

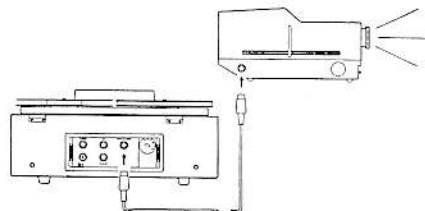
operator can monitor the recording through an earphone. After terminating the recording, rewind the tape.

5. Set the function selector **5** at "Multi-Play II", connect another earphone for the performer to the socket II **4**; take care to insert the plug in such a way that the built-in loudspeaker is cut out.
6. The balance control **15** and the volume control **14** are set at center position. The performer puts on the earphone and the tape transport is started for the second recording. The performer can synchronize his second performance with the first recording which is audible in his earphone. The audio control operator can monitor both performances in his headset. For adjusting the recording level of the new recording, he uses the control "Level I" **9**, and for adjusting the recording level of the first recording, which is being transferred to another track, he uses the control "Level II" **10**. This enables him to adjust the ratio between the recording levels of the two performances at will.
7. For another additional recording, the tape must be rewound, the function selector **5** is set at "Multi-Play I", and the recording process is repeated as known. If you want to add a further recording, set the function selector at "Multi-Play II". For more recordings to be added, continue the described process, alternating the position of the function selector each time, until your multi-play recording has been accomplished.
8. When playing back multi-play recordings, always take care to leave the function selector **5** in that position where it was during the last recording. Except for this, playback is made in exactly the same manner as described with respect to normal recordings.

Dia-Pilot

If you own an automatic slide projector, your UHER ROYAL STEREO will enable you to enjoy a fully automatic sequence of slides along with synchronous sound (as in a sound film); for the recorder will not only provide the comments and musical accompaniment, but will also control the changing of the slides by the automatic projector. As you don't

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gesamte Vorgang bequem und ohne Schwierigkeiten vorstatten. Sie brauchen nur folgende wenige Handgriffe auszuführen:

1. Tonbandgerät und Projektor betriebsfertig machen. Am Projektor ist dessen Fernsteuernkabel anzuschließen.
2. Je nachdem, ob die Vertonung im Mono- oder Stereo-Verfahren erfolgen soll, schalten Sie den Betriebsartenwähler **5** für Mono auf „1—4“ bzw. auf „Stereo“. Bei der Tonaufnahme erfolgt die Bedienung des Gerätes wie in den Abschnitten „Monobetrieb“ oder „Stereobetrieb“ beschrieben. An der Buchse „Phono“ können Sie auch noch einen Plattenspieler oder ein Tonbandgerät anschließen. Damit ist eine Untermalung der Vorführung mit Musik oder Geräusch möglich. (Vielleicht haben Sie sogar mit UHER 4000 REPORT-L, dem netzunabhängigen und überall einsatzbereiten Tonbandgerät, an Ort und Stelle den Originalton zu Ihren Fotos eingefangen.) Soll Ihre tönende Bildschau besonders schön werden, dann machen Sie sich vorher ein kleines Drehbuch, anhand dessen die Vertonung in Text und Ton erfolgt. Die richtige Aussteuerung des Textes, den Sie über Mikrofon aufsprechen, regeln Sie mit dem Regler „Pegel I“ **9**, während mit dem Regler „Pegel II“ **10** Musikuntermalung oder Geräusche eingemischt werden können. Den Bildwechsel des Projektors betätigen Sie mit der Fernsteuerleitung, so daß immer das richtige Bild zu der jeweiligen Vertonung erscheint.
3. Haben Sie Tonbandaufnahme beendet, so lassen Sie das Tonband zurücklaufen, bringen das Magazin des Projektors in Anfangsstellung und entfernen das Fernsteuernkabel vom Projektor. Dann lösen Sie die Verbindungen aller angeschlossenen Tonquellen und verbinden den Fernsteueranschluß des Projektors mit der Buchse „Projektor“ des Tonbandgerätes. Das hierzu notwendige Kabel Typ UHER K911 ist bei Ihrem Fotohändler erhältlich.
4. Erfolgte die Vertonung im Mono-Verfahren, schalten Sie den Betriebsartenwähler **5** jetzt auf „Dia-Pilot II“, handelte es sich um eine Stereo-Vertonung, so wird der Betriebsartenwähler in Stellung „Dia-Pilot I“ gebracht. Nun wird der Bandlauf erneut für

need any additional equipment for this purpose, the whole process will run smoothly and without difficulties. You need only perform the following few manipulations:

