

# Dual

# 1214

**Automatikspieler  
Automatic turntable  
Tourne-disques automatique  
Tocadiscos automático**



**Bedienungsanleitung  
Operating instructions  
Notice d'emploi  
Instrucciones de manejo**

Deutsch

English

Français

Español

# Dual 1214



Dear record lover:

Please read these instructions carefully before you set up and operate your new automatic turntable. By doing so, you will avoid faulty operation or possible damage due to mistakes in installation.

Move page 2 outward.

## Unpacking

Remove all parts used for packing, including the wedges between the chassis and the platter. Notice whether a cartridge is mounted in the tonearm head and remove the protective cap that may be over the stylus.

Instructions for mounting the cartridge as well as technical data on factory-mounted cartridges can be found on a separate sheet enclosed with this instruction manual. Set stylus pressure dial to 0. If the tonearm does not float freely in a horizontal position, adjust balance as described on page 10. Now dial stylus pressure to that recommended for your cartridge.

**Note:** After initial installation and after every transport, allow the automatic mechanism to adjust itself by operating the unit through one change cycle with the tonearm locked on its rest (move the operating lever to "start").

## Installation

The installation instruction is only important if the phonograph is bought without base.

Press the chassis mounting screws toward the edge of the chassis with your thumbs and set the chassis down on the base cut-out so that the three spring cups slip into their holes (A). Then turn the mounting screws clockwise. The chassis is now spring-mounted (B).

To secure the unit for transport, unscrew the mounting screws, pull them up, then turn them further until the chassis is secured tightly to the mounting board (C). To prepare the unit for use again, turn the two screws clockwise until they slide down about  $\frac{3}{4}$ ", then continue to turn in the same direction until they are tight.

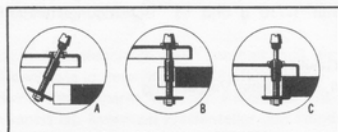


Fig. 1

## Power-line connections

For units already installed in console or compact systems, consult the instructions for the system.

The unit can be used with 50 or 60 Hz alternating current, at 110 or 220 volts. It is normally pre-set for 220 volts, 50 Hz.

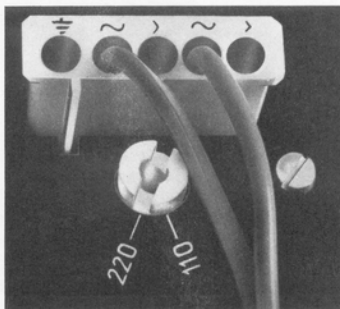


Fig. 2

The voltage for which the unit has been pre-set can be read on the voltage selector. The frequency will be found on the name-plate. Both can be found on the underside of the chassis.

In units without a voltage selector, the correct operating voltage must be set by inserting the motor power cable into the appropriate terminals according to the drawing in the power switch cover.

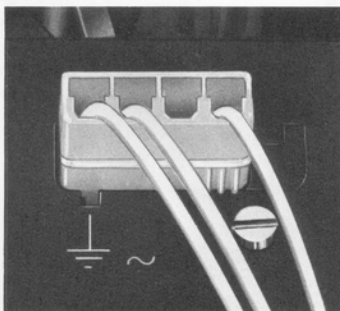


Fig. 3

The power switch is designed so that pre-amplifiers or power amplifiers can be switched on or off automatically as the unit is turned on or off.

The load on the power switch must not exceed 400 VA (Volt-amperes). It is generally used only with all-transistor amplifiers, which have no warm-up delay.

The connection is made to contacts provided on the plug portion of the power switch.

In this case, the line cord is to be fitted with AMP plugs as follows:

For 5-contact connector B.No. 213 982, AMP No. 160 565/1 (Fig. 2)

For 4-contact connector B.No. 209 458, AMP No. 42 859/1 (Fig. 3)

## Connection to amplifier

In combination units, i.e. hi-fi stereograms, the connection of the turntable to the amplifier already is done.

The unit can be fitted with DIN 41 524 miniature connectors (Fig. 4) or with phono (RCA) plugs (Fig. 5).

