's near hot appliances or radiators. Placing the CS640E's on heat generating sources will severely affect the amplifiers' ability to dissipate heat. This will result in reduced performance and possible damage.

Installation in damp or humid environments may result in malfunction or damage. Should the unit become immersed in liquid, do not reconnect to the mains supply.

Under these circumstances the unit should be returned immediately to your nearest Crimson dealer for inspection.

RELOCATION

The Crimson CS640E's are supplied preset to run on 115V mains. Should you relocate to an environment where mains supply voltage is

INSTALLATION

different, consult your Crimson distributor to arrange for conversion of the CS640E's to the correct voltage for your area.

INSTALLATION PRECAUTIONS

Care should be taken with the routeing of the mains power cord. Avoid running it over or near sharp objects. It is also advisable to route the power cord away from any interconnect and speaker cables. This will ensure you achieve the maximum performance from your Crimson CS640E's.

UNIT POSITION

The Crimson CS640E's may be positioned as free standing units or alongside partnering Crimson pre or power amplifiers. Never stand the units directly on top of a power amplifier, as this will cause overheating. You should also take care to ensure that the heatsink fins on

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the front of the amplifiers have adequate airflow over them. This is achieved by the positioning of the amplifiers so that the fins are in free air (see fig.1).



When used with a Crimson CS710 Pre-Amplifier, the CS640E's should be positioned to the left hand side. Ensure that there is a gap of 1cm on either side of the CS640E's. This will increase airflow over the cases, which act as additional heatsinks at high power levels (see fig.2).



The CS640E contains no user serviceable parts. Never remove the case or rear panel. In the unlikely event of failure, contact your Crimson dealer. A basic troubleshooting guide is provided on pages 14 and 15. Please refer to this section prior to contacting your Crimson dealer.

CONNECTIONS

CS640E

CONNECTING POWER TO THE UNIT

The IEC connector of the supplied mains leads should be plugged into the power inlet on the rear of each unit (5). Please note that the CS640E's must be earthed. The mains fuse is an integral part of the IEC socket 6. The fuse drawer contains a spare mains fuse. When replacing the fuse drawer ensure that it is reinserted the correct way up (the 115V legend should be at the top left corner). Failure to do this will mean that the CS640E's will have no live mains feed and will not function. Replacement fuses are rated at 115V T5A/20mm (see fig.3).

CONNECTING THE PRE-AMPLIFIER

Connect the interconnect cables from the output sockets of your pre-amplifier to the input sockets ③ on both CS640E's. The red RCA

CONNECTIONS

Speaker Crimson MODEL 640E OUTPUT Speaker 2 OUTPUT 0 INPUT RCA INPUT 3 OUTPUT OUTPUT OUT colour coded 0 C **(4**) **RCA OUTput** colour coded THIS APPLIANCE MUST BE EARTHED. CAUTION, RISK OF ELECTRIC SHOCK. DO NOT OPEN. NO USER SERVICEABLE (5) Π Power inlet Π П IEC plug must be PARTS INSIDE. INPUT: 115/230V~/50/60Hz earthed. Œ 8 115V 6 DC FNABLE 730٨ 3.5mm jack plug input and output HAND MADE IN MAINS FUSE T5A **GREAT BRITAIN** $\overline{7}$ MAINS FUSE (Includes spare T5A fuse in drawer)

Back view of CS640E

input identifies the right channel amplifier and the white RCA input identifies the left channel. The RCA out-put ④ allows 'daisy-chaining' of CS640E's for home cinema or high power applications.

Fig.3

CS640E

CONNECTIONS

CS640E

CONNECTING THE LOUDSPEAKERS

The CS640E's are fitted with dual 4mm loudspeaker connections (with 4-2mm internal adaptors for safety reasons)*. These connections require 4mm plugs (or 2mm plugs)*. To identify which CS640E is right channel and which is left, refer to the colour of the RCA inputs 3 and 4 (see fig.3). The right channel amplifier has a red coded input RCA socket and the right channel speaker cable should be connected to position ① or to ① and ② for dedicated bi-wiring. The left channel amplifier has a white coded input. Follow the same connection routine described for the right channel. Now connect the speaker cables. The CS640E's should only be switched on when all cable connections have been made.

* The internal adaptors are only fitted in markets where safety regulations do not permit the use of 4mm sockets.

OPERATION

OPERATION

The CS640E's are now ready for use.

