

P 1 & P 2 P r o



u s e r m a n u a l



PRO SERIES

pro electronics series

In selecting ATC you have chosen an example of the finest audio engineering available.

Since its very beginning ATC has kept steadfastly to its founders' aim of building, mostly by hand,

loudspeakers which employ the most effective of modern engineering principles.

That has meant striving to make loudspeakers as near perfection as it is possible to make them.

In order to get the very best from ATC equipment careful and thoughtful installation is essential,

so please read the manual fully to understand your ATC monitor and realize

the very best performance it has to offer.

Please contact ATC with any questions or issues that arise during installation

or use and we will do our very best to help.

ATC (Acoustic Transducer Company) was founded in London in 1974 by Australian Billy Woodman who still heads

the company today. An enthusiastic jazz pianist and engineer he was naturally drawn to loudspeaker design.

After working for ROLA in Melbourne Billy, in 1970, travelled to England and worked in R&D at Goodmans in

Wembley (the training ground of many well-known British loudspeaker engineers) before starting ATC.

The philosophy upon which ATC began the development of its studio products is a simple one: that at their best,

hi-fi loudspeakers are detailed and accurate but limited by dynamic range, whilst professional monitor loudspeakers

have plenty of dynamic range but lack the clarity and accuracy.

ATC bridged this gap by developing, in house, unique drive units of exceptionally low coloration performance

and large dynamic range. There is therefore no differentiation technically between an ATC hi-fi product and

professional monitor other than the way it is packaged. A high fidelity loudspeaker is a high fidelity loudspeaker

whether it is for home or work.

ATC is best known for its active professional Studio Control Monitors and in most cases this is the most economic

and highest performance solution available to the professional engineer. Passive loudspeakers, however, still have their

place and offer an excellent alternative to active in small 2-way systems. The latest professional passive loudspeaker

in the ATC range is the SCMI2 Pro which is perfectly partnered by the ATC P1 Pro, 150 watts/channel

professional power amplifier.

ATC is also a long established audio electronics manufacturer. It all started in 1982 with the EC23 stereo, 3 way

electronic crossover incorporating phase correction and momentary gain reduction which is pre-set to prevent

the power amplifier from clipping at high drive levels and so protect the drive units.

This technology was incorporated into the 3 way Ampack developed for the SCM50A first produced in 1985.

ATC has been in continuous manufacture of electronic products ever since.

From modest beginnings ATC has grown to become one of the very few manufacturers successful across both

domestic and professional audio. By selecting ATC you join a group of music lovers, professional audio engineers,

educators, studios and musicians across the world that understand the value of the engineering that goes into

every ATC product.

1 : Description

The 'P' Series or professional stereo power amps are a range of very high quality power amplifiers designed to partner ATC passive monitors and other studio loudspeaker systems. The range consists of P1 Pro and P2 Pro. Both models feature identical 3U 19" rack mount chassis and differ only by their output power capability. The amplifiers incorporate the same gain reduction and loudspeaker protection circuits as used in the ATC active monitors. This ensures that even working at very high levels the amplifier is held back from clipping so improving the subjective performance and protecting the loudspeakers from damage.

All the amplifiers in the series are of a "true" dual mono design, in that the power supplies, signal and return paths are totally separated from each other. This approach ensures that the amplifier will achieve the maximum signal separation and minimum crosstalk. Further, intermodulation between channels via the power supplies is reduced to an absolute minimum at all frequencies, and the power delivery from one channel cannot affect the specified power available from the other channel.

2 : Safety Warnings

1. Read instructions – all the safety and operating instructions should be read before the appliance is operated.
2. Retain these instructions – the safety and operating instructions should be retained for future reference.
3. Heed warnings – all warnings on the appliance and in the operating instructions should be adhered to.
4. Follow instructions – all operating and other instructions should be followed.
5. Water and moisture – the appliance should not be used near water, for example near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement or near a swimming pool etc.
6. Ventilation – the appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug or similar surface that may block the ventilation openings. Similarly, the appliance should not be built into an installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
7. Heat – the appliance should be situated away from heat sources such as radiators, stoves or other appliances that produce heat.
8. Power sources – the appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
9. Power cord protection – power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying

particular attention to cords at plugs, convenience receptacles and the point where they exit the appliance.

