

FUSION CD64

TRI-MODE CD PLAYER
PLAYER/DAC/TRANSPORT

~ USERS MANUAL ~

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Introduction

Thank you for selecting the FUSION CD Player from Tube Technology.

Please read through this manual so you will know how to operate your Fusion properly. After you have finished reading this manual, please put it away in a safe place for future reference.

We have done our utmost in the design and build of the Fusion to ensure you a low maintenance, trouble free CD Player that will bring you many years of pleasure as an important part of your hi-fi system.

Please do not forget to complete and return the enclosed registration card.

We wish you many hours of musical enjoyment !

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Conventions

This manual uses the following conventions;

Bold indicates emphasis or a minor heading.

Italic Bold refers to a sub heading of a chapter.



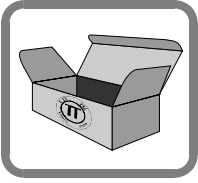
This symbol refers to Notes containing important information set off from the text.



**THIS SYMBOL REFERS TO CAUTION MESSAGES AND PROCEDURES WHICH
IF NOT OBSERVED CAN LEAD TO DAMAGE OR INJURY**

1

Getting Started



Unpacking



This chapter contains information on;

- *Unpacking your Fusion CD Player*

Your Fusion CD Player is packed in "polystyrene" end-caps. Grip the unit from the middle and simply pull it out of the box. Remove the end-caps and polythene bag.

All packing should be retained. Equipment returned can only be accepted in the original packaging.

The following items are included in the packaging of a Fusion CD Player;

- 1 x Fusion CD Player
- 1 x Remote Control Handset & 2 x AAA Batteries
- 1 x IEC Mains Leads
- 1 x Users Manual

Mains Connection



Mains Connection



Wiring a Mains Plug



This chapter contains information on;

- *Connecting the Fusion CD Player to the household mains supply.*
- *Wiring a mains plug (UK)*


Your Fusion CD Player plugs into the mains supply via the IEC socket located on the back panel (see diagram 3). Connect your CD Player to the wall socket using the IEC mains lead supplied in the packaging. The CD Player has been factory set to the correct mains voltage for your country. The voltage setting is marked on the serial badge, located on the rear panel. (See diagram 1). Check that this voltage complies with your local supply. Also make sure that your mains outlet is able to deliver the required current for the equipment plugged into it. The wattage rating is also marked on the serial badge.

WARNING - THIS APPARATUS MUST BE EARTHED

DO NOT CONNECT/SWITCH-ON THE MAINS SUPPLY TO THE CD PLAYER BEFORE COMPLETING ALL OTHER CONNECTIONS. IF YOU ARE IN ANY DOUBT REGARDING MAINS CONNECTIONS PLEASE DO NOT PROCEED ANY FURTHER WITHOUT CONSULTING YOUR DEALER.

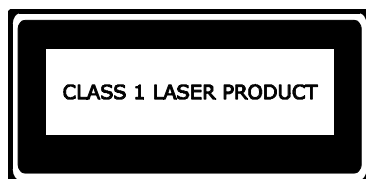
Export units for certain markets have a moulded mains plug fitted to comply with local standards. If your mains supply lead does not have a plug fitted, the coloured wires should be connected to the appropriate plug terminals in accordance with the following code.

Wire Colour Label on Plug

GREEN/YELLOW **E** or EARTH or 
 BLUE **N** or NEUTRAL or BLACK
 BROWN **L** or LIVE or RED

If your mains plug has a fuse, please fit a fuse with **5A** rating.

If your CD Player is not set correctly for the local supply or if you intend to move the CD Player to a location where the supply is at a different voltage, please contact your dealer.



The Label illustrated here, informs the consumer that the unit contains a laser component.

Under no circumstances should covers be removed when the unit is powered, the Laser can damage your eyesight.

