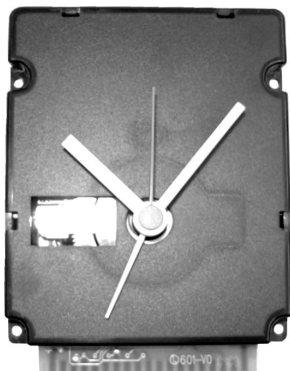


PRODUCT SPECIFICATION 7314XX

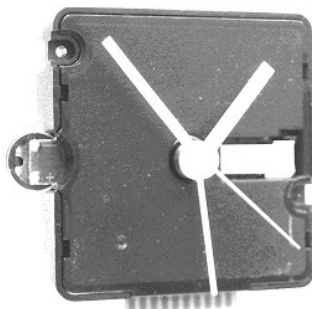
Doc.No. **583 173**

Version Date:
19.05.03

Automatic switching 40/60 kHz JJY RC-Alarm-Movement



Standard size
731463



Small size
731483

U.T.S. Präzisionstechnik GmbH

Address:

***U.T.S. Präzisionstechnik
GmbH***
Gewerbestrasse 31

Written by:

M. Schneider

Dept.:

R & D

Checked:

Dept.:

Customer:

NN

**Checked by
customer:**

Dept.:

Description:

Fully automatic RC-movement, which receives and adjusts to the Japanese JJY timecode transmitter.

Automatic functions are: Initial setup with receiving and adjusting of hands, automatic switching to the transmitter frequency (40/60kHz) with best reception.

Checking of internal time during normal run and adjust hands position to correct time.

The movement is available in two different sizes.

List of Changes

Description (shortform) of changes		Page	Date	Changed pages copied to
Description	Name			
1st version	Schneider			
delay of light and receiving time per frequency changed	Schneider	4	09.05.03	
method for hands setting, auto.receive-manual setting	Schneider	4, 5	28.08.03	
data of small size added	Schneider	all	04.06.04	
description of forced receive / q-setting changed	Schneider	2.3	12.07.04	

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1.Introduction

The discribed movement is a two motors, 4 hands analog RC-movement, designed for use with the japanese timecode transmitter **JJY 40** and **60kHz**.

It is able to switch automaticly between the two frequencies to enable best reception in any place of Japan.

Initial setting function and error correction are automatic. The movement starts automaticly after put in the battery, without pressing any knob.

A "**handssetting**" function for easy assembly and a "**receive by hand**", are provided as well as a **mechanical alarm** with **snooze/light**. If no reception is possible, the movement can also be run in "**quarz mode**".

** In this version the light has no delay

customer: NN

supplier: U.T.S. Präzisionstechnik GmbH
Abt. Entwicklung
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2.Function

After putting in a battery, the hands are driven to one of the positions 4:00, 8:00 or 12:00. The one which is closest to the actual position of the hands will be used.

After the hands have reached this position the motors will be stopped and the receiver is switched on. First the clock tries to get the information from the 40kHz transmitter (most of the time this will be successful) and after about 1 minute without success, the receiver will turned over to the 60kHz. If this is not successful within another about 1 min. the receiver will be switched again to 40kHz and so on, until receiving has success.

After the receiving process has finished the hands are driven to show the correct time and the movement starts normal run.

During normal run the movement tries to connect the transmitter every two hours and checks internal time with this information. The frequency of success(40 or 60kHz) is saved inside the movement and will be used for start.

A correction is done if necessary (if a difference between received and displayed time occurs).

The correct hands position is checked two times per day and automaticly corrected if necessary.

2.1 Alarm function

The movement has an alarmfunction with mechanical setting, including "Snooze" and light. The snoozetime is about 5 min and is repeated until about 40 min after first occur. The alarm has two different levels ("crescendo").

The light is triggered by the snooze button and has no delay (light is on as long as button is pressed).If the alarm is not stopped by user and the snooze button is not pressed, the alarm will stop automaticly after about 5 minutes.