1. Make the recorder and the slide projector ready for operation. Connect the slide projector with its remote-control cable.
2. Set the function selector **5** at "1—4", or "stereo", for monaural and/or stereophonic sound recordings. For sound recording, the tape recorder is operated as described in the paragraphs "Monaural Operation" and "Stereo Operation". If you so desire, connect a record player or a tape recorder to the "Phono" socket of your UHER Royal Stereo, in order to accompany the show with some kind of sound or other. (Perhaps you have even recorded the original sound background on the spot, while taking your photographs, by means of the ever-ready UHER "4000 report-L", the recorder which is independent of the mains). If you want to prepare your "sound-show" with extra care, write a little script beforehand, to guide your synchronizing work. The recording level of the comments, which you record through a microphone, is adjusted by means of the control "Level I" **9**, while the control "Level II" **10** is used for blending in background music or some other kind of sound. For changing the slides, use the remote control of the projector, in order to be able to synchronize the appearing picture with the pertaining acoustic accompaniment.
3. When the recording has been completed, rewind the tape, return the slide magazine of the projector to its starting position and disconnect the remote control cable from the projector. Then disconnect all the signal sources and establish a connection between the remote control socket of the projector and the "Projector" socket of the tape recorder. For this purpose you need the cable K 911, which should be available at your photo dealer's.
4. If you have made a monaural sound recording, set the function selector **5** at the position "Dia-Pilot II". If, however, the sound recording was a stereophonic one, set the function selector at the

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position "Dia-Pilot I". Then set the recorder for recording operation and start the tape transport again. Now you will hear the sound recording, which is to accompany your slide-show. Each time you want to change a slide, depress the key marked "Dia-Pilot" ⑰. This causes the projector to change the slide. Simultaneously, a control pulse is recorded on track 4 which will, when you play back this tape later, cause an automatic change of slides.

5. When all slides have been shown, rewind the tape and return the slide magazine of the projector to its starting position. Now your synchronized slide show can run by itself, controlled automatically by your UHER Royal Stereo. The function selector ⑤ remains at the position "Dia-Pilot I" or "Dia-Pilot II" respectively. Then set the recorder for playback, start the tape movement, and adjust volume and tone according to taste.

A useful hint:

If you should make a mistake while setting the control pulses, or if you should wish to add a slide later on, merely wind the tape once more, as described above under 3. and 4. and depress the key "Dia-Pilot" ⑰ whenever you want the slides to change. The control pulses recorded earlier will be erased automatically and will be replaced by the new ones.

Stereo Operation

Recording

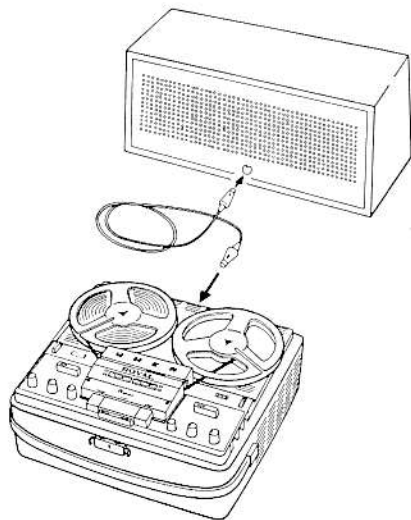
Stereo operation means that, instead of one, two tracks are used simultaneously for recording as well as playback. Always begin recording with the green leader of the tape. After the first passage of the tape, the reels can be reversed and recording or playback may be continued by starting with the red leader of the tape. Each channel is provided with its own db-meter.

