

DIRECT INJECTION BOXES

20-031 E520 DI Box, Passive, 1 channel, with earth lift

20-032 E525 DI Box, Passive, 2 channel, with earth lift

20-034 E545 DI Box, Passive, 6 channel, with earth lift, 3U rackmount Now discontinued

DESCRIPTION

High quality passive direct injection boxes with various unbalanced jack socket signal inputs and XLR balanced output. Available in single and dual channel versions suitable for broadcast, studio and public address work. The E545 19" rack mounting multichannel format is now unfortunately discontinued but the details in this datasheet are still relevant for this legacy unit.

Inputs provided for instrument pickups, amplifier line/slave outputs and speaker outputs including high impedance 100 Volt speaker lines. All models use the same colour coded jack sockets. XLR male balanced output is fully floating, nominal 10mV, presenting a 600 Ohm impedance suitable for most microphone inputs on mixers etc. Earth lift switch on E520, E525 and E545 can alleviate hum problems. Safety-isolated to 1kV. Housed in a robust, strong diecast metal box with durable epoxy coating.

OUTPUT – 3 pin XLR Male

A 3-pin XLR type connector giving a floating output with a nominal level of 10mV, suitable for most microphone mixer inputs. Wiring to normal balanced twin screened cable is as follows:

- Pin 1 Earth braid (screen)
- Pin 2 Red wire (signal positive/hot)
- Pin 3 Black wire (signal negative/cold)

Connection to unbalanced inputs use pins 1 & 3 joined together as earth/ground and pin 2 as signal positive. If the mixer input is an unbalanced jack then XLR pins 1 & 3 go to the sleeve and pin 2 to the tip.

If hum problems, (earth loops) are experienced, they can often be solved by use of the earth lift switch. Occasionally the unit may be susceptible to hum pickup when placed very close to transformers or power supplies as found in amplifiers. This problem is easily solved by moving the box. Should any other problems occur all cables and connectors, etc., should be checked before the unit is presumed to be at fault. In case of further difficulties please refer the unit to your local supplier.

INSTRUMENT INPUT – White Jack Sockets

Suitable for low level signals, (maximum 1V), having a high input impedance suitable for musical instrument pickups. Instrument input is via one of the mono unbalanced white jack sockets, either of which may be used as they are parallel connected. The second jack socket can be used to forward the signal to an instrument amplifier. The most common instrument connection is shown in Fig. 1 below.

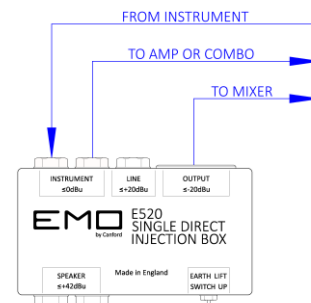


Fig. 1: Typical Instrument Input

LINE INPUT – Grey Jack Socket

A medium level unbalanced input, (maximum 30V), for use with slave/line outputs on amplifiers and combination amplifiers. This input will also work with synthesizers and other line level outputs.

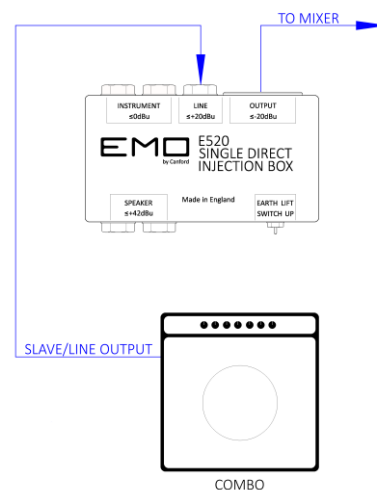


Fig. 2: Line Input Example

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SPEAKER INPUT – Black Jack Sockets

A high-level unbalanced input, (max 100V), suitable for use with loudspeaker circuits including 100V line public address amplifier outputs. A typical amplifier speaker output to DI box, then speaker connection is illustrated in Fig. 3. However, the unit may be driven from a parallel speaker output from an amplifier as illustrated in Fig. 4. The DI box can also be connected to a parallel speaker socket on a speaker cabinet Fig. 5, or combo speaker extension socket as shown in Fig. 6.

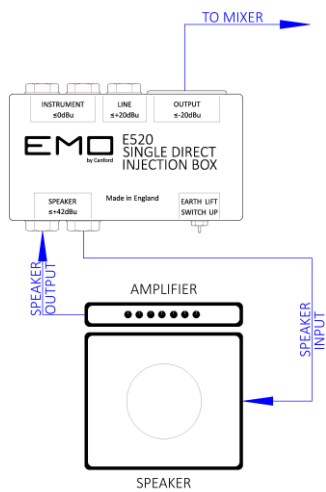


Fig. 3: Amplifier Speaker Out to DI box then Speaker Connection Example

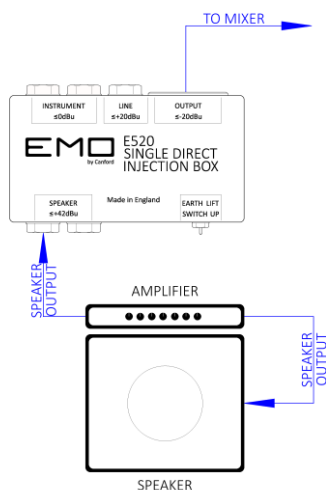


Fig. 4: Amplifier Parallel Speaker Output Example

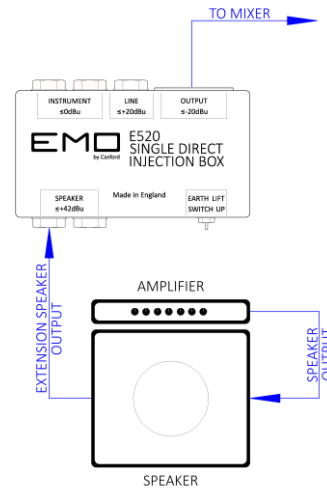


Fig. 5: Speaker Cabinet Extension Example

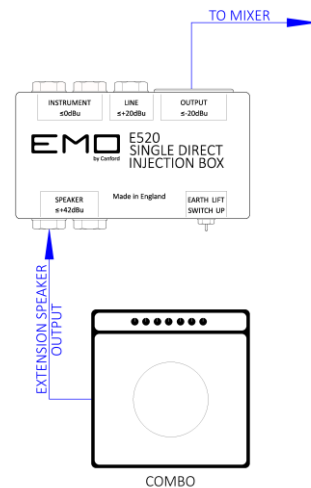


Fig. 6: Combo Extension Speaker Output Example

TECHNICAL SPECIFICATION

Input	Impedance	Max. input	Attenuation
Instrument	100kΩ	1V	20dB
Line	8kΩ	10V	40dB
Speaker	100kΩ	100V	60dB

Frequency response: 20Hz to 20kHz ±0.5dB

Dimensions: 110 × 60 × 35mm (E520 single unit)
120 × 95 × 36mm (E525 dual unit)

CAUTION: UNDER NO CIRCUMSTANCES CONNECT THE EMO DI BOXES TO ANY MAINS POWER SUPPLY.