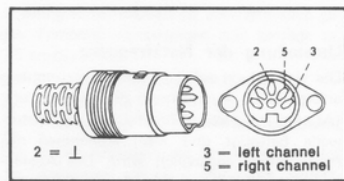


Fig. 4

If your amplifier is fitted with a different type of connector, use suitable adapters, available from audio dealers.

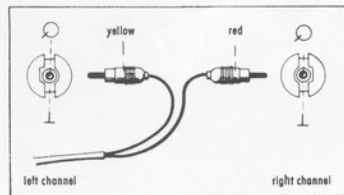


Fig. 5

If the unit is to be connected to a power-transformerless ("ac-dc") radio, amplifier or other equipment, a suitable ground connection must be made to prevent a possible shock hazard. A contact is available for this purpose on the power connector (Figs. 2 and 3).

## Operating instructions

- ① Pitch-control knob
- ② Speed selector
- ③ Single-play spindle
- ④ Tonearm lift and lock
- ⑤ Cartridge holder
- ⑥ Tonearm rest
- ⑦ Tonearm cue-control height adjustment
- ⑧ Stylus force adjustment
- ⑨ Tonearm counterbalance
- ⑩ Cue-control
- ⑪ Tonearm lock
- ⑫ Tonearm set-down adjustment
- ⑬ Record size selector
- ⑭ Operating switch for automatic start and stop
- ⑮ Chassis hold-down screw (for transport)
- ⑯ Multiple-play spindle AW 3
- ⑰ Adapter for large-hole records
- ⑱ Multiple-play spindle AS 12 for large-hole records (special accessory)

### Operation in single-play mode

Insert the short, single-play spindle (and, for 45 rpm records, the center-hole adapter), then place the desired record on the platter.



Fig. 6

Select the appropriate turntable speed ②, set the record size selector ⑬ to 7", 10" or 12" resp. (17, 25 or 30 cm), depending on the size of the record you want to play, and unlock the tonearm (Fig. 7).

Now the unit is ready to play.

The smoothly functioning operating control selects the correct function for automatic single-play or record-changing operation.

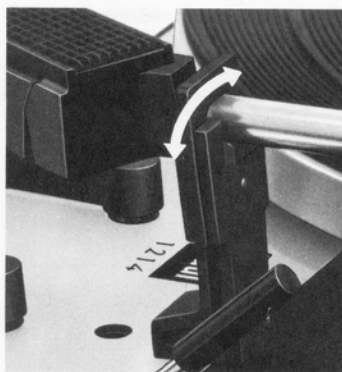


Fig. 7

#### 1. Automatic start

Push the operating switch to "start". The motor will start, the tonearm will rise, move to the record, then descend onto the record.



Fig. 8

#### 2. Automatic start with cue-control

First move the cue-control lever to  $\nabla$ , then push the operating switch to "start". The tonearm will descend very slowly and land on the record without jarring in the slightest, controlled by the silicone damping of the cue-control system.

#### 3. Manual start

Place the tonearm on the record by hand. (As you move the tonearm from the rest post toward the record, the platter will begin to rotate.)

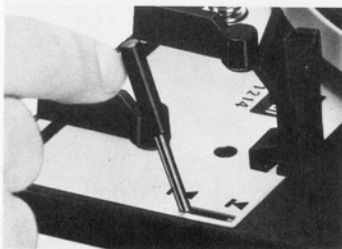


Fig. 9

#### 4. Manual start with cue-control

- a) Move the cue-control lever to position  $\nabla$ .
- b) Move the tonearm by hand over the desired spot on the record.
- c) Lightly tap the lever back to  $\nabla$ . (The tonearm will descend.)

#### 5. To repeat a record

Push the operating switch to "start".

#### 6. To interrupt play

Move the cue-control to  $\nabla$ .

#### 7. To resume play where it was interrupted

Move the cue-control lever to  $\nabla$ . (A light tap will do.) The tonearm will descend and repeat a few grooves.

