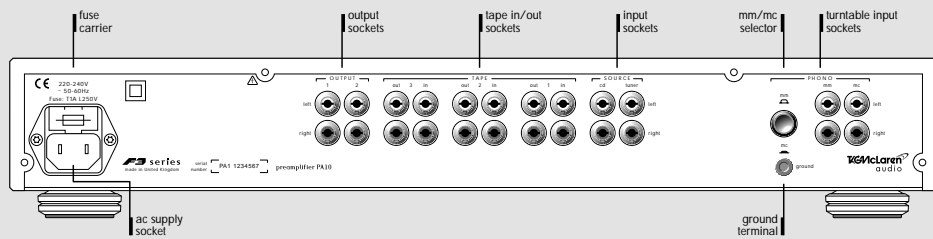
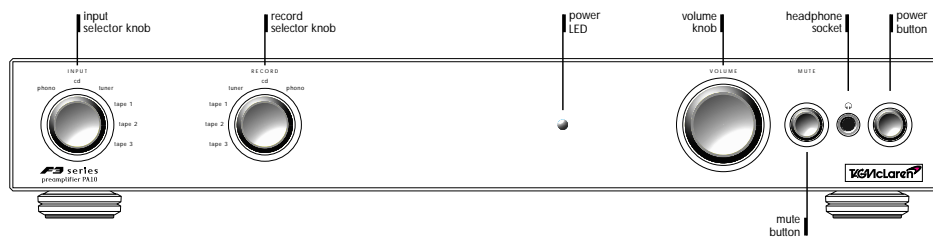
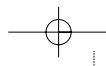


CONTENTS

- 02 welcome
- 08 key features
- 09 getting started
- 11 selecting an input
- 13 connecting a turntable
- 14 volume control
- 15 headphones
- 16 grounding
- 18 outputs
- 19 connecting power amplifiers
- 25 running in and warming up
- 26 care and maintenance
- 28 technical data
- 32 international standards



welcome to a new partnership

..in hi-performance, hi-fidelity



Derek Scotland (on the left) - *Technical Director*
Peter Stevens - *Chief Industrial Designer*
Dr. Zucker - *Chief Executive*

TAG McLaren
audio

All TAG companies perpetually strive for, and achieve, excellence and high-performance in every area of their business.

These qualities are demonstrated in the fastidious standards that make TAG Heuer watches some of the world's most admired; in the teamwork that makes TAG McLaren's motor racing team one of the most successful in Formula One; and in the advanced electronics technology that makes TAG Electronic Systems the first choice for many Formula One constructors and high-performance car makers.



celebrating a TAG McLaren victory

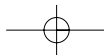
Now, this blend of talent and expertise has been combined with the award-winning experience of Audiolab to create a company with a technical advantage and access to resources second-to-none in the high end audio industry - TAG McLaren Audio.

TAG McLaren
audio

TAG McLaren Audio has been created with one aim in mind: to produce the best high-fidelity audio and audio-visual systems available. Now the first fruits of that alliance are ready - a unique new range of audio products.

F3 series

Throughout the F3 Series development process, quality, performance and reliability have been paramount, resulting in unparalleled performance, operational excellence and sheer listening pleasure.



welcome

welcome



Thank you for purchasing the TAG McLaren Audio preamplifier PA10.

F3 series
preamplifier PA10

We are convinced it will give you many hours of listening pleasure.

The PA10 preamplifier is an ideal entry into the world of audio separates. By using a separate 'box' for each part of your audio system you minimise the interference normally caused by the close proximity of components. Separating the preamplifier from the power amplifier also means that the power supply is not shared, so power fluctuations

caused by the power amplifier do not affect the preamplifier.

versatile input and recording selection

The PA10 has six selectable inputs (five line level and one RIAA-specification phono for turntables) and three outputs for recording. The phono input can be configured for either a moving magnet or a moving coil cartridge. A separate signal path is provided for recording, with its own independent input selector, so you can record one piece of music while listening to another.

