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**The Martin Experience**



This equipment conforms to the requirements of the EMC Directive 89/336/EEC, amended by 92/31/EEC and 93/68/EEC and the requirements of the Low Voltage Directive 73/23/EEC, amended by 93/68/EEC.

Standards Applied	EMC Emission	EN55103-1:1996
	Immunity	EN55103-2:1996
Electrical Safety		EN60065:1993 (ICT300)
		EN60065:1998 (M1)

## 1 INTRODUCTION

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Thank you for purchasing a Martin Audio M1 system controller and ICT300 compact loudspeaker system. The M1 is used to optimise the performance of the ICT300, whether it is used as a stand-alone system or with additional sub-bass enclosures.

## 2 UNPACKING

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Every Martin product is built to the highest standard and thoroughly inspected before it leaves the factory. After unpacking the unit, examine it carefully for any signs of transit damage and inform your dealer if any such damage is found. It is suggested that you retain the original packaging so that the unit can be repacked at a future date if necessary.

Please note that Martin Audio and its distributors cannot accept responsibility for damage to any returned product through the use of non-approved packaging.

### 3 MAINS CONNECTION

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The M1 is supplied with a captive mains lead with an integral U.K. BS1363 3 pin plug. **Should the moulded plug be removed and another plug substituted the cable must be re-wired as below.**

GREEN/YELLOW	-	EARTH
BROWN	-	LIVE
BLUE	-	NEUTRAL

**WARNING: The M1 Controller must always be operated with the mains safety earth connected.**

The M1 is supplied from the factory in either 100-120V or 200-240V versions  
Mains voltage tolerance  $\pm 10\%$  on each setting

Fuse: - type 'T' semi-delay 200mA (L) 100-120V

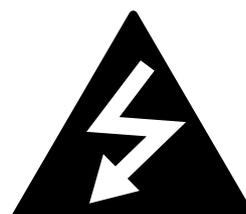
Fuse: - type 'T' semi-delay 100mA (L) 220-240V

**NO ATTEMPT SHOULD BE MADE BY THE USER TO CHANGE THE MAINS OPERATING VOLTAGE FROM THAT SUPPLIED, REFER TO QUALIFIED PERSONNEL ONLY.**

This equipment must be earthed.



**CAUTION  
RISK OF ELECTRIC SHOCK  
DO NOT OPEN  
DO NOT EXPOSE TO RAIN  
OR MOISTURE**



It should not be necessary to remove any protective earth or signal cable shield connections.

### 4 SAFETY FIRST

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It is important that loudspeaker systems are used in a safe manner. Please take some time to review the following points concerning safe use of ICT300 compact loudspeakers.

Professional loudspeakers are capable of producing extremely high sound levels and should be used with care. Hearing loss is cumulative and can result from levels above 90dB if people are exposed for a long period. Never stand close to loudspeakers driven at a high level.

#### 4.1 Tripod mounting

The ICT300 incorporates a pole mounting socket to facilitate mounting on tripod stands. When using stands, the following precautions are advised:

Ensure that the stand will support the weight of the speaker by checking the stand manufacturers rating.

Make sure that the stand is placed on a level surface and that its legs are fully extended.

Do not place more than one speaker on each stand.

Run cables so that they do not present a trip hazard which could pull the speaker over.

When used outdoors in the wind, it may be necessary to add some weight to the base of the stand.

When using a pole mount with a sub-bass system, observe similar precautions.

#### 4.2 Stacking

Ensure that the floor or stage is level and solid.

Do not stack speakers too high outdoors where winds could topple the stack.

Be aware that speakers producing very high power levels can move or creep. To avoid this, place friction material between the floor and speaker and between each speaker.

#### 4.3 Rigging and suspension

**WARNING: Suspending the system should only be done by qualified personnel following safe rigging practices. Secure fixings to the building structure are vital. Seek help from architects, structural engineers or other specialists if in any doubt.**

## 5 M1 CONNECTIONS

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The M1 should be connected immediately preceding the power amplifier(s) and after any such devices as preamps, mixing desks or other equalisers.