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Aussteuerungsanzeige erfolgt für jeden Kanal einzeln durch je ein Instrument.

Aufnahme mit Mikrofon

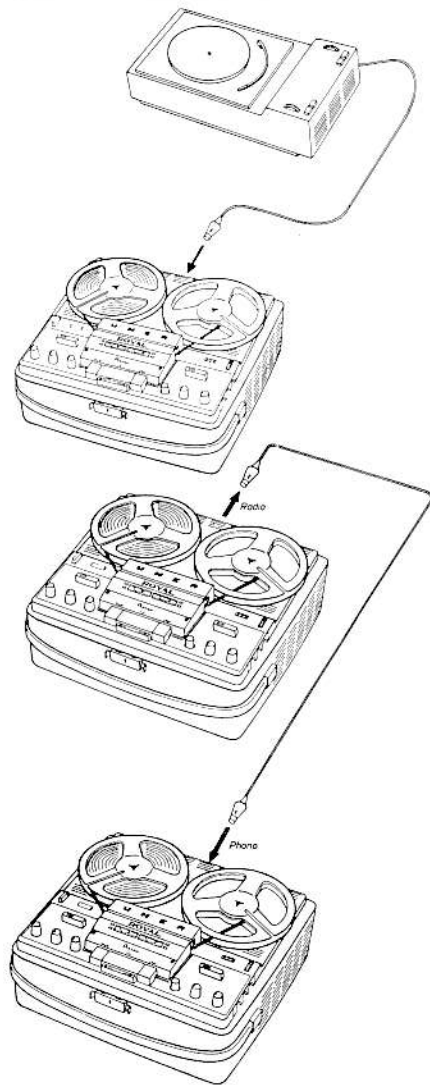
1. „Betriebsartenwähler“ ⑤ in Stellung „Stereo“ bringen.
2. Mikrofon anschließen. Wenn Sie das Stereo-Mikrofon Typ M 582 verwenden, so erfolgt der Anschluß direkt (ohne Übertrager) an der Buchse ⑫ „Stereo“. (Auch bei Verlängerung des Mikrofonkabels ist der Übertrager nicht erforderlich.) Soll mit zwei einzelnen Mikrofonen aufgenommen werden, so wird das linke Mikrofon an der Buchse ⑪ und das rechte Mikrofon an der Buchse ⑬ angeschlossen.
3. Regler „Lautstärke“ ⑭ ganz nach links drehen.
4. Regler „Balance“ ⑮ auf Mittelstellung bringen.
5. Richtige Aussteuerung einstellen. Hierzu drücken Sie die rote Taste „Aufnahme“ ⑥ und drehen den Regler „Pegel I“ ⑨ so weit nach rechts, bis eines der beiden Instrumente bei den lautesten Darbietungen bis zum Ende des schwarzen Bereichs (Ziffer 0) ausschlägt. Das Einstellen der richtigen Aussteuerung erfolgt also stets unter Beobachtung des am meisten ausschlaggebenden Instruments. Der Regler „Pegel II“ ⑩ steht ganz links.
6. Danach rote Taste „Aufnahme“ ⑥ und Taste „Start“ ① drücken.
7. Wenn nur eine kurze Unterbrechung erfolgen soll, so drücken Sie die Taste „Pause“ ② bis zum Einrasten. Das Tonband steht so lange still, bis die Rastung durch nochmaliges Drücken der Taste ausgelöst wird.
8. Mit dem Regler „Lautstärke“ ⑭ können Sie die gewünschte Mithörlautstärke einstellen. Achten Sie bitte darauf, den Regler nur so weit nach rechts zu drehen, daß noch kein störendes Heulen (akustische Rückkopplung) auftritt. Wird das Mikrofon in einem anderen Raum oder in größerer Entfernung vom Gerät betrieben, so kann in beliebiger Lautstärke mitgehört werden. Mit dem Regler „Ton“ ⑯ können Sie auch die Klangfarbe des Mithörens beeinflussen.
9. Am Ende der Aufnahme drücken Sie die Taste „Stop“ ④.