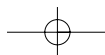
low intermodulation distortion

The theoretically-ideal preamplifier reproduces sound perfectly over an infinite range of frequencies – starting from well below the audible range and extending far

above the capabilities of human hearing. Although sound outside the human hearing range of approximately 20 to 20,000 Hz cannot be heard, it can significantly distort the quality of music reproduction through an effect that audio engineers call 'intermodulation distortion'. This type of distortion moves imperfections that originate outside the hearing range back into the audible frequencies. To minimise this effect, TAG McLaren Audio preamplifiers have a frequency response which extends both above and below the range of normal human hearing.

high-quality circuitry

The circuits in the PA10 (a Class A amplifier) are 'no-compromise' designs using high-quality, high-stability, components to send a smooth, clean signal



welcome

to your power amplifier for excellent sound quality. To achieve fidelity at low frequencies the PA10 uses capacitors to block the unacceptable Direct Current (DC) but let the sound signals through. TAG McLaren Audio has expended many man-years of design effort on the special circuit design which, without compromising sound quality, accommodates the high values of capacitance that must be used.

versatile output

Two sets of output sockets are provided for connection to power amplifiers. The outputs are buffered and have low impedance so they can supply more than one power amplifier (e.g. for multi-room installations). They also allow long cables to be used. A switch on the front panel mutes the output and redirects it to a

separate Class A amplifier to supply headphones.

The PA10 gives you versatility without compromising hi-performance, hi-fidelity.



key features

- Class A amplifier stages
- Independent input selection for listening and tape recording
- Five line level inputs for cd, tuner and three tape recorders
- Phono input for mc or mm cartridges
- Three stereo outputs for recording
- Two low-impedance stereo outputs to allow long cable runs
- Automatic and manual muting
- Separate Class A headphone amplifier suitable for a wide range of headphone impedances
- High-quality audio components
- Sorbothane® sonic isolation feet, specially designed by TAG McLaren Audio[®]

1. For the very best performance we recommend that our units are placed on individual shelves and are not stacked one on top of another

getting started

We know you are keen to get your PA10 working. This section will have you listening to your favourite music as quickly as possible. If you fold out the front cover of this manual you will locate diagrams which will help you find your way around your PA10[®].

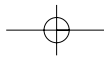
before you start Make sure that all the components of your audio system are disconnected from the AC supply whenever you change any connections.

sound source connection You will need a source of audio signals (such as our CD player CD20R or our tuner T20) to feed into your PA10. Use a good-quality, screened phono-phono audio cable to connect the phono output sockets of your sound source to the appropriate pair of **left** and **right** sockets marked **SOURCE aux**, **tuner**, **cd** or **TAPE in 1**, **in 2** or **in 3** on the back of your PA10[®].

amplifier connection Use a good-quality, screened phono-phono audio cable to connect the phono sockets marked **OUTPUT 1 left** and **right** on the back of your PA10 to the corresponding inputs of your power amplifier.

1. Throughout this instruction manual (except in titles), **bold** print indicates the lettering that you will find on the panels of your PA10
2. The inputs for **cd**, **tuner**, **TAPE 1**, **TAPE 2** and **TAPE 3** are all the same electrically. They are named for your convenience. If you want to connect a turntable, please see page 13





getting started

selecting an input

power connection Check that the power button is *out* so that power is off when you plug in¹⁾. Using the cable supplied, connect the socket on the back of your PA10 to an AC supply outlet. For the best sound quality, we recommend that you do not use multi-plug adaptors.

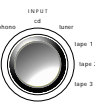


Your PA10 has one phono and five line level inputs which can be selected by their name²⁾. The input for listening can be selected independently from the input for recording so you can listen to one source and record another at the same time.

setting controls Turn the **VOLUME** right down (all the way anticlockwise).
Set the **INPUT** selector to the input to which you connected your sound source.



inputs for listening The signal from your chosen input source will be amplified and sent to **OUTPUT 1** and **2** or alternatively to the headphone socket²⁾. To select your source turn the **INPUT** selector until the mark on its side points to the name of the input that you want to listen to.