#### 8. To stop

Move the operating switch to "stop". The tonearm will return to its rest and the motor will shut off.

**Note:** After a single record has played, or after the last record in a stack has played, the tonearm will return automatically to its rest and the motor will shut off. It is advisable then to lock the tonearm on its rest (Fig. 7).

### Operation in multi-play mode

Insert either the conventional changer (long) spindle or the special one for large-hole, 45 rpm records\*, so that the key slips into the corresponding slot in the shaft. Lock the spindle in place by pressing down on it as you turn it to the right, until it stops.

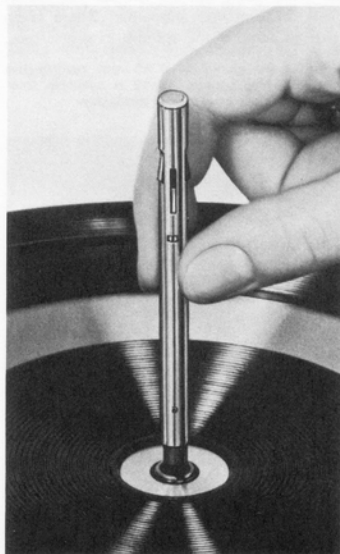


Fig. 10

Stack up to six records of the same size and speed on the multiple-play spindle or the special one for large-hole 45 rpm records.



When you move the operating switch to "start", the first record will drop and the tonearm will lift, move to the record, then descend. If you wish to reject a record that is playing and move on to the next, move the operating switch once again to "start".

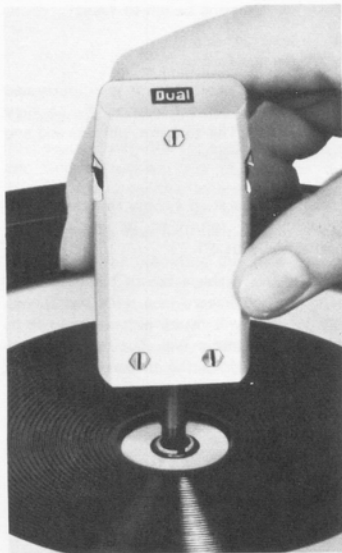


Fig. 11

**Note:** Records that have been played can be lifted back up the spindle for repeat plays, or removed altogether. There is no need to remove the spindle in either case.

\* For record changing of 45 rpm records the multiple-play spindle AS 12 is available from audio dealers as a special accessory.

## Automatic play without interruption



Fig. 12

Once the record has been laid down on the platter, insert the puck through the multiple-play spindle. It is recommended to place a 45 rpm record on top of the puck for added weight. The record will then play continuously without interruption.

## Technical specifications

### Cartridge (pick-up)

The following instructions apply only if your unit was purchased without a cartridge installed, or if you wish to replace the cartridge supplied with one of your own choosing.

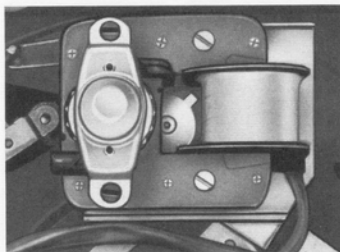


Fig. 13

Any piezoelectric pick-up with a weight of 1-10 gms. and 1/2" mounting centers can be mounted in any unit.

A magnetic cartridge with a minimum tracking force of 2 p can also be used in a unit with a four-pole motor (Fig. 14).

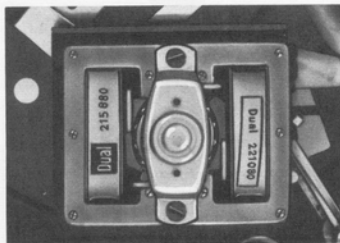


Fig. 14

1. To install a cartridge, remove the cartridge holder from the tonearm by pressing the lift toward the rear. Hold the cartridge holder or it will fall out once unlocked.