To switch the units on, turn the knob on the front of each amplifier clockwise until you feel a small click. The on/off LED's will illuminate and a low level bump should be heard at the loudspeakers. You should now switch on the pre-amplifier and the required source equipment. Like any new product, your CS640E's require a 'running in' period. Allow at least 36 hours playing time for the components to bed in and achieve their optimum performance.

When operating the CS640E's from cold, you should allow at least 30 minutes for the amplifiers to reach normal operating temperature.

It should be noted that at full power the heatsinks will become hot and the sleeves may become warm to touch. This condition is quite normal at high listening levels and should not cause concern. In the event that the CS640E's are overdriven a thermal sensor on the heatsinks will cut the mains power. This safety feature is activated when heatsink temperature rises above 70°C and is designed to prevent damage to the CS640E's. Once the temperature has dropped below 40°C normal operation will resume. Cooling may take up to 15 minutes.

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OPERATION

CS640E

Should a short circuit occur at the speaker terminals the CS640E will shut off. The power indicator LED, however, will remain on. To reset the amplifier, remove the short circuit and disconnect the unit from the mains. Leave for 5 minutes and then reconnect to the mains. The short circuit protection will have reset and the amplifier will continue to operate normally.

NB - If it is necessary to disconnect the RCA leads from the CS640E's input, the amplifier should be powered down. This will avoid unwanted 'open input' noise being reproduced by the loudspeaker.

In addition to the protection circuit, the CS640E possesses a clipping indicator. In normal operation the LED will glow green. When the amplifier begins to clip, the LED will briefly flicker red - the greater the overdrive, the longer the LED will glow red. Due to the high energy in the harmonics, clipping can damage loudspeakers easily. The indicator is a warning

DC ENABLE OPTION CS640E

device which advise the user to reduce the volume control setting in order to reduce the possibility of loudspeaker damage.

Should your partnering control device (e.g. preamplifier, AV controller etc..) be equipped with a separate 12 volt DC output, you have the option of using the DC Enable function. This enables the CS640E to enter "sleep" mode when the partnering control device is switched to standby. To use this function, a small (reversible) modification must be carried out by your Crimson dealer. Then simply connect the first lead supplied by your dealer between the socket on your control device and one of the two 3.5mm jack sockets (see Fig. 3) on the rear of the CS640E's. Connect the second lead between the two CS640E's. Switch the units on by turning the knobs on the front of the amplifiers clockwise until you feel a small click. The ON/OFF LED's will glow red indicating that the units are in standby mode. When a signal is received from your control device, the CS640E's will "wake up" and the ON/OFF LED's will glow green.

TROUBLESHOOTING CS640E

If you think your CS640E's are not operating to specification please read through this section before returning them to your dealer. Always switch off all system components before changing any connections.

No sound from either speaker

- Check CS640E's are on. The green power indicator LED's will illuminate.
- Check loudspeakers are connected.
- Check that signal input is connected.
- If the mains fuse has been changed recently, check it has been inserted the correct way up. Refer to (fig.3) on page 9 and the section headed 'connecting power to the unit.'

TROUBLESHOOTING

No sound from one speaker

- Some loudspeakers have protection fuses. Check the fuses are intact and cable connection integrity on the missing channel.
- Check the interconnect cable between signal source and pre-amplifier. Also check the interconnect between pre-amplifier and the CS640E's.
- Try another signal source. If the fault is removed, the original signal source is at fault.
- Swap left and right channels at the back of the CS640E's. If the fault remains then the speaker cable or loudspeaker is faulty. Now switch the cable at the loudspeaker end. If the fault changes channel then the loudspeaker could be damaged.

SPECIFICATIONS

CS640E

AUDIO PERFORMANCE

Power output2 x 175W i	nto 8 Ω - 2 x 250W into 4 Ω
Peak output current	17A/Channel
Input sensitivity	775mV
Distortion	Typically 0.01%
Frequency response	10Hz to 40kHz @ -1dB
Output resistance	Inductor + wiring @ 0.1R
Slew rate	>20V/µs
Signal to noise ratio	Better than 100dB
Crosstalk	N/A
DC Enable inputs	12V @ 12k
Voltage	115V
Power consumption (No signal)	15W
Power consumption (@ 150W into Ic	oad)300W
Dimensions (W x H x D)	.95mm x 116mm x 364mm
Weight	2 x 5.90kg

Crimson Products Ltd. reserves the right to change specifications without prior notice. E&OE. All Crimson Products are CE compliant.

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