10. Cleaning – the appliance should be cleaned only as recommended by the manufacturer.
11. Unattended periods – the power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
12. Object and liquid entry – care should be taken so that objects and liquids do not fall into the appliance.
13. Damage requiring service – the appliance should be serviced by qualified service personnel when:
 - a. the power supply cord or the plug has been damaged
 - b. objects have fallen or liquid has been spilled into the appliance
 - c. the appliance has been exposed to rain or other serious liquid exposure
 - d. the appliance does not appear to operate normally or exhibits a marked change in performance
 - e. the appliance has been dropped or the cabinet damaged
14. Servicing – the user should not attempt to service the appliance beyond those measures described in the operating instructions. All other servicing should be referred to qualified service personnel.
15. Grounding or polarisation – precautions should be taken so that grounding or polarisation means for the appliance are not defeated.

3 : Installation

ATC equipment has been designed to remain powered-up in Standby mode unless it is to be unused for a long period of time. Power dissipation will make the unit warm to the touch in either standby or operational mode. Temperature stability will be reached after approximately three hours from mains switch-on.

Full audio performance is available immediately.

All power amplifiers should ideally be located to minimise the cable lengths between the power amplifier and loudspeakers. Longer line level interconnects are favourable over long high level speaker connections. Use of loudspeaker cables over 10m/33' should be avoided if possible, to prevent a possible degradation in sound quality. Long cable runs require the use of a larger gauge cable. ATC recommend a minimum cable conductor area of 2.5mm²/14G for cable runs of up to 5m/16' and 4.0mm²/12G for runs up to 10m/33'.

The P1 Pro and P2 Pro are precision audio instruments and to ensure optimal performance, care should be taken when installing them into your system. Both amplifiers are class A/B designs and are optimised for sound quality over efficiency. As a result, they run warm and extra care should be taken when positioning and/or rack mounting to ensure they do not overheat.

(continued overleaf)

3 : Installation (contd.)

Freestanding or Shelf Mounted Position

- Position amplifiers in an un-cluttered position with free space all around them.
- Position amplifiers on a strong, rigid, level surface.
- Position amplifiers away from potential sources of impact or where liquids could be spilt in/on them.
- Position amplifiers away from potential heat sources.
- Amplifiers are convection cooled with air entering under the outside edges of the amplifier and rising up, exiting through the top panel vents.
ENSURE COOLING AIR ENTRY AND EXIT POINTS ARE NOT COVERED IN ANY WAY.

Rack Mounting

- Rack mount amplifiers with a minimum of 1U free space above AND below each unit.
- When blanking free spaces above/below amplifiers, vented rack panels must be used.
- Only fit into racks with ventilated side and top panels and take care not to block top panel venting.
- Take care to secure amplifiers using screws in all four rack mounting points – the amplifiers are heavy.
- Take care that the ambient temperature in the space the amplifiers is mounted in does not exceed 30°C.
If you as the user are uncomfortable in a space, don't site an amplifier there.