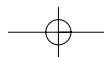


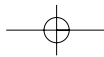
switch on Press the power button in. The blue power LED will come on.
Wait for about five seconds for the automatic muting to switch off²⁾.
Start playing your sound source.
Turn up the **VOLUME**, sit back and enjoy the music.



1. The power button is a latching switch. One press will hold it in; the next will release it.
2. The output is muted when the power is switched on to allow all the voltages to stabilize. This protects your amplifier and loudspeakers and prevents unpleasant switching noises from upsetting your listening experience.

1. The inputs for **cd**, **tuner**, **TAPE 1**, **TAPE 2** and **TAPE 3** are all the same electrically. They are named for your convenience. The **PHONO** input is only suitable for the very low level input from a turntable pickup cartridge and cannot be used for line level inputs such as cd players, tuners, tape players, etc.
2. Please see page 15





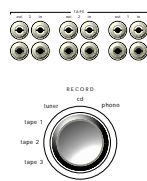
selecting an input

inputs for recording

The signal from the input that you select for recording will be sent to the record output sockets marked **TAPE out 1**, **out 2** and **out 3**⁽¹⁾.

To select your source for recording, turn the **RECORD** selector until the mark on its side points to the name of the input that you want to record⁽²⁾.

The record output is not affected by the muting or volume controls.



1. The **TAPE out 1**, **out 2** and **out 3** output sockets are connected together internally
2. A loop is created if a tape recorder output and input are both connected to your PA10 and the same tape recorder is selected as the record input. This may cause feedback if your recorder is set to record. To avoid this possibility, we recommend that you select the input for recording before you set your recorder to record

connecting a turntable

The PA10 has a phono input that can accept either a moving coil (**mc**) or a moving magnet (**mm**) pickup cartridge. The instruction manual for your cartridge will tell you which type you have. The phono stage meets the RIAA⁽³⁾ specification.

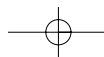
connecting a turntable

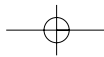
If you have a moving coil cartridge, connect it to the **PHONO** inputs labelled **mc** on the back panel of your PA10 and press in the input selector button next to the connectors⁽²⁾. If you have a moving magnet cartridge, connect it to the inputs marked **mm** and ensure the selector button⁽²⁾ is released.



Please see page 16 for recommendations about grounding your cartridge and turntable.

1. Record Industry Association of America
2. The input selector button is a latching switch. One press will hold it in, the next will release it
3. Some moving coil cartridges have such a high output that you will get better results by using the **mm** input with the input selector set to **mm**





volume control

The **VOLUME** and **MUTE** controls alter the signal level of **OUTPUT 1, 2** and the headphone socket. They do not affect the output of the record sockets (**TAPE out 1, 2 and 3**).

volume Turn the **VOLUME** knob clockwise to increase volume and anticlockwise to decrease volume.

If you use your PA10 in conjunction with a TAG McLaren F3 Series amplifier (such as our 6OP, 100P or a pair of 125Ms), and supply it with an input with a peak level of 2 V rms (the typical output from a CD player), your PA10 gives its full rated output with the **VOLUME** knob in the middle of its travel. Turning the knob past this point may distort the sound and could damage your loudspeakers.



mute Press the **MUTE** button on the front panel of your PA10 to switch off **OUTPUT 1 and 2**. Release the **MUTE** button to restore the output¹⁾.

The PA10 also mutes automatically for a short time to allow all the voltages to stabilize whenever you change an **INPUT**²⁾.

MUTE



1. The **MUTE** button is a latching switch. One press will hold it in, the next will release it.

2. Muting protects your PA10, your amplifier and your loudspeakers and prevents unpleasant switching noises upsetting your listening experience

headphone connection Turn the **VOLUME** down before you connect your headphones.

Insert the headphone plug into the 1/4" (6.3 mm) stereo jack socket on the front panel of your PA10¹⁾.



loudspeaker muting You can only use your PA10 to listen to headphones when the preamplifier output is switched off using the **MUTE** button, as described on page 14.