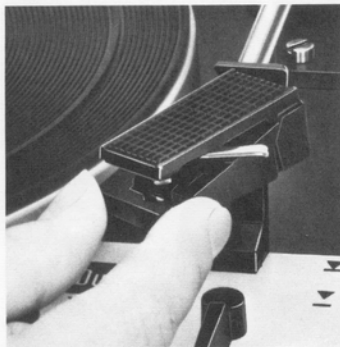


Fig. 15

2. Fasten the cartridge in the cartridge holder. Be sure that it is located correctly. The accompanying screws, spacers, nuts and the mounting gauge are supplied to help you do the job right.

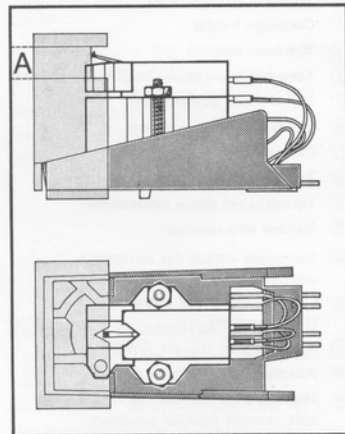


Fig. 16

3. The cartridge is correctly mounted when the notch in the mounting gauge encloses the stylus tip, and when the stylus tip, viewed from the side, is within the area "A" (Fig. 16).

4. The connections on the cartridge holder are marked and the wire leads are color-coded (Fig. 17). Connect the leads with the appropriate terminal pins on the cartridge.

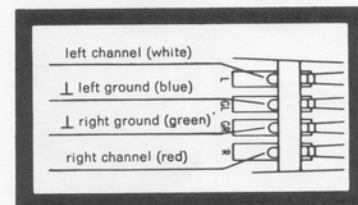


Fig. 17

5. Re-insert the cartridge holder in the tonearm head from underneath, and secure it by moving the tonearm lift forward.

## Balancing the tonearm

The tonearm is balanced by rotating the weight.

1. Set the stylus force dial to zero.
2. Unlock the tonearm, and lift it off the rest. Move the tonearm just to the inside of the resting post and turn the tonearm counterbalance until the tonearm floats in horizontal position. Turning the weight counterclockwise raises the tonearm head, turning it clockwise lowers the tonearm.

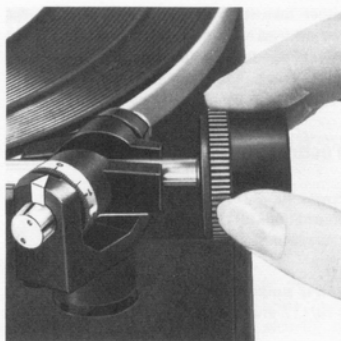


Fig. 18

The tonearm is precisely balanced when edge "A" of the tonearm head and edge "B" of the tonearm rest are at equal height (Fig. 19) or when the tonearm returns by itself to a horizontal position after the chassis is tapped.

Precise balance is especially important with cartridges that require a low stylus force. The balancing operation need be done only once, unless you install a different cartridge.

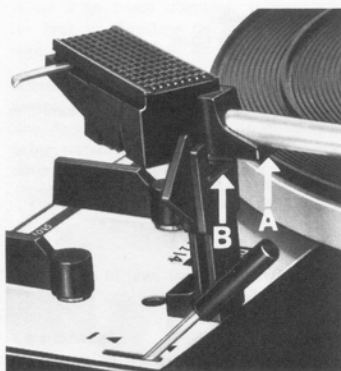


Fig. 19

During the balancing of the tonearm the operating switch must be in its neutral position, so that the tonearm is disengaged from the automatic mechanism. To be sure, lock the tonearm on the rest post, then rotate the turntable platter by hand, clockwise, until the operating lever returns to its neutral position.

### Setting stylus force

Once the tonearm is balanced, set the stylus force by turning the stylus force dial. The force is continuously adjustable from zero to 5.5 grams. The unit will function properly with as little as 1.5 gram stylus force.

Every cartridge has an optimum tracking force, which provides the best reproduction. For the best figure for your cartridge, consult the information provided with it.