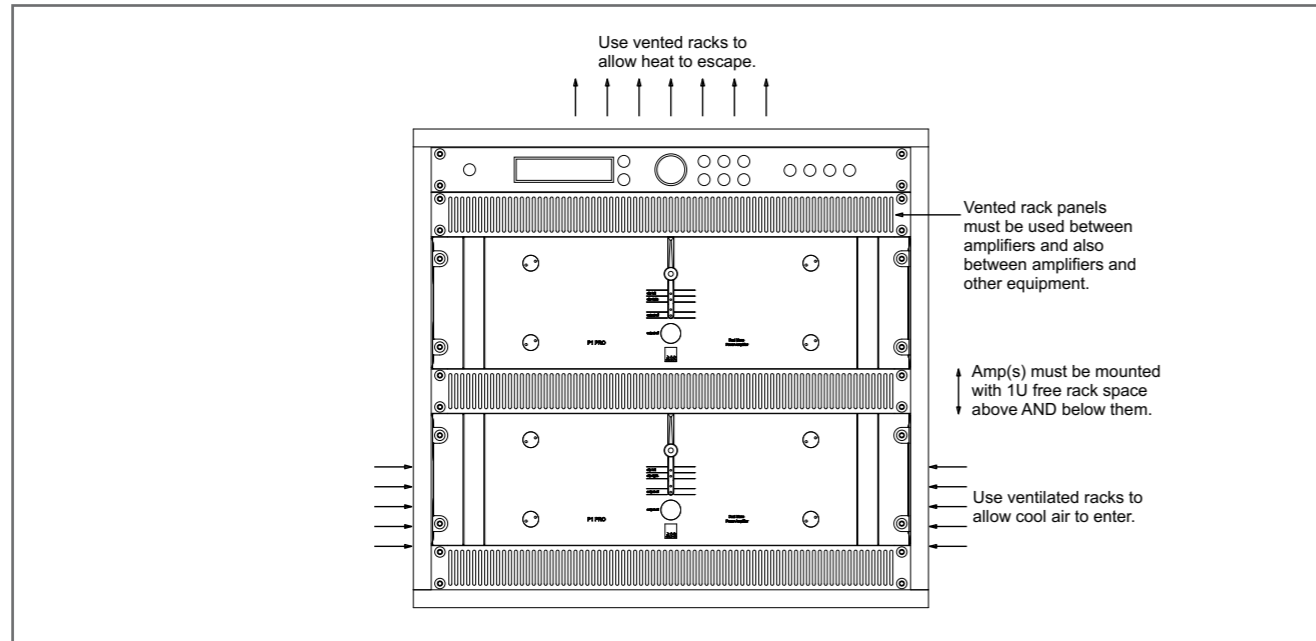


Fig. 1 Recommended Rack Mounting for P1 Pro and P2 Pro Amplifiers

Above all, use common sense and, if in doubt, allow extra ventilation. This will result in a lower operating temperature and extend the life of the product.

Failure to comply with the guidelines above could result in the amplifiers thermal overload sensor being tripped, and the amplifier shutting down. Running the amplifiers for extended time periods at high temperature will reduce the life of the product.

4 : Signal Cable Options

Balanced cable configuration is the preferred option, however unbalanced connection is possible. Figs. 2, 3 & 4 illustrate the signal cable connections required for each option. Balanced (XLR - XLR) connection offers lower noise and better immunity to "hum" pick-up. Unbalanced (XLR - RCA Phono or two-pole jack) connection carries risk of "hum" caused by multiple signal earths. Hum problems resulting from unbalanced connection may be reduced by making ONE of the following modifications to the signal cable:

- If the driving pre-amp or desk is "double insulated" (ie. has no mains earth), disconnect the signal cable screen at the RCA phono plug end, or
- Disconnect the signal cable screen at the XLR end. This option will make the source the reference signal earth.

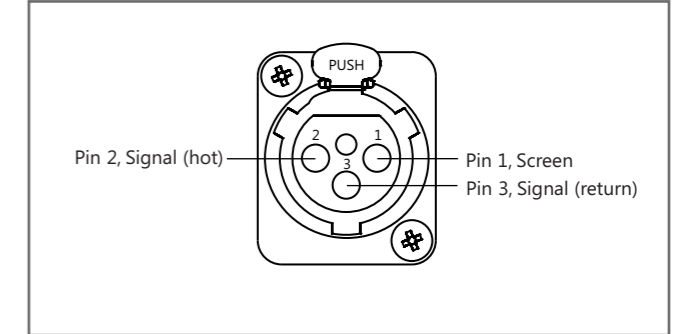


Fig. 2 Input Connection Pins (XLR)