Audio Connection

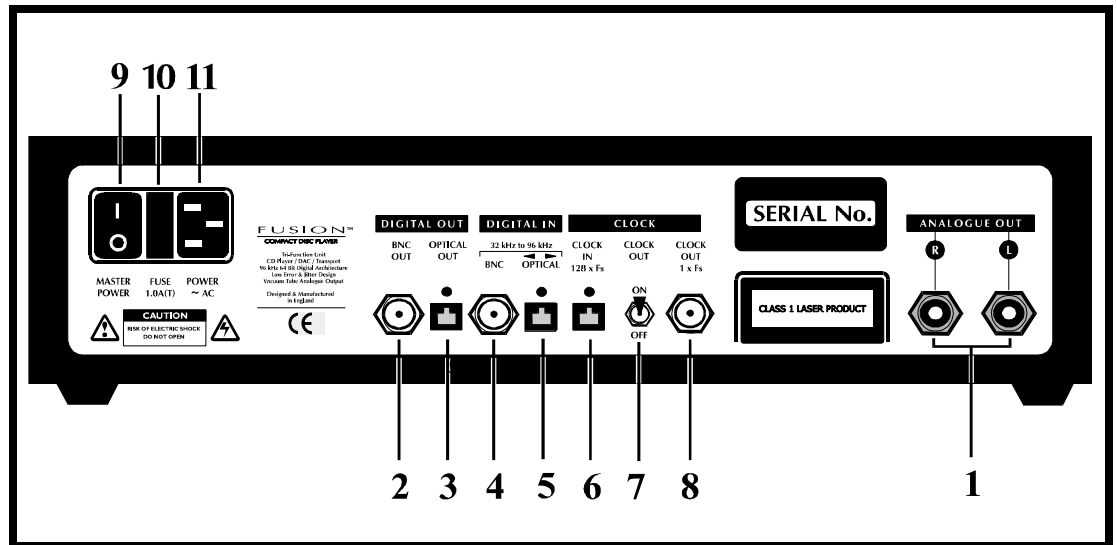


This chapter contains information on;

- *Connecting the Fusion as a CD Player*
- *Connecting the Fusion as a D.A.C.*
- *Connecting the Fusion as a Transport*

Your CD Player uses high quality connectors to ensure that maximum signal transfer is possible, therefore ensure that all cables used for connection to the amplifier are terminated with connectors of similar quality.

Diagram 1



Connecting as a CD Player

Connect the RCA outputs labelled ANALOGUE OUT (1) on the rear panel to the input labelled CD on your preamplifier or integrated amplifier. If you do not have an input labelled CD on your amplifying equipment connect to any other line-level input such as AUX, TUNER, DAT or TAPE.

Connecting as a D.A.C.

Using the Fusion solely as a Digital to Analogue Converter is useful for replaying DAT, MiniDisc and DVD Audio or any other digital source you may have in your system that would benefit from a high quality DAC with vacuum tube output stage. It will accept 24 Bit digital data up to 96kHz.

NOTE: To use the Fusion in D.A.C. mode push the power button on the front panel to illuminate the Blue DAC Mode LED above the power button.

Determine the connection method on the unit you wish to connect to the Fusion. For example a MiniDisc Player usually has an optical output which will connect to the OPTICAL (5) input using an Optical Fibre Link Cable. The BNC (4) input will accept a 75ohm Digital Cable or the adapter provided will allow the same input to accept a digital cable terminated with a phono RCA connector. Only one input (optical or BNC) can be used at any one time, this is automatically detected.

When using a Transport with a CLOCK Input frequency of 1 x Fs, or word clock, The CLOCK OUT Switch (7) should be in the ON position, to enable clock lock with the Fusion DAC through coax (8) If you do not require clock lock or your transport does not match the frequency switch to the OFF position.

To use the Fusion solely as a Compact Disc Transport, leave the unit in CD mode. Connect either the OPTICAL (3) or BNC (2) Digital Outputs to the input on the external D.A.C. you wish to use. Digital Outputs are 16 Bit 44.1 kHz. A CLOCK (6) input is also provided which 'Clock Locks' the Transport & DAC together, utilizing optical cables without introducing jitter. To use clock lock the partnering D.A.C. must have a clock frequency of 128x F.S. (5.6448 MHz)