Recording From a Microphone

1. Set the function selector ⑤ at the position marked "Stereo".
2. Connect the microphone. When using a Stereo Microphone, connect it directly to the "Stereo" socket ⑫, without using a matching transformer. Even if the microphone cable must be extended, the use of a matching transformer is not necessary. If you wish to use two single microphones, connect the left one to socket ⑪, and the right one to socket ⑬.
3. Turn the volume control ⑭ anticlockwise as far as possible.
4. Set the balance control ⑮ at center position.
5. Adjust the proper recording level by depressing the red recording button ⑥ and turning the control "Level I" ⑨ as far clockwise as to cause the pointer of one of the VU-meters to deflect to the end of the green band of the scale at the loudest parts of the performance; i.e. for adjusting the proper recording level you must always watch the pointer of that VU-meter which indicates the higher recording level. Turn the control "Level II" anticlockwise as far as possible.
6. Depress the red recording button ⑥ and the start key ① simultaneously.
7. If you wish to interrupt the recording process for a short time only, depress the pause control key ② until it gets caught in position. The tape will then remain stationary until the pause control key is released by being pressed once more.
8. The monitoring volume can be adjusted by the volume control ⑭. Please take care not to turn the control too far clockwise, in order to avoid a hooting noise due to acoustic feedback. If there is a great distance between the recorder and the microphone, or if they are operated in different rooms, the monitoring level can be adjusted according to taste. The monitoring tone can be adjusted by means of the tone control ⑯.
9. When the recording is completed, depress the stop key ④.

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Aufnahme von Stereo-Rundfunksendungen

Mit der Tonleitung Typ K 541 verbinden Sie die Anschlußbuchse für Tonbandgeräte vom Rundfunkempfänger mit der Buchse „Radio“ Ihres Tonbandgerätes. Das Rundfunkgerät wird eingeschaltet und der gewünschte Sender gewählt. Lautstärke und Klangfarbe sind ohne Einfluß auf die Tonbandaufnahme.

Die weitere Bedienung der Geräte erfolgt wie unter „Stereo-Mikrofon-Aufnahme“ beschrieben. Mithören können Sie entweder über die Lautsprecher des Rundfunkempfängers oder über die eingebauten Lautsprecher Ihres Tonbandgerätes bzw. einem angeschlossenen Stereohörer.

Aufnahme von Stereo-Schallplatten

1. Stereo-Plattenspieler an Buchse „Phono“ anschließen. Regler „Pegel I“ ⑨ ganz nach links drehen.
2. Bandgeschwindigkeit wählen und dann Taste „Aufnahme“ ⑥ drücken.
3. Plattenspieler einschalten, Tonarm aufsetzen und richtige Aussteuerung mit Regler „Pegel II“ ⑩ einstellen (Probeaussteuerung).
4. Nach dieser Probeaussteuerung Tonarm wieder in die Anfangsrille der Schallplatte zurücksetzen und Bandlauf durch Drücken der Tasten „Aufnahme“ ⑥ und „Start“ ① in Gang setzen.

Mithören, Unterbrechung und Beenden der Stereo-Schallplatten-Aufnahme wie bereits beschrieben.

Stereo-Aufnahme von einem zweiten Tonbandgerät

Sollen Tonbandaufnahmen von einem anderen Gerät übernommen werden, so wird dieses „Kopieren“ von Tonbändern wie folgt ausgeführt:

1. Sie verbinden das wiedergebende Gerät von Buchse „Radio“ aus mit der Buchse „Phono“ des aufnehmenden Gerätes mittels der Stereo-Tonleitung K 541.
2. Das wiedergebende Gerät wird entsprechend seiner Bedienungsanleitung auf „Wiedergabe“ und das aufnehmende Gerät auf „Aufnahme“ geschaltet.

Recording Stereo Broadcasts

Connect the "Radio" socket of your tape recorder to the tape recorder socket of the radio set by means of a K 541 Stereo Audio Cable. Switch on the radio set and tune in the desired station. The tape recording is not influenced by the volume control and the tone control of the radio receiver.