Input connections, which are balanced, are via combination XLR type sockets and TRS (tip/ring/sleeve) "stereo" jack sockets, wired as follows:

Pin 1 / jack sleeve	=	Signal 0V
Pin 2 / jack tip	=	Signal +(hot)
Pin 3 / jack ring	=	Signal -(cold)

If driving the M1 from an unbalanced source, mono jack plugs may be used. Under some conditions, this may result in a hum loop. If so, alternative connections, via an XLR type plug or a TRS jack should be used, wired as follows.

Pin 1 / jack sleeve	=	Not connected
Pin 2 / jack tip	=	Cable inner (signal)
Pin 3 / jack ring	=	Cable screen (ground)

M1 outputs are pseudo balanced on stereo jack sockets.

Pin 1 / jack sleeve	=	Signal 0V
Pin 2 / jack tip	=	Signal + (hot)
Pin 3 / jack ring	=	Signal - (cold)

## 6 M1 OPERATION

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The M1 is a 2-channel system controller which is recommended for use with the Martin Audio ICT300 compact loudspeaker system used either full-range or with additional sub-bass.

When using an ICT300 on its own, set the mode switch on the rear of the M1 to full-range. If additional bass enclosures are used, set the mode switch to sub-bass and drive the bass amplifiers from the sub-bass output jack. In this mode, the M1 functions as a 120Hz electronic crossover with a single mono bass output. If the bass amplifiers do not have "input link" sockets or switches, it may be necessary to make up a "one into two" jack lead to parallel the amplifier inputs when using more than one amplifier channel to drive bass enclosures.

## 7 ICT300 COMPACT LOUDSPEAKER

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The ICT300 is a compact full-range loudspeaker which has been engineered to combine high level reproduction with a wide bandwidth, accuracy and maximum intelligibility. It features twin 10" (250mm) drivers horizontally aligned in a unique 2-way configuration utilising patented Pro ICT™ (Inductively Coupled Transducer) technology. This revolutionary principle uses the magnetic field generated by the 10" (250mm) low frequency driver's voice coil to inductively drive a 2" (50mm) aluminium HF diaphragm located at the centre of the device. Because the HF diaphragm is energised by induction, it has no voice coil of its own to burn out. In addition, although each ICT™ unit is a true two-way device, there is no separate crossover network, since the crossover function is inherent in the ICT™ principle.

## 8 AMPLIFIER POWER

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The ICT300 is designed to be used with a professional standard power amplifier capable of producing 400-550 watts per channel into 4 ohms.

Care should be taken to avoid switch-on surges which can result in momentary power peaks in excess of specified ratings. When powering up a sound system, it is important to switch on the amplifiers after the mixer and electronic crossover etc. have stabilised. When powering down the system, reverse the sequence and switch off the amplifiers first.

### 8.1 Connecting to an amplifier

The panel at the rear of the ICT300 is fitted with two Neutrik Speakon NL4 connectors wired in parallel as follows:

PIN 1-	-ve
PIN 1+	+ve
PIN 2-	N/C
PIN 2+	N/C

## 8.2 Cable lengths

When connecting an ICT300 to an amplifier, it is recommended that the return resistance of the cable used is less than one tenth of the nominal impedance of the system or systems in parallel. The table below gives an indication of the maximum permissible cable runs for various conductor cross-sectional areas driving 4 and 8 ohm loads.

<u>Conductor CSA</u>	<u>Maximum Cable Run</u>	
	<u>4 ohms</u> (2 x ICT300)	<u>8 ohms</u> (1 x ICT300)
1.0mm <sup>2</sup>	11m	22m
1.5mm <sup>2</sup>	17m	34m
2.0mm <sup>2</sup>	22m	44m
2.5mm <sup>2</sup>	29m	58m
4.0mm <sup>2</sup>	44m	88m
6.0mm <sup>2</sup>	66m	132m

To work out the actual return resistance R for cable run of length L, with each conductor having cross-sectional area A, use the formula:

$$R = \frac{2 \times 0.017 \times L}{A}$$

## 9 WARRANTY

Martin Audio ICT300 Compact Loudspeakers are warranted against manufacturing defects in materials or craftsmanship over a period of 5 years from the date of original purchase. The M1 System Controller is warranted against manufacturing defects in materials or craftsmanship over a period of 1 year from the date of original purchase. During the warranty period Martin Audio will, at its discretion, either repair or replace products which prove to be defective provided that the product is returned in its original packaging, shipping prepaid, to an authorised Martin Audio service agent or distributor.