Connecting as a CD Transport



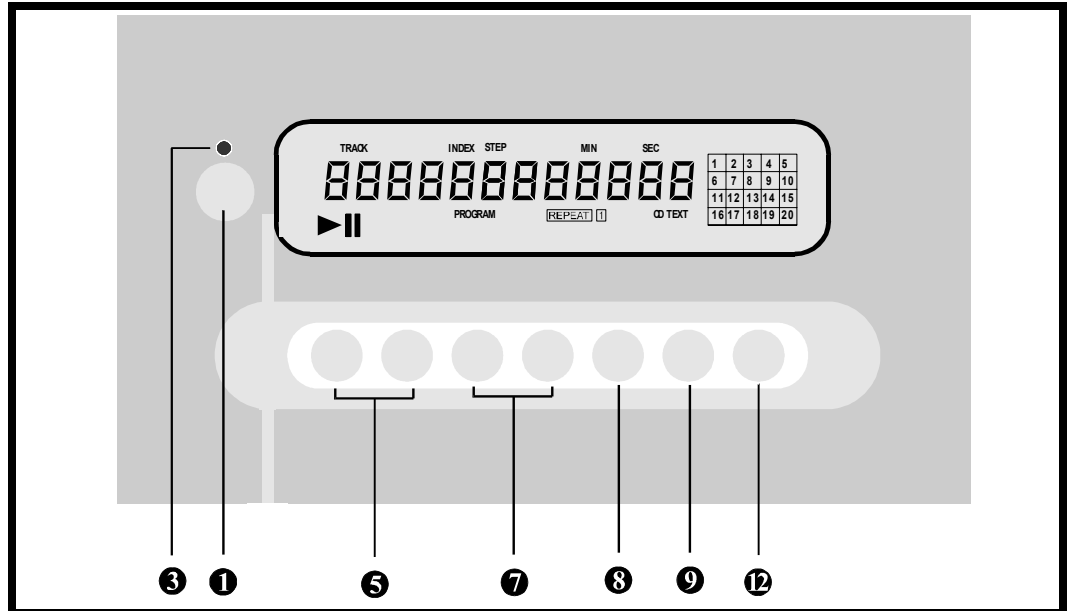
Operating your System



Diagram 2
Front Panel

This chapter contains information on;

- *Operating the Fusion as a CD Player or Transport*
- *Operating the Fusion as a D.A.C.*
- *Controls & Remote Functions*



- ① Numbers in the circles relate to the Front Panel - *Diagram 2*
- Ⓐ Letters in the ellipses relate to the Remote Control Handset - *Diagram 3*

Operating as a CD Player or Transport

To operate the Fusion as a CD player, switch MASTER SWITCH(9) located on the rear panel, to ON. You should hear the mute relays click, which ensures the software has loaded. Always allow at least 10 seconds between switching the master switch, as the program clears. The display should now be illuminated. The CD Player will now remain in a MUTE state, for 30 seconds until the internal vacuum tubes have reached operating temperature.

Operating as a D.A.C.

① **POWER**- Pressing the POWER button on the front panel disables the CD player only, the DAC circuitry remains ever-warm. The DAC MODE LED ③ on the front panel is illuminated. In this mode external digital sources can be played. Pressing it once again will return the unit to a CD player or transport. To completely power down the whole unit switch the Master Switch on the rear panel to the OFF position.

Controls & Remote Functions

Ⓐ **DISPLAY** This function can only be used if a disc is inserted in the tray. Pressing this button once switches the display OFF. Pressing it once again decreases the luminance of the vacuum fluorescent display, and pressing it once again restores the display to it's original brightness. During play if any function key is depressed the display will illuminate for a short period. ⑥ A red indicator is illuminated when the display is OFF.

⑤ **Q** ① **I<< SKIP >>I** Skips between tracks during play I<< for previous track or >>I for next track. Also used for direct track access before pressing PLAY.

⑦ **R** **G** **<< SEARCH >>** Searches audibly either backwards or forwards through a track to a particular point as desired. If SEARCH is used when the disc is in PAUSE mode, search is engaged inaudibly.

⑧ **F** **STOP** Stops the disc from playing or clears Program setting. The total number of tracks and the total playing time will appear briefly on the display panel to indicate that the player is in STOP mode, followed by 0 on the display.

**Program
Track
Selection**

9 H PLAY > The track selected on the display will play. Pressing it again on the front panel during play will **PAUSE II** the disc. To release from Pause press **II H** on the Remote or **(9) PLAY/PAUSE** on the front panel.

12 D EJECT This opens and closes the CD drawer. Place the CD in the tray blank side facing down, printed side face up. To close the drawer press the TRAY button again or gently push the front of the drawer.

REMOTE SENSOR: -F.Panel

This is the receiver for the infrared commands sent from the remote handset. Aim the remote control at this sensor.

You can arrange the order of the tracks on a disc by creating your own program. The Program can contain up to 24 tracks. Select the desired track number using the SKIP command **I O** on the Handset or enter directly using the numeric keys **L**. After selecting this first track in your program Press the PROG **T** button, the display will show the track number and the total playing time for the chosen track. As each consecutive track is added to your program, this time display shows the total playing time. Select the next track in your program and the display will flash the chosen track, STEP 2 will also flash in the display indicating the position in your program. Press PROG once again to confirm your second choice. To select a track with a number over 10, use the numeric keys, (ie. 21), press 0 then 2 then 1, then PROG. If tracks are programmed out of sequence (ie. 8,1,7) a one second access time blank is added between tracks.