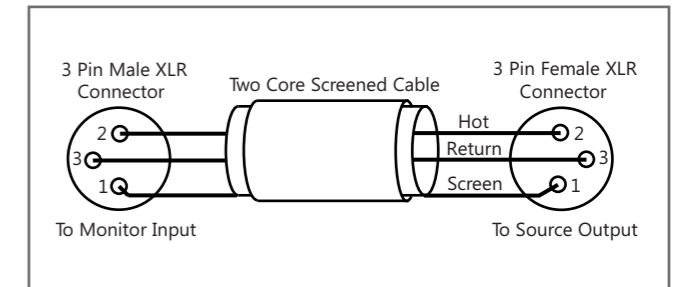


Fig. 3 Balanced Cable

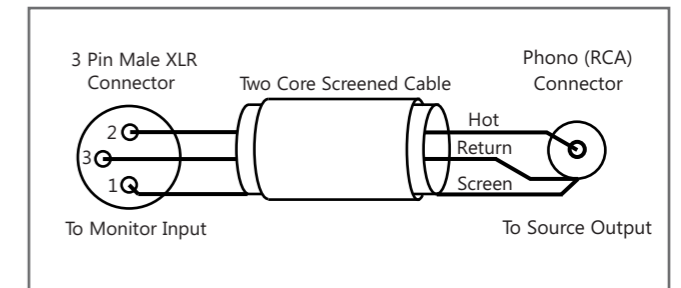


Fig. 4 Unbalanced Cable

5 : Mains Connection

Mains voltage is factory set and should only be adjusted by ATC or your local dealer or distributor. Please ensure that the local mains voltage matches that specified on the rear panel before applying power to the P1 or P2 Pro power amplifier.

115V/230V amplifier variants use an identical transformer and voltage selection is set internally via jumpers. 100V variants use a transformer specific to the voltage and the mains operating voltage cannot be changed.

The mains cable has been specifically supplied to comply with local statutory safety approvals and alternatives should not be substituted. If you intend to use your unit in an alternative territory, please contact ATC for advice.

ATC equipment MUST be earthed.

Do not remove the earth wire in the mains plug.

6 : Fuses

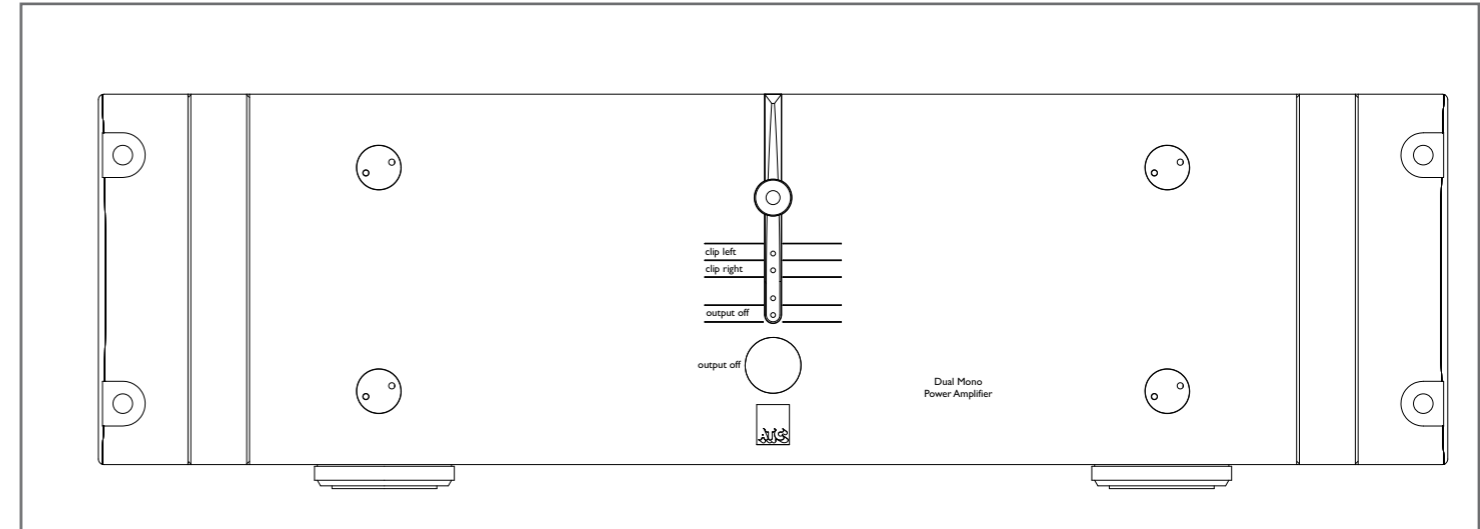
The mains power supply fuse for P1 Pro and P2 Pro Amplifiers is located on the rear panel. Should the amplifier fail to switch on when the power switch is operated, the fuse should be inspected. PLEASE ENSURE THAT THE UNIT IS DISCONNECTED FROM THE MAINS SUPPLY BEFORE INSPECTING OR REPLACING A FUSE. Lift out the fuse holder cover using a small screwdriver, remove the fuse and inspect it for damage. Fuses most often fail due to a serious electrical fault. Only replace fuses with the same type as that suspected to be blown. All fuses are 20mm "Type T anti surge". The fuse rating is printed on the rear panel adjacent to the fuse. If a replacement fuse also fails then the Amplifier should be returned to ATC for service.