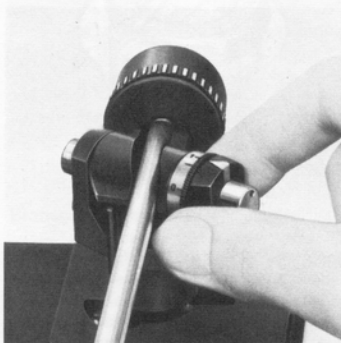


Fig. 20

For factory-installed cartridges, you will find all necessary details in a leaflet that accompanies these instructions.

Too low a stylus force produces distortion in loud recorded passages. Too high a stylus force can damage the stylus and record.

### Tracking-balance control

#### (anti-skating)

Skating force is especially troublesome in stereo records. The resulting inward pull on the tonearm results in a higher pressure against the (inner) groove wall than against the (outer) wall.

To compensate for this skating force and eliminate its effects, a very accurate counterforce — accurate in both magnitude and direction — must be applied to the tonearm.

To compensate for anti-skating, the unit has an anti-skating feature.

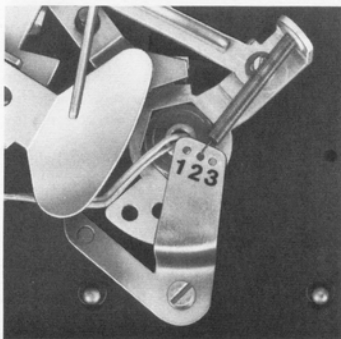


Fig. 21

For units with cartridges already mounted, the anti-skating adjustment is set in the optimum position. However if you install a cartridge with a different tracking force, it is suggested that the anti-skating position be re-adjusted. This is accomplished by changing the position of the tension spring on the spring lever (Fig. 21).

#### Position 1:

For cartridge with a recommended tracking  $\leq 2,5$  p

#### Position 2:

For cartridge with a recommended tracking  $\leq 3,5$  p





#### Position 3:

For cartridge with a recommended tracking force  $\geq 4$  p.

### Cue-control

Your automatic turntable is equipped with a precise, jolt-free, silicone-damped tonearm lifting device. With this cue-control, the tonearm can be placed over any spot on a record, then lowered more gently than possible by hand. The rate of descent is independent of temperature.

Its operating lever has two positions:

playing position , lift position , in which the tonearm is lifted off the record surface. A light tap backwards on the lever starts the tonearm descending. The height of the stylus above the record in the  position can be adjusted from zero to about 6 mm ( $1/4$ " ) with screw .

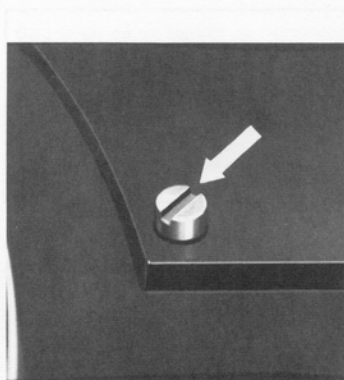


Fig. 22

### Pitch-Control

Each of the three standard speeds ( $33\frac{1}{3}$ , 45 and 78 rpm) can be varied about 6% (approximately one musical semitone). The speed can be checked with the stroboscopic

disc, illuminated by a light (preferably fluorescent) powered from alternating household current. The ring of lines corresponding to the chosen speed will appear to stand still when the turntable is rotating at the correct speed.

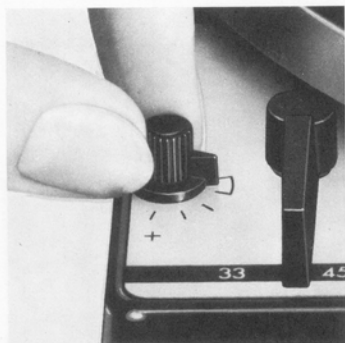


Fig. 23

Pitch is varied by using the pitch-control knob ①.

### Adapting for other power frequency

To adapt the unit for use at a different power-line frequency is accomplished by changing the motor pulley (A), which is secured to the motor shaft by a screw and can be reached by removing the turntable platter.

