RDM BK43

Valid for versions

RDM BK43 - 1A
RDM BK43 - 3A
RDM BK43 - 3B
RDM BK43 – 6B
RDM BK43 – 9A

GENERAL INDEX

Foreword

• This manual contains text, images and explanations for the correct installation and use of the RDM BK43 transceiver. It should be read and understood before the appliance is installed and used.

• This manual has been published subject to alteration. We reserve the right to modify this manual without prior notice.

• As the system works by means of radio waves, transmission may, in certain cases, be influenced by the environment and by the method of use. The manufacturer is not liable for any damage to persons and/or appliances.

• Do not use the system near other appliances operating with radio waves as this could cause malfunctioning.

IMPORTANT

• Do not remove or replace any parts of the system.

• Do not remove, alter or modify the identification plate on the back of the system. It is forbidden to use the system without identification plates.

Hardware Manual

Revision: B.0

Date: 06/2007

1. Safety instructions for the user and safety measures for the RDM BK43 system

This manual has been drawn up for use by trained and competent personnel. The qualification of the personnel is defined in the European Directives on machines, low voltage and EMV. All the electrical connections of RDM BK43 systems must be carried out by a technician who has specific training in local and national electrical standards. Several symbols are used in this manual to highlight certain information. The purpose of these symbols is to draw the attention of personnel involved to warnings concerning safety and to safety measures. Whenever a symbol appears, the relevant note should be read and the information followed carefully.

 This symbol indicates an imminent danger causing damage to persons or property.

 This symbol indicates a danger that could cause damage to persons or property.

 This symbol indicates the need to check the harmonization for the use of radio frequency.

• TECHNOFASE cannot be held responsible for damage due to inappropriate installation or operation of the appliances.

• Do not replace the electrical components or attempt to repair products of the RDM BK43 series in any way.

• The products of the RDM BK43 series must be used in accordance with the relevant local and national standards in force.

Supplementary notes for RADIO interface appliances

The products with radio interface have been designed to operate on UHF radio frequencies (433 – 436MHz) that vary from one country to another. The user must take care to check the standards in force in the country in which the appliance is being used before putting it into use.

Contact the local Ofcom (Office of Communications) agency to obtain a licence or further information concerning the limitations on the free, unrestricted use (SRD) of the appliance.

2. Introduction

The RDM BK43 system has been developed for transmitting and receiving data via radio.

The special features of the RDM BK43 system are the following:

- Considerable immunity to disturbances
- Compact size
- IP65 die-cast aluminium casing
- Easily accessible RS232 communication port
- Up to 16 programmable channels that can be set using the buttons
- Power supply ranging from 10 to 15V ⎓
- Built-in flexible antenna ¼

2.1 Environmental characteristics

- Operating temperature -20 / 50 °C
- Storage temperature -25 / 50 °C
- Relative humidity 5-85%, without condensation
- Vibration resistance

3. Compliance with the CE Standard

The system complies with the following harmonised standards:

- EN 61000-6-1 Immunity to disturbances
- EN 61000-6-3 Immunity to disturbances
- EN 50082-2 Conducted emissions
- EN 60950 Electrical safety
- EN 301-489-1 + EN 301-489-3 Radio appliances
- EN 300-220-1 + EN 300-220-3 ISM Band SRD
- EN 300-296-2

3.1 Reference Standard

The RDM BK43 transceiver complies with the following European standards:
EN 300 220, **EN 301 489, EN 300 296**.
Furthermore, the product has been tested according to standard **EN 60950**.

3.2 CEPT 70-03 Recommendation

The RDM BK43 product operates on a harmonised frequency band and therefore, to comply with the standard in force, it must be used, on the time scale, for 10% max. of an hourly duty cycle (corresponding to 6 minutes of use per hour).
NOTE: In view of the construction system, the user is responsible for compliance with this parameter.

3.3 Identification

The product is identified by the product identification number and a seven-digit number (representing the series number and year of manufacture) on the casing.

4. Technical data

Make	TECHNOFASE
Model	BK43-XX
Channels	Selectable, up to 24
Max. RF power	500mW ERP
Frequency stability	+/- 1 KHz
Power supply	10-15V DC
Operating temperature	-20 / 50 °C
Sizes excluding antenna	150 x 64 x 36 mm

4.1 Models available

The models vary according to the frequency band and the antenna power

RDM BK43 Mod. 3A	433.175 - 434.675MHz	500mW ERP	1
RDM BK43 Mod. 3C	433.050 - 439.420MHz	500mW ERP	1
RDM BK43 Mod. 3B	433.050 - 434.790MHz	10mW ERP	2
RDM BK43 Mod. 6B	436.000 - 436.100MHz	500mW ERP	3
RDM BK43 Mod. 9A	439.700 - 439.975MHz	500mW ERP	4
RDM BK43 Mod. 1A	441.025 - 441.775MHz	500mW ERP	5

1) This model can only be used in Austria and Switzerland after payment of the local licence fee.