7 : Inputs

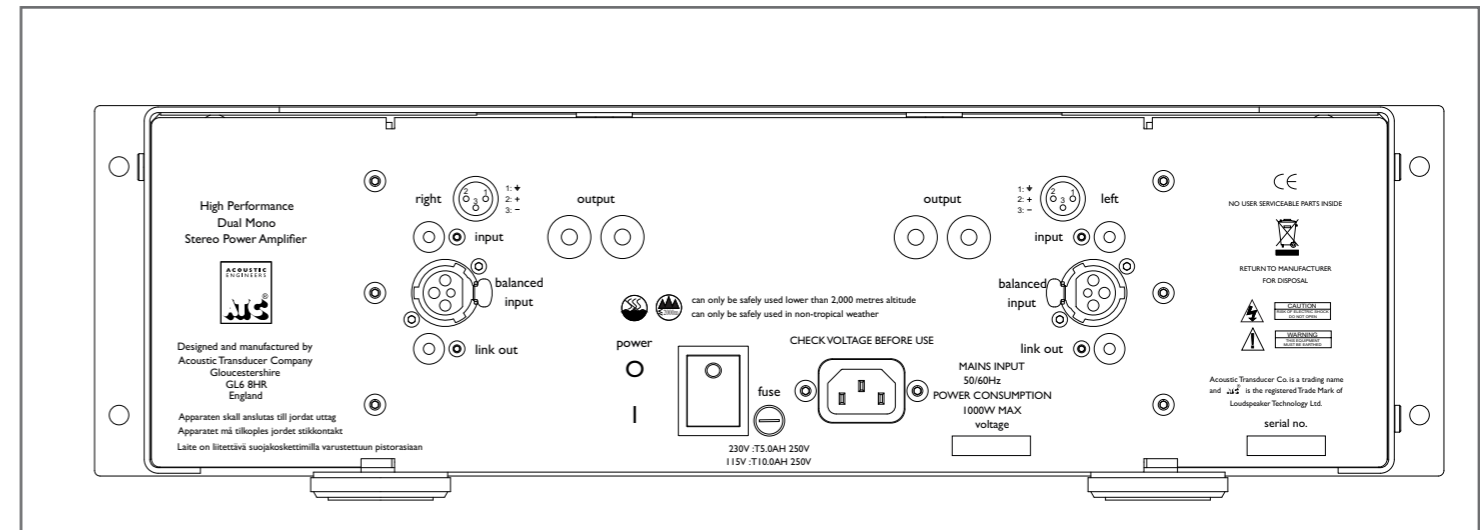
Single ended inputs via RCA phono sockets and differential (balanced) inputs via XLR sockets are provided. Each channel has two phono input sockets, the 'Link' phono sockets may be used to connect the amplifier inputs to a further ATC power amplifier, for instance when bi-amping, or as a subwoofer channel. If linking multiple P1/P2 amplifiers together, the single ended inputs and outputs must be used. If the balanced input and single ended output are used together, 6dB lower output level will result from the 'linked' amp connected via the single ended output.

8 : Outputs

Loudspeaker connections are made using the two pairs of proprietary ATC loudspeaker terminals. The terminals are designed to accept 4mm plugs, bare wire or spade terminals. The left and right channels are clearly marked and correspond to the left and right inputs. The positive terminal is marked red and the negative terminal is marked black. Use the proprietary terminal key to tighten the terminals down onto bare wire or spade terminals (if used).



P1 Pro and P2 Pro Front Panel



P1 Pro and P2 Pro Rear Panel

9 : Operation

The amplifier mains power is turned on by a switch on the rear panel. There is a Green LED on the front panel to indicate that the mains supply is connected, together with a Red LED to indicate that the amplifier outputs are disabled. The amplifier outputs can be enabled using the 'outputs off' button on the front panel.