During programming an individual STEP can be cleared using the **B** CLEAR command. Use the SKIP button to locate the desired STEP in your program and press the CLEAR button to remove.

To clear the program completely, press STOP or EJECT.

K REPEAT

Plays the current track or the entire disc again and again. Also repeats Programmed tracks.

The figure 1 is displayed beside REPEAT in the display when just one track is on repeat, otherwise the complete disc will repeat.

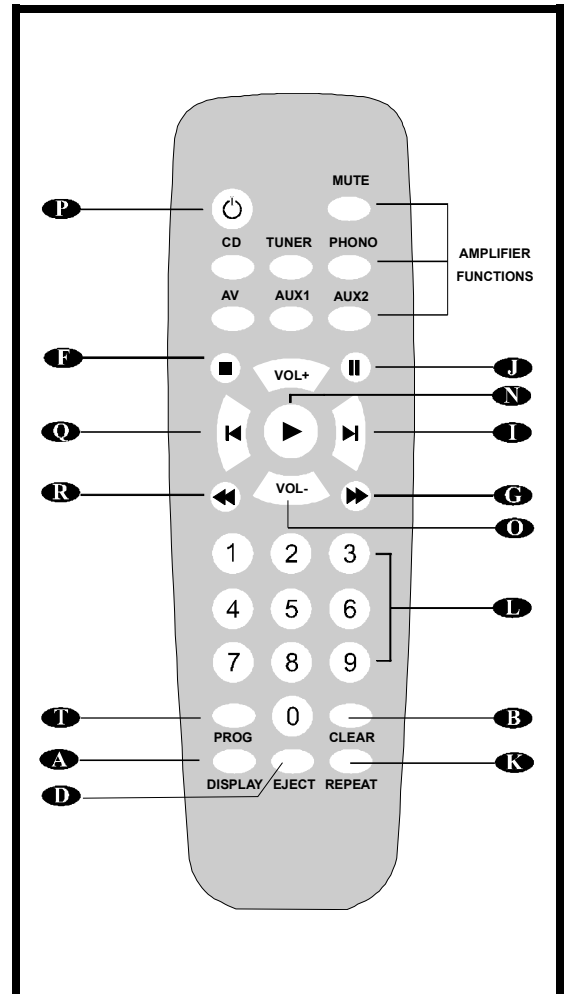
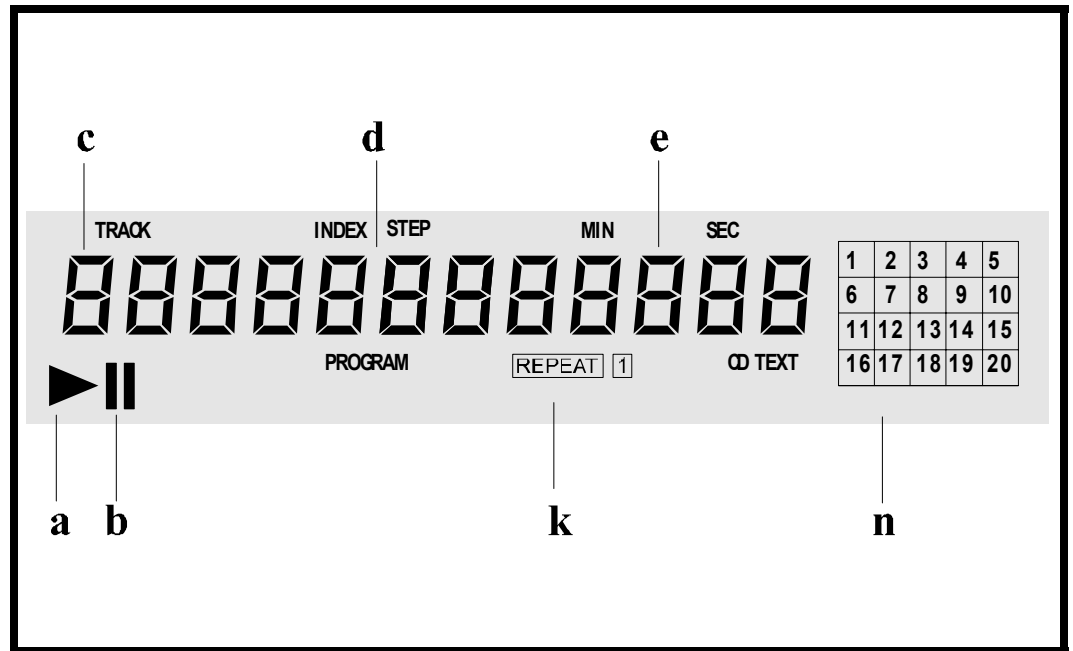
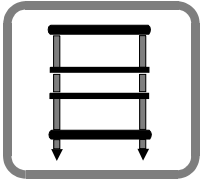