Apart from this, operate the recorder as described in the paragraph "Recording From a Microphone" in the chapter "Stereo". The recording process can be monitored either through the loudspeakers of the radio set, through the built-in loudspeakers of the recorder, or through stereo headphones connected to the tape recorder.

Re-recording Stereo Phonograph Records

1. Connect the stereo record player to the "Phono" socket of the recorder. Turn the control "Level I" ⑨ anticlockwise as far as possible.
2. Select the desired tape speed and depress the red recording button ⑥.
3. Switch on the record player, put the tone arm onto the record and adjust the proper recording level by means of the control "Level II" ⑩ (test adjustment).
4. After this test adjustment put the tone arm back to the leading groove of the record and start the recording operation by depressing the recording button ⑥ and the start key ① simultaneously.

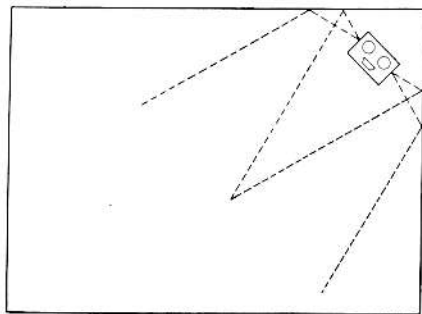
In order to monitor, interrupt or stop the re-recording of stereo phonograph records, proceed as described earlier.

Recording From Another Stereo Tape Recorder

If you wish to duplicate a magnetic tape recording from another tape recorder, proceed as follows:

1. Connect the playback recorder by its "Radio" socket to the "Phono" socket of the receiving recorder by means of a K 541 Stereo Audio Cable.
2. The playback recorder must be set for playback, and the receiving recorder must be set for recording, each according to the pertaining operating instructions.

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- Die richtige Aussteuerung nehmen Sie, wie bekannt, mit dem entsprechenden Regler vor. Wenn Sie mit UHER ROYAL STEREO aufnehmen, regeln Sie die Aussteuerung mit dem Regler „Pegel II“

10.

Stereo-Wiedergabe

Die beiden Lautsprecher des Gerätes ermöglichen bereits eine recht gute Stereo-Wiedergabe. Seine volle Leistungsfähigkeit entfaltet Ihr UHER ROYAL STEREO jedoch erst bei Anschluß von zwei Außenlautsprechern. Am besten ist natürlich die Wiedergabe in Verbindung mit Stereo-Rundfunkgeräten oder Stereo-Verstärker-Anlagen.

Wiedergabe über eingebaute Lautsprecher

Um den Stereo-Effekt zu erhöhen, stellen Sie zweckmäßig Ihr Gerät — wie die Abbildung zeigt — in einer Zimmerecke auf.

- Bandgeschwindigkeit wählen und Gerät einschalten.
- „Betriebsartenwähler“ 5 in Stellung „Stereo“ bringen.
- Regler „Balance“ 15 in Mittelstellung bringen (später können Sie mit dem Regler „Balance“ das Lautstärkeverhältnis beider Kanäle zueinander den jeweiligen räumlichen Verhältnissen für beste Stereo-Wiedergabe anpassen).
- Taste „Start“ 1 drücken.
- Mit den Reglern „Lautstärke“ 14 und „Ton“ 16 wählen Sie die gewünschte Lautstärke bzw. Klangfarbe.
- Unterbrechung und Beendigung der Wiedergabe wie bekannt.

Wiedergabe über Außenlautsprecher oder Stereohörer

- Der linke Lautsprecher wird an der Buchse I 11 und der rechte Lautsprecher an der Buchse II 12 so angeschlossen, daß die eingebauten Lautsprecher abgeschaltet sind (s. Seite 18). Bei Anschluß des Stereohörers, Typ W 671 wird der rote Stecker in Buchse I 11 und der gelbe Stecker in die Buchse II 12 gesteckt, wiederum so, daß die eingebauten Lautsprecher abgeschaltet sind. Der Stereohörer wird so aufgesetzt, daß die Zuleitung zur linken Ohrmuschel führt.
- Die weitere Bedienung erfolgt wie bei Wiedergabe über die Einbaulautsprecher.