Both the P1 Pro and P2 Pro are fitted with front panel mounted yellow LEDs to show when the amplifier FET limiters are active. When the amplifier reaches the limiter threshold, the limiter LEDs labelled, 'clip left' and 'clip right' will begin to illuminate. A short low intensity 'blink' indicates the limiters are just beginning to work. A longer duration, stronger 'blink' indicates greater limiter action. **If the limiters are active, the dynamic behaviour of the signal will be modified, output distortion will increase and subjective sound quality will be reduced. If the limiters are active, we strongly advise that the input level is reduced.**

If either the P1 Pro or P2 Pro heatsink temperatures exceed 80°C during use, their thermal overload feature will be triggered, and the amplifier will shut down, disabling power to the output stages and displaying the red, 'outputs off' LED on the front panel. This feature is to ensure long term reliability and reduce the chance of serious output stage failure. Some hysteresis exists within the thermal sensor, so the amplifier will need to cool to well below 80°C before it can be reset and operated. This may take as long as 30 minutes.

If thermal overload is triggered, it is highly likely that the amplifier is:

- Being continuously overdriven
- Driving a very demanding load
- Installed in a location with a high ambient temperature (>30°C)
- Installed in a manner that restricts normal cooling

These features are to ensure the longevity of the amplifier and protect loudspeakers from potential damage. Please take note!

Due to the nature of the electronics in ATC amplifiers it is quite normal for a sound to be heard from the speaker when the power is applied or disconnected. The noise heard will not damage the speaker and is quite normal. Although ATC uses the highest-grade components, a different noise may be heard from each speaker due to slight tolerance variations in the amplifier components.

10 : Care & Maintenance

ATC uses high technology material finishes in all of its products. The surfaces are durable and with a little care can be kept as good as new even under conditions of heavy use. Normally a dry duster is all that is required to keep the finishes clean. Heavy soiling can be cleaned using a slightly moistened cloth with a non-abrasive household cleaner.

11 : Specifications

	P1 PRO	P2 PRO
Power Output (1% THD, 1kHz, 8Ω both channels driven, continuous average)	>150W	>300W
Frequency Response (-3dB)	<2Hz - >400kHz	<2Hz - >400kHz
Distortion (1kHz, 8Ω, 1dB below full power)	<0.002% / -95dB	<0.002% / -95dB
Input sensitivity (150W, 8Ω, 1kHz)	2.0V	2.0V
Input Impedance	10kΩ (phono) 10kΩ/leg (XLR)	10kΩ (phono) 10kΩ/leg (XLR)
S+N/N Ratio	>100dB (wideband) >110 (DIN) >115 (IEC "A")	>100dB (wideband) >110 (DIN) >115 (IEC "A")
Crosstalk (10Hz - 20kHz)	>100dB	>100dB
Damping Factor (8Ω)	>400	>400
Absolute Phase	Zero Degrees (Phono) Zero Degrees (XLR, Pin 2 Hot)	Zero Degrees (Phono) Zero Degrees (XLR, Pin 2 Hot)
XLR CMRR (100Hz - 10kHz)	>60dB	>60dB
Power Requirements	100, 115, 230V factory set, 50/60Hz	100, 115, 230V factory set, 50/60Hz
Idle Power Consumption	40W/57VA	106W/158VA
Max Power Consumption	510W/630VA	1kW/1.3kVA
Product Dimensions (HxWxD)	141.1x482.6x365.6mm 5.56x19.0x14.39"	141.1x482.6x365.6mm 5.56x19.0x14.39"
Net Weight	17kg/34.2lbs	21kg/46.2lbs
Packed Dimensions (HxWxD)	280x650x445mm	280x650x445mm
Packed Weight	20kg/44lbs	24kg/52.8lbs

I 2 : Warranty & Contact

All ATC products are guaranteed against any defect in materials or workmanship for a period of two years from the date of purchase.

Within this period we will supply replacement parts free of charge provided that the failure was not caused by misuse, accident or negligence.

Purchasers who complete and return the Warranty Card will have their warranty period extended up to a period of six years from the date of purchase.

This guarantee does not limit your statutory rights.

All warranty claims must be processed through the authorised dealer the product was purchased through.



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