Diagram 4
Display



- a.** PLAY - Illuminated when a disc is playing.
- b.** PAUSE - Illuminated when the player is in PAUSE mode.
- c.** 88 - Indicates the track number selected.
- d.** 88 - Indicates STEPs during programming, or indexes within Tracks
- e.** 88:88 - Indicates the total disc time and running time for the track
- n.** MUSIC CALENDAR - Shows the track number playing on the disc or the tracks which have been programmed using the PROG command.

Installation***Installing & Ventilation***

This chapter contains information on;

- ***Installing and Ventilating your CD Player***

Ensure that the CD Player is placed in a stable location that is able to accept its weight, each unit weighs 8 kilograms.

Isolated shelves and/or isolating feet under the unit helps prevent micro-vibrations (generated in the room while playing music) from disturbing the internal vacuum tube structure, and digital electronics, implementing the use of these will further enhance sound quality.

Dedicated racks are available for housing your tube equipment, contact your dealer or Tube Technology for further information.

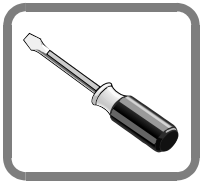
Do not locate the CD Player close to radiators or any other heat source, this could increase the operating temperature.

Do not locate the CD Player too close to a turntable, as the cartridge could pick up hum from the power transformer.

***Burning-In***

"Burning-In" is a generic term given to the basic 'running-in' of the CD Player. You may notice a slight 'electronic-smell' from your player during the first few days of operation. This smell is usually caused by various prints and dyes used on the components which takes some time to evaporate. This is quite normal and there is no need for concern as your CD Player has been extensively soak tested before leaving the factory. This burning-in process continues with your use of the player.

This process simply allows for new components like tubes, capacitors and resistors to settle and 'sweeten' enhancing the CD Player's sonic performance. An estimated 80 hours of operation allows your Fusion this running-in period.

Maintenance**Care & Cleaning**

This chapter contains information on;

- *Care and Cleaning of your CD Player*
- *Vacuum Tubes*
- *Compact Discs Care & Handling*

Vacuum Tubes

All polished metal parts on your CD player are un-lacquered. These metal parts will in time lack lustre due to oxidisation. They can easily be restored to original condition by using a mild metal polish (such as duraglit) and a soft polishing cloth. Do not clean the units with water as this smears the surface and can leave water marks. Anodised parts such as the front panel & painted parts such as the top & bottom cover are best cleaned with a damp cloth then buffed with a dry cloth.

The Fusion utilises 2 x 6922/ECC88/6DJ8 vacuum tubes in it's analogue output stage. The life span of these devices is approx. 8000 operating hours after which time they should be replaced, ensuring the unit is operating at it's maximum performance. If this time is exceeded there is NO danger to the unit.

**Care & Handling**

This unit has been designed to play compact discs bearing the identification logo as pictured in the left margin. No other discs can be played.

1. Always place the compact disc in the disc tray with the label facing upward. Compact discs can only be played on one side only.
2. CDs are still fragile items and can easily be scratched. Return discs back to their cases after use.
3. Do not expose discs to direct sunlight, high humidity or high temperatures for extended periods. Long exposure to high temperatures can warp the disc.
4. Do not stick paper or write anything with a ballpoint pen on the disc surface.

Cleaning CDs

Finger prints and dust should be carefully wiped off the disc's signal surface (glossy side) with a soft cloth. Wipe in a straight motion, from inside to outside of the disc. Small dust particles and light stains should not impair quality, but deep scratches will effect performance or even be un-playable.

Never use such chemicals as record sprays, antistatic sprays or fluid, benzine or thinner to clean compact discs. Such chemicals would irreparably damage the discs plastic surface.