3. Adjust the proper recording level as usual by means of the pertaining control. When recording with a UHER ROYAL STEREO, adjust the recording level by means of the control "Level II" ⑩.

Stereo Playback

The two built-in loudspeakers of the recorder will permit a fair stereophonic reproduction, but you will experience the full efficiency of your UHER ROYAL STEREO only when using two external loudspeakers in connection with the recorder. For best playback quality, however, the use of a stereo amplifier with good loudspeakers is advisable.

Playback Through the Built-In Loudspeakers

In order to enhance the stereophonic effect, you should place your recorder in one corner of the room (as shown).

1. Switch on the recorder and select the tape speed.
2. Set the function selector ⑤ at the position "Stereo".
3. Set the balance control ⑮ at center position. During playback you can use the balance control for adjusting the ratio between the volumes of the two channels to the prevailing characteristics of the reproduction room in order to obtain best stereo playback results.
4. Depress the start key ①.
5. Select the desired volume and tone by means of the pertaining controls ⑭ and ⑯.
6. In order to interrupt or stop the playback operation, proceed as described earlier.

Playback Through External Loudspeakers or Stereo Headphones

1. The left-hand loudspeaker is connected to the socket I ④, while the right-hand speaker is connected to the socket II ④ in such a manner that the built-in loudspeakers are cut out (see also page 18). When Model W 671 Stereo Headphones are connected, the red plug must be inserted into the socket I ④, and the yellow one into the socket II ④, also in such a way as to cut out the built-in loudspeakers. Put on the headphones in such a manner that the connection cable leads to the left ear.
2. In all other respects the recorder should be operated as described in the paragraph "Playback Through the Built-In Loudspeakers".

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The Remote Control

The model F 362 Remote Control must be connected to the socket marked Δ . By means of this accessory you can bring out the finest details of stereophonic reproduction by carefully balancing the ratio between the volumes of the two channels while comfortably sitting in your chair. The remote control also permits starting and stopping of the tape transport. During playback through a stereo radio set or through a stereo amplifier with good loudspeakers, the remote control will serve this latter purpose only while the balance adjustment is made through the pertaining controls of the connected playback means. If the remote control is used for balancing, the balance control 15 of the recorder must be set at center position. The remote control may also be used during monaural operation.

Playback through a Stereo Radio Set or a Stereo Amplifier

Connect the "Radio" socket of the UHER ROYAL STEREO to the tape recorder socket of the stereo radio set or the stereo amplifier by means of a K 541 Stereo Audio Cable. Apart from this, operate the UHER ROYAL STEREO exactly as described before. The built-in loudspeakers of the recorder can be used along with the connected radio set or amplifier or may be cut out by turning the volume control 14 anticlockwise. The balance control 15 and the tone control 16 do not influence the playback.

Useful Hints

Microphone Recording

The acoustic characteristics of the room in which the recording is made are of the utmost importance for the outcome of microphone recordings. Rooms having bare walls, produce too much reverberation and are therefore unfit for microphone recording.

Recommended distances between the microphone and the source of sound are as follows:

Speech: 12—20 inches; if the distance is shorter, the low frequencies will be overemphasized.

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Vocal Solo: approx. 3 feet; a shorter distance will cause exaggeration of the breathing noise.

Piano and other Solo Instruments: 4.5—7 feet. Especially when recording a piano recital, it is important to find out the best microphone position by careful experimenting.

Orchestras and Choirs: Hang up the microphone above the center of the group at a height of approx. 7 feet. This applies also to the model M 581 Stereo Microphone. When making a stereo recording by means of two separate microphones, arrange the microphones on the left and on the right in front of the group. The optimum distances—also between the microphones—must be found by experiment.

Small Instrumental Groups: Place the musicians in a semicircle with a radius of approx. 4.5 feet with the microphone in the center. This applies also to the model M 581 Stereo Microphone. When using two separate microphones for stereo recording, please refer to the preceding paragraph.

