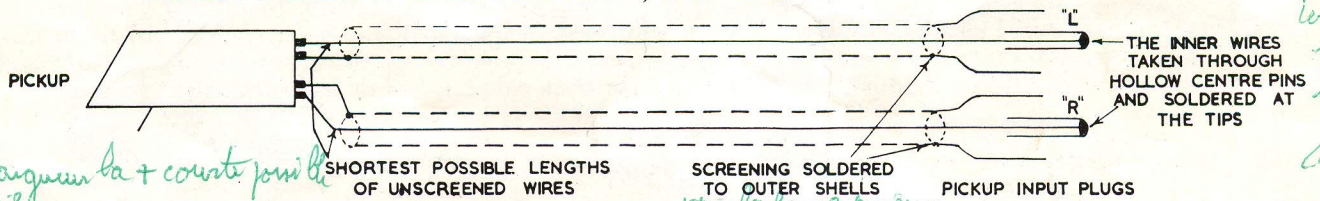
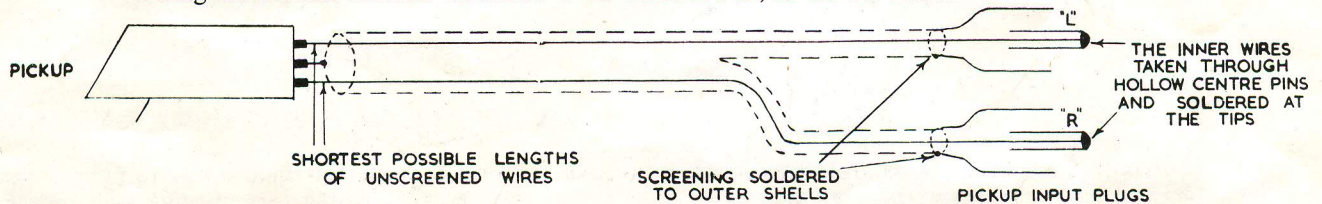


- (b) The pickup should be connected via screened co-axial cables to the sockets marked 'PICKUP 1' or 'PICKUP 2' at the rear of the 'STEREO 30', as shown below.



- (c) Some pickups will be fitted with two inner conductors covered by one outer screening; in this case the user should make sure that the screening of both inner conductors is maintained right up to the plugs fitting the sockets marked 'PICKUP 1' or 'PICKUP 2', as shown below.



- (d) We know from experience that the main troubles encountered by the music-lover at home are with the reproduction of records. There are five major reasons for these troubles:

- (i) No record can possibly give perfect reproduction, and many records (perhaps the majority) contain noticeable distortions due to imperfections in recording and/or processing. These imperfections may show up as 'rattle', high surface noise, recorded hum and rumble and recorded 'wow'. Shrill treble may be due to a poor record, or to a pickup having its high-frequency resonance within the audible range, or to inferior loudspeakers.
- (ii) No pickup is perfect and many have performances *very much* below those which are attainable.
- (iii) Hum. This often arises because insufficient attention is given during the design of a pickup to the commonly-found circumstances in which it will operate, i.e. near an electric motor and near a power amplifier. Hum can also arise from incorrect connection of the pickup by the user. If hum is to be kept to a minimum the outer screening of any pickup wiring should either have an insulated covering, or it should be prevented from touching any metal on the motor, motorboard or anywhere else. The outer screening *must not* be used for earthing any part of the motor and turntable assembly, which should be earthed by a separate wire taken to the 'EARTH' terminal below the 'SUPPLY POWER' grommet on the rear of the 'STEREO 30'. If the pickup arm is of metal and the outer screening is connected to it, then the arm must not make metallic contact through its bearings with the metal turntable and motor assembly. Unfortunately, on some record-players and record-changers the screen is connected to the body of the motor mounting-plate. This is bad practice on the part of the makers, and is very likely to cause hum, particularly when using a low output pickup. If you have this type of wiring, you are most strongly urged to insulate the screening from the metal parts of the motorboard.
- (iv) 'Rumble'. Vibration from the motor is transmitted to the pickup stylus and appears in the sound output as a rumbling or humming noise. Rumble disappears when the pickup is lifted from the record.
- (v) Acoustic feedback. If a loudspeaker is placed in the same cabinet as a pickup, then vibration from the movement of the loudspeaker can be transmitted to the stylus of the pickup. As the volume is increased a stage is reached where a sustained roaring noise is set up. At volume levels considerably below this point distortion is noticeable. Acoustic feedback disappears when the pickup is lifted from the record.

- (e) The matching of stereo pickups.

- (i) *Low-output moving-magnet, moving-coil or variable-reluctance pickups.*  
The above types should be connected to the 'PICKUP 1' input sockets, which have an input sensitivity of 3.5mV and an input impedance of 47,000 ohms.
- (ii) *Higher output moving-magnet, moving-coil or variable-reluctance pickups.*  
The above types should be connected to the 'PICKUP 2' input sockets setting the associated gain switch to 'HI'. The input sensitivity is 20 mV and the input impedance is 33,000 ohms.
- (iii) *Crystal and Ceramic pickups.*  
The above types should be connected to the input sockets marked 'PICKUP 2', setting the associated gain switch to 'LO'. The input sensitivity is 60 mV and the input impedance is 100,000 ohms. The input loading under these conditions forces this type of pickup to give approximately the same frequency characteristic as moving-coil and variable-reluctance pickups. This type of pickup may be accompanied by recommendations that a high input impedance (1 megohm) should be used; these instructions must be disregarded as they apply only when you are using a pre-amplifier which does not incorporate record compensation. If more bass is desired you should insert a 100,000 ohm resistor in series with each 'live' pickup input lead. As these resistors can pick-up hum unless screened, we strongly recommend that you solder the resistors to the co-axial input sockets inside the pre-amplifier. It may also be necessary to increase R3R and R3L to 10,000 ohms if more volume is required.

N.B. The sockets marked 'PICKUP 2' will be inoperative if a pickup is already connected to the 'PICKUP 1' input sockets.