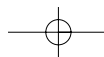
Press the **MUTE** button in to listen to headphones. There is no output to the headphone socket when the **MUTE** button is out.

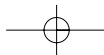
MUTE



1. If you want to use headphones which have the smaller 1/8" (3.2 mm) jack plug, you should obtain an adaptor from your retailer

headphones





grounding

grounding

The AC mains supply normally operates at either 50 or 60 Hz (depending on which country you are in). Under some circumstances, this can cause an audible hum in your loudspeakers.

Should you have any problems with hum in your system, please contact your retailer.

grounding your system

All the units in the TAG McLaren Audio F3 Series are double insulated and do not require safety ground connections.

Your system does not need to be connected to ground (audio engineers call this 'floating'). However, if you want to ground your system, please contact your retailer who will be able to assist you.

avoiding hum

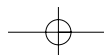
To minimise the possibility of mains hum in your system:

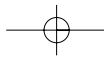
do not link the ground terminals of separate audio units together.

use screened cable for your signal connections and keep the left and right channel cables close together.

grounding a turntable on your PA10

Consult the instructions for your turntable, tone arm and cartridge for the manufacturer's recommendations on grounding. If your tone arm has a separate flying lead, you should connect it to the ground terminal on the back panel of your PA10.





outputs

The audio outputs are intended to connect the PA10 to a power amplifier (such as our 60P). The low-impedance (100 Ω) output is buffered and will drive long cables or several inputs in parallel if required.

audio output sockets OUTPUT 1 and 2 each consists of two phono sockets on the back panel of your PA10, one for the left channel and one for the right⁽¹⁾. Always use high-quality, screened cables for your connections.



1. OUTPUT 1 and 2 are connected together in parallel

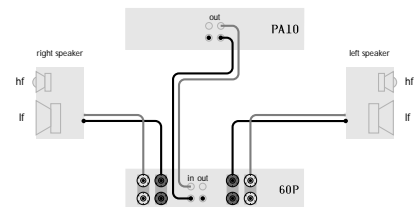
connecting power amplifiers

Your PA10 needs to be connected to a high-quality, separate stereo power amplifier (such as our 60P or 100P) or to a pair of monoblocs⁽²⁾ (such as our 125M).

Always switch off your system before changing any connections.

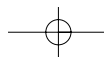
using a stereo power amplifier

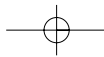
Using a good-quality, screened phono-phono audio cable, connect the phono sockets marked **OUTPUT 1**⁽²⁾ left and right on the back of your PA10 to the corresponding inputs of your power amplifier.



This diagram shows a PA10 connected to a TAG McLaren Audio 60P stereo power amplifier⁽²⁾

1. A 'monobloc' is a single-channel or mono power amplifier
2. You can use OUTPUT 2 instead of OUTPUT 1. They are the same electrically
3. This diagram, and those that follow, are for illustrative purposes only: they are not to scale and do not show all connections





connecting power amplifiers

connecting power amplifiers

using mono amplifiers

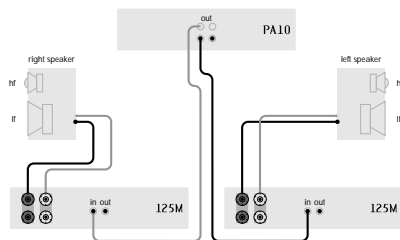
Instead of one stereo power amplifier, you may prefer to use two monobloc amplifiers (such as our 125M) in conjunction with your PA10.

Connect **OUTPUT 1 left** of the PA10 to the audio input of one of the monoblocs and **OUTPUT 1 right** to the audio input of the other monobloc. Connect each monobloc to a loudspeaker¹⁾.



bi-amping

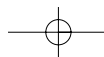
With many high-quality loudspeakers, you can make separate connections to the high- and low-frequency drivers¹⁾. If your loudspeaker allows it, you can improve the sound further by using separate amplifiers for high and low frequencies. This may allow you to increase the volume without distorting the sound. As each amplifier is operating in a smaller bandwidth, intermodulation distortion may also be reduced.