2) This model can only be used in countries in which this power limit is applied. Check with the competent Office of Communications for possible use.

3) This model can only be used in Italy according to the frequency assignment plan, point 101A, after filing a **general authorisation application** as set out in Presidential Decree no. 447 of 5 October 2001, Art. 5, Para. 1, Point 2, and after payment of the relevant fee. Contact the local department of the Office of Communications for further information concerning its use.

4) This model can only be used in Sweden in compliance with the country's regulations.

5) This model can only be used in Norway in compliance with the country's regulations.

4.2 Standard radio channels

	BK43-3A 25KHz	BK43-3C 25KHz	BK43-6B 12.5KHz	BK43-9A 25KHz	BK43-1A 12.5KHz	
CH 1	433.825	433.825	436.00625	439.700	441.0250	
CH 2	433.875	433.875	436.01875	439.725	441.0750	
CH 3	433.925	433.925	436.03125	439.750	441.1250	
CH 4	433.975	433.975	436.04375	439.775	441.1750	
CH 5	434.025	434.025	436.05625	439.800	441.2250	
CH 6	434.075	434.075	436.06875	439.825	441.2750	
CH 7	434.125	434.125	436.08125	439.850	441.3250	
CH 8	434.175	434.175	436.09375	439.875	441.3750	
CH 9	433.825 [123]	433.825 [123]	436.00625 [123]	439.900	441.4250	
CH 10	433.875 [123]	433.875 [123]	436.01875 [123]	439.925	441.4750	
CH 11	433.925 [123]	433.925 [123]	436.03125 [123]	439.950	441.5250	
CH 12	433.975 [123]	433.975 [123]	436.04375 [123]	439.975	441.5750	
CH 13	434.025 [123]	434.025 [123]	436.05625 [123]		441.6250	
CH 14	434.075 [123]	434.075 [123]	436.06875 [123]		441.6750	
CH 15	434.125 [123]	434.125 [123]	436.08125 [123]		441.7250	
CH 16	434.175 [123]	434.175 [123]	436.09375 [123]		441.7750	
CH 17	433.900	433.900	436.00625			
CH 18	433.950	433.950	436.01875			
CH 19	434.100	434.100	436.03125			
CH 20	434.150	434.150	436.04375			
CH 21	434.200	434.200	436.05625			
CH 22	434.400	439.390	436.06875			
CH 23		439.410	436.08125			
CH 24		439.430	436.09375			

4.3 Communication interfaces

RS232	RS232 standard interface Mini DIN 6 F type connection

4.4 Power supply

The RDM BK43 transceiver must be run on a very low safety voltage supply protected against short circuits.

Supply voltage:	10-15V⎓
Maximum absorption in Tx:	400 mA
Protection against short circuits:	Polyswitch
Type:	Resettable RXE040

4.5 Connections

For external connections, a screened cable with a MINIDIN 6 type connector has been provided both for data and for the power supply. All electrical connections are designed for lengths up to a max. of 3m.