Conference: If possible, hang up the microphone above the conference table in such a position that all members of the conference are at about the same distance from the microphone. Please bear in mind that simultaneous speaking of several persons will impair the intelligibility of the recording. Here, stereo recording will give optimum results.

Adding Sound to Slides; Special Effects

In some cases you may want to employ sound-on-sound effects or trick-recordings obtained by the Multi-Play process, when adding sound to your slides. This is easily feasible if you proceed according to the following instructions.

1. In order to obtain echo effects, proceed as described in the paragraph "Echo". If you wish to use the "Dia-Pilot", the sound must always be recorded on tracks 1 or 4, therefore the function selector **5** must be set at its position "Echo 1 — 4" for this kind of recording.
2. If you wish to use sound effects which have been obtained by the Multi-Play process for adding sound to your slides, the Multi-Play recording must be terminated with the function selector **5** at its

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position "Multi-Play I". Whenever a recording has been terminated with the selector at its position "Multi-Play II", the selector must be shifted to its "Multi-Play I" position. Then disconnect all signal sources, turn the control "Level I" ⑨ anticlockwise as far as possible, set the recorder for recording and start the tape transport as usual. Thus the completed recording is transferred either to track 1 or 4. The recording level is now adjusted by means of the control "Level II" ⑩.

Proceed further as described in the paragraph "Dia-Pilot".

Adding Sound to Sub-standard Films

The UHER ROYAL STEREO can be used for adding sound to sub-standard films in connection with any synchronizer on the market without any modification. Your UHER ROYAL STEREO is an ideal tool for adding sound to sub-standard films, because it offers such a variety of effects. The synchronizer should always be placed on the right-hand side of the recorder in order not to impair the excellent speed stability of the latter.

Use of the Model F 411 Akustomat

The model F 411 Akustomat is an electronic acoustic switch. It automatically controls the tape transport at the beginning and the end of a recording. The Akustomat is connected to the socket marked △. For more detailed information, please consult the operating instructions of that device.

Erasing

Whenever a new recording is made, the previous recording is automatically erased. Therefore, virgin tapes and previously recorded tapes are equally suitable for recording. In case you want to erase only without making a new recording, proceed as if you wanted to make one. Select the track intended for erasure by means of the function selector ⑤. The controls "Level I" ⑨ and "Level II" ⑩ are turned anticlockwise as far as possible.

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Adjustment for a Different Mains Supply Voltage and Conversion to 60-cps Mains

The storage compartment which is located on the rear of the recorder is equipped with a panel whose right-hand section bears the voltage selector. In order to adjust the recorder to a different mains voltage, set the voltage selector for the desired voltage by means of a coin. Note: In case of adjustment for 110, 130 or 150 volts, the 0.4-ampere delayed-action fuse must be replaced with a 0.8-ampere delayed-action fuse. The fuse holder which is located to the right of the voltage selector can also be unscrewed by means of a coin.

For conversion for 60-cps mains, the motor pulley of the recorder must be exchanged for a 60-cps version. Any specialist will be able to do this within a short time.

Tape Storage and Care

Modern four-track tape recorders require tapes of excellent quality and condition. The use of wavy or stretched tapes or tapes which are contaminated with dust results in recording and playback dropouts. If such trouble should appear, first check the tape. Magnetic tapes must be cleaned from time to time. For this purpose fold a little piece of fabric and hold it against the two sides of the tape while the latter is moving at high speed (fast forward or rewind operation).