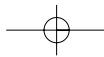


This diagram shows a PA10 connected to two TAG McLaren Audio monobloc 125M power amplifiers

1. For the best sound quality we recommend that you place each monobloc near the loudspeaker it is feeding and use short loudspeaker leads. Use high-quality, screened phono leads to connect the amplifiers

1. The 'driver' is the mechanism inside the case of the loudspeaker which actually makes the sound. Most high-quality loudspeakers have drivers for high, low and often middle frequencies and the capability to connect them separately. However, the lack of this facility is not necessarily a sign of low quality (as some of the finest loudspeakers in the world have proved)





connecting power amplifiers

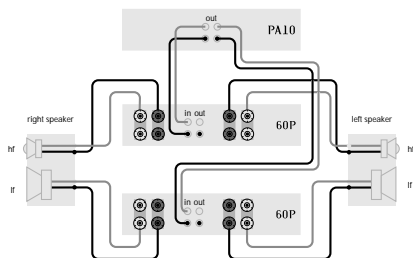
connecting power amplifiers

bi-amping Connect **OUTPUT 1 left** and **right** of the PA10 to the left and right audio input of one stereo power amplifier and **OUTPUT 2 left** and **right** to the left and right audio input of the other stereo power amplifier. Connect one power amplifier to your loudspeakers' high-frequency drivers and the other power amplifier to the low-frequency drivers¹⁾.

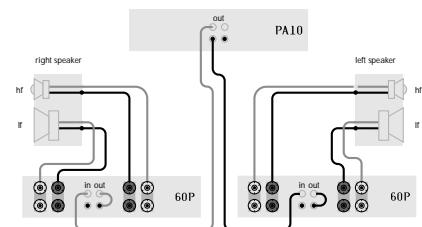
bi-amping alternative arrangement If you have two matched amplifiers (such as two TAG McLaren Audio 60Ps), you can connect them as shown here. This arrangement has the added advantage of allowing you to place each amplifier close to the loudspeaker it is feeding, thus enabling you to connect them together with short cables.

Connect **OUTPUT left** on the PA10 to **INPUT left** on one of the 60Ps and **OUTPUT right** on the PA10 to **INPUT left** on the other 60P. On each 60P connect **OUTPUT left** to **OUTPUT right**.

On each amplifier, connect one of the stereo outputs to the high-frequency driver and the other to the low-frequency driver.

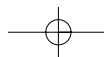


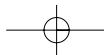
This diagram shows a PA10 connected to two TAG McLaren Audio 60P stereo power amplifiers for bi-amping



This diagram shows an alternative method of connecting the PA10 to two TAG McLaren Audio 60P stereo power amplifiers for bi-amping

1. This simple connection method works with any combination of TAG McLaren Audio F3 Series amplifiers because they have matched gains. If you want to connect a different manufacturer's amplifier, you may need to use an active crossover or a gain-setting facility. Please contact your retailer for advice if you wish to do this





connecting power amplifiers

other multiple amplifier arrangements

The arrangements described on the previous pages are only suggestions and do not cover all the connection possibilities for preamplifiers and power amplifiers.

If you want to expand your audio system, please contact your retailer who will be happy to discuss your specific requirements.

running in and warming up

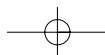
TAG McLaren Audio equipment is designed to give optimum performance for many years.

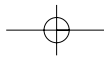
running in

Just like a high-quality car, the performance of your PA10 will improve during the first few hours of operation. The electronic components will then have reached and settled down to near-perfect specification.

warming up

Every time you switch on your PA10, the performance will improve until the components reach their optimum operating temperature.





care and maintenance

care and maintenance

fuses There is a fuse in the power socket on the back of your PA10. To change the fuse, unplug the power cable and pull out the fuse carrier drawer¹⁾.

The fuse carrier contains a spare fuse; this is the first one that you see when you open the carrier.

There are no other user-serviceable parts inside the PA10.



service The only service you should do to your PA10 is described on the left. All other servicing should only be carried out by one of our authorised service agents.