The connections for all external parts are available on the bottom side connector of the movement (refer to connection diagram).

2.2 Hands setting help function

The movement has a hands setting help function. This can be started by shortcutting the two special pins, before plug in the battery. Then put in the battery and the gear will be

driven straight to the 12 o'clock position. After the motors stopped, set all hands on their shafts exactly adjusted to 12 o'clock, remove the shortcut and restart the movement again.

2.3 Automatic Receiving – Manual Setting Mode

After put in the battery the movement first drives the hands to one of the initial places (see Pt. 2.). After the hands stopped the receiver is switched ON automatically. While the time of receiving the user has the ability to press the "Q-set" switch of the movement and adjust the hands to correct time manually. The movement is now in "Manual Setting Mode" (quartz time), until the battery is removed and put in again.

While a movement is in manual setting mode, it will never try to receive the JJY-signal, it's running like a quartz-clock.

If the movement has run in automatic receiving mode, this switch has changed it's function to "forced-receive", if the knob is pressed in this mode, the hands will be driven to one of the initial places and the receiver will be switched on.

The "forced receive / Q-set"- switch is an external switch, connected to the contact panel on the lower side of the movement (refer to drawings No. 583085 or 583174)

Attention: For changing from one to the other mode (both directions) it's necessary to remove and replug the battery!

3. Environment

3.1 Conditions of use

The movement is designed for in house use with a single AA-size alkaline battery
Temperature range is -5 to + 55 °C and max. humidity of 95%

3.1.1. Technical Data

Technical Data for RC-Movement 731 XXX JJY 40 / 60 kHz		
Technical Data	Standard	Small size
Receiving frequency	40/60 kHz	
Dimensions	acc. to drawing page	
Mounting diameter	120 mm	84 mm
Battery	AA / LR6 (Alkaline)	
Operating voltage	1,25 - 1,7 V	
Current consumption	160 µA	
Battery life time	≥1 year	
Operating temperature range	-5°C to+55°C	
Storage temperature	-20°C to+70°C	
Receiving time	2 - 10 min	
Settingtime after reception	max. 2min, 50 sec.	
Autom. summer-winter time setting	max. 2min .35 sec.	
Operating noise (DIN 8325)	32 dBA	
Antenna	Ferrite core internal	
Antenna adjust tolerance 60kHz	±250 Hz	
Antenna adjust tolerance 40kHz	±500 Hz	
Reception	14x / day	
Peak currentl	9mA	
Sensitivity (40/60kHz)	<70 / 50 µV/m ***	<120 / 70 µV/m ***
Quartzadjustment (DIN 8325)	0,65 s/d	

All dates measured at T = 25 °C (if not specified)

** The final sensitivity [µV/m] belongs to the constuction of the clockhousing.

***The final sensitivity is to be measured with the final product.

3.1.2. Mechanical and Alarm data

	Standard	Small size
Alarm accuracy less than	± 5 min.	
Alarm ON time	≈ 5 min. / two different levels	
Snooze interval	5 min.	
Buzzer frequency	2048 Hz	
Max. mounting pressure for hands	25N (h/min) , 10N (sec)	
Weight without battery	64g	62g
Max. weight on hanger (metalhanger)	-	-
Torque :		
second	torque (1,35V)	50 µJNm
minute	torque (1,35V)	300 µJNm
Spec.for length of hands see drawing		
		582086
Recommendation for bushing		582418

3.1.3. Contact panel

For contact panel reference, see drawing **583 085 (standard)** and **583174 (small size)**

4. Documentation

The documentation for the built in electronic circuit will be made by **U-T-S** and contents:

- functional description
- technical data
- case drawing sheet with connections assignment

5. Using Period

Not specified

6. Marking

Refer to drawing No. 583 085 (standard) and 583 174 (small size)

7. Enclosure

- Appendix1: Case drawing sheet No. 583 085 for standard size
- Appendix2: Case drawing sheet No. 583 174 for small size