Martin Audio Ltd. cannot be held responsible for defects caused by unauthorised modifications, improper use, negligence, exposure to inclement weather conditions, act of God or accident, or any use of this product that is not in accordance with the instructions provided by Martin Audio.

Martin Audio is not liable for consequential damages.

This warranty is exclusive and no other warranty is expressed or implied. This warranty does not affect your statutory rights.

## 10 TECHNICAL SPECIFICATIONS

### **M1**

GAIN	0dB @ 1kHz
HUM & NOISE	-90dBm 20Hz-20kHz
INPUTS	Left & right, 2 x combined XLR/1/4" TRS jack, electronically balanced
OUTPUTS	Left, right & sub-bass, 3 x 1/4" jack, pseudo balanced
MAXIMUM INPUT/OUTPUT	+20dBu
ELECTRONIC CROSSOVER FREQUENCY	120Hz
FRONT PANEL INDICATORS	Full-range, sub-bass LED's
REAR PANEL CONTROLS	Full-range/sub-bass switch
MAINS SUPPLY	100-120V or 200-240V AC 50/60Hz
DIMENSIONS	(W) 483mm x (H) 44mm x (D) 102 mm (W) 19ins x (H) 1.75ins x (D) 4.0ins
WEIGHT	1.2kg (2.6lbs)
SHIPPING DIMENSIONS	(W) 545mm x (D) 120mm x (H) 235mm (W) 21.5ins x (D) 4.7ins x (H) 9.3ins
SHIPPING WEIGHT	1.8 Kg (3.9 lbs)

### **ICT300**

TYPE	Twin-driver ICT™
FREQUENCY RANGE	55Hz-18kHz (with equaliser)
DRIVERS	2 x 10" (250mm) full-range ICT™
POWER	300W AES, 1200W peak
RECOMMENDED AMPLIFIER	400-550W into 4 ohms
SENSITIVITY	96dB 1W @ 1m
MAXIMUM SPL	119dB continuous, 125dB peak
IMPEDANCE	8 ohms nominal
DISPERSION (-6dB POINTS)	100 degs horizontal x 40 degs vertical
ENCLOSURE	Multi-laminate birch ply
FINISH	Textured paint
PROTECTIVE GRILLE	Perforated steel with 48% free air flow
CONNECTORS	2 x Neutrik NL4
FITTINGS	8 x M8 inserts 1 x pole mount socket
DIMENSIONS	(W) 565mm x (H) 325mm x (D) 325mm (W) 22.25ins x (H) 12.75ins x (D) 12.75ins
WEIGHT	16kg (35lbs)
SHIPPING DIMENSIONS	(W) 680mm x (H) 390mm x (D) 450mm (W) 26.8ins x (H) 15.4ins x (D) 17.7ins
SHIPPING WEIGHT	19kg (41.9lbs)

Due to our policy of continuous product improvement all specifications are subject to change without notice.

# M1 System Controller & ICT300 Compact Loudspeaker



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**The Martin Experience**

Century Point, Halifax Road, Cressex Business Park, High Wycombe, Buckinghamshire HP12 3SL, England.

Telephone: +44 (0)1494 535312 Facsimile: +44 (0)1494 438669

Web: [www.martin-audio.com](http://www.martin-audio.com) E-mail: [info@martin-audio.com](mailto:info@martin-audio.com)

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# M1 System Controller & ICT300 Compact Loudspeaker User's Guide



**ENGLISH**



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