If service is required, please contact your authorised TAG McLaren Audio retailer. If your PA10 is still under guarantee, please refer to the guarantee card which gives you details on how to claim against the guarantee.

Please keep the original packaging and use it whenever your PA10 is transported.

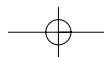
cleaning In order to maintain the appearance of your PA10, you can clean it as follows:

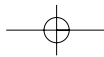
before cleaning, always disconnect your PA10 from the AC supply.

any grease or dirt on the case may be removed with a soft, lint-free cloth moistened slightly with a mild solution of warm water and detergent or washing-up liquid. Do not use any other solutions. Do not use any solvents or abrasives.

take great care not to get any liquid inside the case. If this happens, you should have your PA10 serviced.

1. You cannot open the fuse carrier drawer while the plug is in the socket





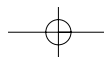
technical data

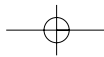
technical data

This section is for those of you who really want to know the 'insides' of your PA10. You will not miss out on any of the functions or performance of your PA10 if you choose not to read any further.

line input impedance		30 kΩ nominal
line input level		175 mV rms (relative to 0.5 V output)
signal to noise <small>(line level)</small>		greater than 92 dB (relative to 0.5 V output)
phono input impedance	mm mc	47 kΩ / 85 pF nominal 100 Ω / 3.3 nF nominal
phono input level	mm mc	3.5 mV rms (relative to 0.5 V output) 175 μV rms (relative to 0.5 V output)
phono input signal to noise	mm mc	greater than 81 dB (relative to 0.5 V output) greater than 77 dB (relative to 0.5 V output)

frequency response <small>(-3 dB)</small>	2 Hz – 65 kHz
frequency response <small>(20 Hz – 20 kHz)</small>	± 0.5 dB
total harmonic distortion + noise <small>(20 Hz – 20 kHz)</small>	less than 0.01%
channel separation	greater than 60 dB at 1 kHz
polarity <small>(phase)</small>	non-inverting for all inputs and outputs
preamplifier output impedance	100 Ω nominal
preamplifier maximum output	greater than 7.76 V rms





technical data

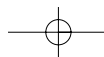
record output impedance	1 k Ω nominal (1.6 k Ω when using phono source)
muting attenuation	greater than 60 dB
headphone output impedance	100 Ω nominal (suitable for headphones of 8 Ω – 2 k Ω impedance)
headphone output maximum	greater than 7.76 V rms emf
operating temperature range	10 – 35 °C
ac supply frequency	50 – 60 Hz
ac supply voltage	110 – 120 V or 220 – 240 V The voltage is marked on the rear of the unit

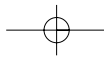
power consumption	less than 25 W
dimensions (including feet, terminals and controls)	445 mm wide 75 mm high 336 mm deep

The rated and typical performance applies when the mains supply voltage is either 230 V AC for 220 - 240 V units or 115 V AC for 110 - 120 V units

We reserve the right to alter design and specification without notice
Specification may vary for different countries

technical data





international standards

Your PA10 meets or exceeds all the legal requirements listed below:

directives	89/336/EEC 73/23/EEC	EMC Directive (as amended by 93/23/EEC) Low Voltage Directive (as amended by 93/23/EEC)
safety	IEC65: IEC65 A2: IEC65 A3: EN60065:	1985 1989 1992 1993
emc emissions	EN50081 -1: EN55022 Class B: EN60555 -2: EN61000 -3-2: EN61000 -3-3: FCC Part 15 Class B:	1992 1994 1987 1995 1995 1997
emc immunity	EN50082-1: IEC801 -2: IEC801 -3: IEC801 -4: EN61000 -4-2: EN61000 -4-4: EN61000 -4-5: EN61000 -4-11:	1992 1991 ± 8 kV air discharge 1984 3 V/m 1988 ± 1 kV AC power, ± 500 V other ports 1995 ± 8 kV air, ± 4 kV contact discharge 1995 ± 1 kV AC power, ± 500 V other ports 1995 ± 2 kV common mode, ± 1 kV differential mode 1994