Troubleshooting

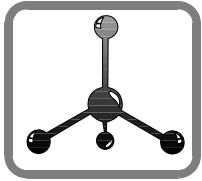
Symptom	Remedy
No Power when the POWER button is depressed.	<ol style="list-style-type: none"> 1. Check you have pushed the IEC mains cable firmly into the socket on the rear panel. 2. Check that MASTER POWER switch on the rear panel is in the ON position.
Disc play does not start	<ol style="list-style-type: none"> 1. Ensure the CD is the correct side up, & is clean
Program Mode does not function	<ol style="list-style-type: none"> 1. The player is in PLAY mode, press STOP
Unit is ON and playing but no sound	<ol style="list-style-type: none"> 1. The unit could be in mute mode, wait 30 seconds and try again.
Sound is skipping	<ol style="list-style-type: none"> 1. Ensure the player is not being vibrated by loudspeaker etc.. 2. If problem persists the disc is most probably damaged

Table 1



UNDER NO CIRCUMSTANCES SHOULD AN UNQUALIFIED PERSON REMOVE THE COVERS OF A CD PLAYER.

Specifications

**SUMMARY**

96 kHz 64 BIT CUSTOM PULSE ARRAY DAC
 Vacuum Tube Hybrid Output Stage
 1 x Auto Sensing 32-96 kHz Optical Input
 1 x Auto Sensing 32 -96 kHz Digital Coax Input
 1 x 44.1 Optical Output
 1x Optical Clock Lock Input (128 x Fs)
 1 x Digital Coax Clock Lock Output (1xFs)
 64 Bit WTA Digital Filter
 Surface Mount Technology throughout
 High Quality Transport Mechanism, Sony KSS213B Laser
 "Ever-Warm" Stand-by for DAC & Tube Stage

Figures given below are for a typical Fusion CD Player

Vacuum Tubes	6922/ECC88/6DJ8 X 2
Power Consumption	20W @110V, 120V AC 12W @ 220V, 230V, 240V AC
Dimensions	410 (W) x 350 (D) x 95 (H) mm
Weight	8 kG

Guarantee



Guarantee

This chapter contains information on;

- *The Guarantee of your Fusion CD Player*
- *Tube Guarantee*
- *Registration*
- *Claims under this Guarantee*

This equipment has been fully tested and a full record of these tests made before despatch from the factory. Both the workmanship and the performance of this equipment are (*except as set out below) guaranteed against defects for a period of TWO YEARS from the date of purchase, provided that it was originally purchased from an authorised dealer under a consumer sale agreement, at or near the recommended retail price. (The words "consumer sale" shall be construed in accordance with section 15 of the Supply of Goods (Implied Terms) act 1973).

This guarantee covers both labour and parts and is transferable to subsequent purchasers but the liability of the manufacturers is limited to the cost of repair or replacement (at the discretion of the manufacturers) of the defective parts and under no circumstances extends to consequential loss, damage or shipping charges.

The manufacturers can accept no responsibility for defects arising from accident, misuse, wear and tear, neglect or through unauthorised adjustments and or repair, neither can they accept responsibility for damage or loss occurring during transit to or from the person claiming under this guarantee.

This equipment has a SIX MONTH guarantee on the tubes allowing for any manufacturing defects to arise. If a tube is found to be defective it should be returned to the dealer or failing this, directly to Tube Technology packed in its original packaging.

Registration

Please complete the registration card and return it to Tube Technology. **Your guarantee is invalid without registration.** To transfer this guarantee to subsequent purchasers, the new owner must notify Tube Technology of their name, address and serial numbers of the equipment.

Claims under this Guarantee

This equipment should be packaged in the original packaging and returned to the dealer from whom it was purchased or, failing this, any other authorised Tube Technology dealer. If it is not possible to return the equipment by hand then it should be sent carriage prepaid by a reputable carrier. Should the original packaging not be available replacement packaging can be purchased from the manufacturers. The equipment should not be sent by post.



DO NOT CONSIGN THE EQUIPMENT TO TUBE TECHNOLOGY UNLESS YOU HAVE FIRST BEEN SPECIFICALLY REQUESTED TO DO SO BY THE MANUFACTURERS TECHNICAL SERVICE DEPARTMENT. DO NOT UNDER ANY CIRCUMSTANCES ATTEMPT TO DISASSEMBLE THE EQUIPMENT BEFORE DESPATCH.

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