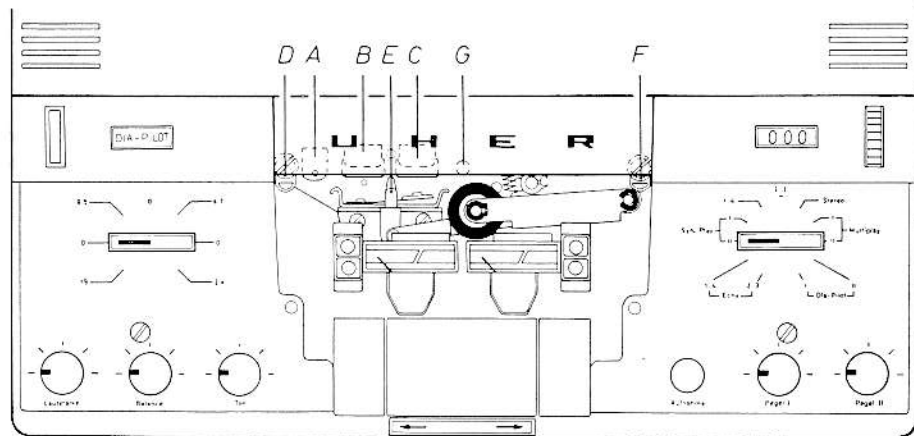
Although modern magnetic tapes are almost indifferent to heat or cold, they should be stored under normal temperature and free of dust. We recommend to store them in boxes or cassettes. Never store your magnetic tapes near a magnet or in a magnetic stray field. Tapes which are not of standard width (6.25 ± 0.05 mm) will cause jams and must therefore not be used under any circumstances. For best results, we recommend the use of extra-thin tape of a recognized brand.

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Maintenance

Since all important bearings are of the oil-retaining sintered-metal type, oiling will not be necessary for several years. Therefore, maintenance is limited to checking and cleaning the recorder at certain intervals, similar to the maintenance required by an automobile. For well-performed maintenance our service organisation is at your disposal. From time to time you should clean the recorder yourself. The necessity for this may be indicated by a loss of the high frequencies. For cleaning purposes first undo the fastening screws of the front head cover and remove the latter. The magnetic heads A, B and C, the tape guides D, E and F, and the capstan G are now easily accessible and can be cleaned from dust and tape coating particles by means of a wooden spatula.

Your UHER ROYAL STEREO is a highly-developed precision-built apparatus whose proper functioning depends on the reliability of many mechanical and electrical parts. All parts have been designed for maximum dependability. In case of any kind of trouble be sure to call on a tape recorder specialist. Experience has shown that in most cases only minor defects are involved. A specialist will find and repair them easily, while an unskilled person may aggravate the damage.



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Technische Daten

Spurlage: Internat. Vierspur

Bandgeschwindigkeiten: 2,4 cm/sek., 4,75 cm/sek., 9,5 cm/sek.,
19 cm/sek.

Max. Spulengröße: 18 cm

Frequenzumfang (DIN): 40— 4 000 Hz (2,4 cm/sek.),
40— 8 000 Hz (4,7 cm/sek.),
40—16 000 Hz (9,5 cm/sek.),
40—20 000 Hz (19 cm/sek.).

Dynamik (DIN): ≥ 50 dB (19 cm/sek.)

Gleichlauf (DIN): $\leq \pm 0,1\%$ (19 cm/sek.)

Ausgangsleistung: 2 x 2 W (Gegentaktendstufe)

Netzanschluß: 110, 130, 150, 220, 240, 250 V.
50 Hz, ca. 30 W

Technical Specification

Recording Sense: Four tracks to international standard

Tape Speeds: 15/16 ips, 1 7/8 ips, 3 3/4 ips, 7 1/2 ips

Reel Size: up to 7"

Frequency Response: 40— 4,000 cps at 15/16 ips

(according to DIN 45511): 40— 8,000 cps at 1 7/8 ips

40—16,000 cps at 3 3/4 ips

40—20,000 cps at 7 1/2 ips

Signal to Noise Ratio: ≥ 50 dB (weighted DIN 45405)

Wow and Flutter: $\leq \pm 0,1\%$ at 7 1/2 ips (weighted DIN 45507)

Output Power: 2 x 2 watts (push-pull output stage)

Mains Voltages: 110, 130, 150, 220, 240, 250 volts, A.C., 50 or 60 cps,
approx. 30 watts

Änderungen, die dem technischen Fortschritt dienen, behalten wir uns vor.

Specifications subject to change without notice.