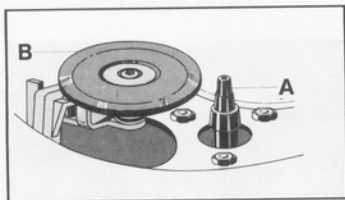


Fig. 24

**Caution:** Handle the motor pulley carefully. A bent pulley causes rumble. Stock numbers for motor pulleys:

2-pole motor, 50 Hz: No. 212 135  
60 Hz: No. 212 136  
4-pole motor, 50 Hz: No. 220 970  
60 Hz: No. 220 971

### Removing the turntable platter

The platter is secured by a C-ring seated in a notch on the turntable shaft. Use a screwdriver to remove the C-ring, then lift off the platter.

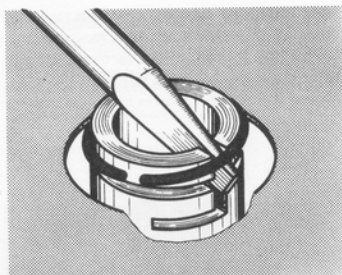


Fig. 25

**Important:** When handling the platter avoid touching the inner surfaces with your fingers as skin oils can cause slippage (and resulting pitch deviation) between the idler wheel and the driving rim of the platter.

### Adjusting tonearm set-down position

With automatic start, the stylus descends automatically into the outer groove of the record. It is possible, due to peculiarities in the mounting of a cartridge, that the stylus may land too far in or too far out on the record.

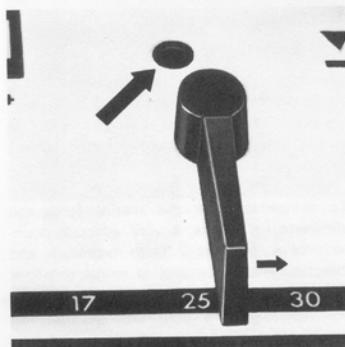


Fig. 26

In that case, set the record size selector for a 12" record (30 cm). Through the hole next to the tonearm rest, you will see an adjustment screw ②. If the stylus lands too far into the record, turn the screw slightly to the left; if it lands too close to the edge, turn it slightly to the right.

### Service

All parts that require lubrication are liberally coated with oil. Under normal conditions, your Dual will function perfectly for years. Do not oil any parts; special oils must be used. Should your Dual ever require service,

either take it to your dealer or ask him for the address of the nearest authorized Dual service agency. Be sure that original Dual replacement parts only are used. Always ship your Dual in its original packing.

### Technical data

#### Power supply:

alternating, 50 or 60 cycle  
changeable by changing motor pulley

#### Power supply voltage:

110/117 and 220/240 V, switchable

#### Drive:

2-pole Dual single-phase induction motor or 4-pole asynchronous motor with radial-elastic suspension

#### Power consumption:

≤ 10 watts

#### Current drain:

60 ma approx. at 220 V, 50 cycle  
115 ma approx. at 117 V, 60 cycle

#### Turntable platter:

dia. 10 7/8", weighing 3.2 lbs.

#### Turntable speeds:

33 1/3, 45 and 78 r.p.m.

#### Pitch control variation:

adjustment range of approx. 1 semitone (6%) at all three turntable speeds

#### Speed accuracy deviation:

< ± 0.15% in accordance to DIN 45 507

#### Rumble:

≥ 35 dB below signal level in accordance to DIN 45 500

#### Weighted rumble:

≥ 55 dB below signal level in accordance to DIN 45 500

#### Tonearm:

torsionally rigid, aluminum tubular tonearm with vertical needle bearings, horizontal 2-layer precision ball bearings in hardened and polished races. Min. stylus force: 1.5 p

#### Cartridge holder:

removable, suitable for acceptance of cartridges having 1/2" mounting and possessing a weight of 1–10 grams.

#### Weight:

9.7 lbs., without packing

#### Dimensions:

12 7/8" x 10 3/4"