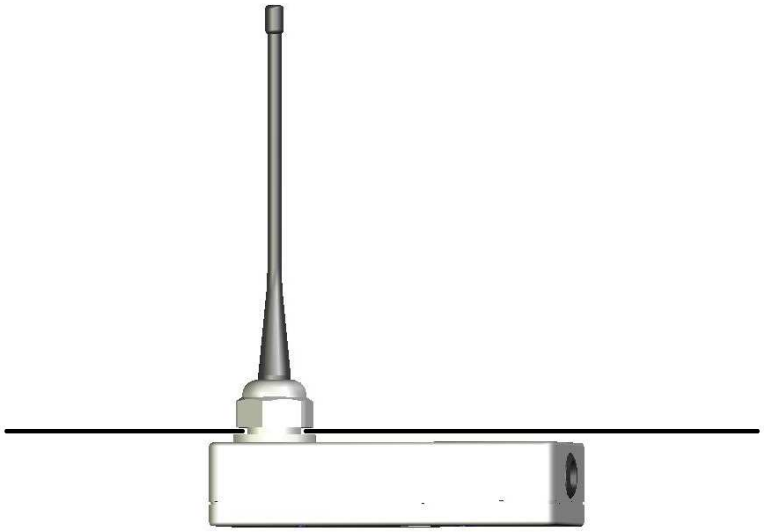
5. Assembly specifications

5.1 External assembly

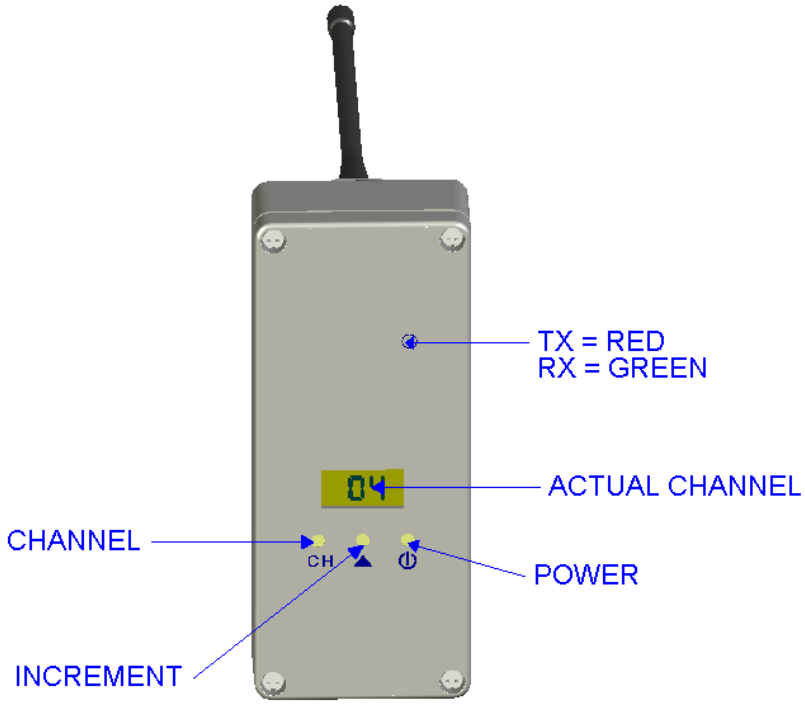
External assembly can be carried out using a support plate with a 24 mm hole in the centre. This plate must then be fixed to a suitable means of support.

5.2 Assembly inside an electrical panel

For assembly inside an electrical panel, a hole 24 mm in diameter must be drilled to allow the antenna to transmit and receive outside. The earthing surface must be at least 20cm x 20cm in size.



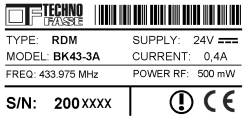
6. Button functions



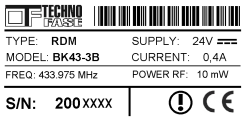
Three rubber buttons are located in the lower part to set the channel and to switch the appliance on/off.
The display shows the number of the channel currently set. To change channels, press the CHANNEL button until the number shown on the display starts flashing (ACTUAL CHANNEL): then press the INCREMENT button to increase the channel number. To lower the number continue pressing the button until the last channel (24) is reached and the system starts again from 1. After setting the channel, press the CHANNEL button again until the flashing stops. The TX/RX LED indicates reception when green and transmission when red.

7. Labelling of the various models

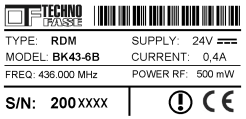
7.1 RDM BK43-3A label



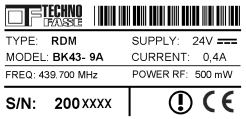
7.2 RDM BK43-3B label



7.3 RDM BK43-6B label



7.4 RDM BK43-9A label



8. Product guarantee

8.1 Terms of the guarantee

8.2.1 GUARANTEE AND CONDITIONS

Technofase products are covered by a 2 (TWO) YEAR guarantee from the date of purchase with the exception of the batteries which are covered by a 6 (SIX) MONTH guarantee. During this period Technofase undertakes, at its sole discretion, to repair or replace faulty components with similar or equivalent products or to refund the Customer for the amount paid for the component in the case of faulty material or manufacturing defects. If the label with the series number of a product has been cancelled, tampered with, or partially or completely covered, Technofase reserves the right not to consider such a product under guarantee. The guarantee covers manufacturing faults in the components at the time of purchase and the labour necessary to repair them.
The guarantee is null and void in the event of: improper use of the product, negligence, intentional damage or any problem due to incorrect installation after purchase. The guarantee is of the "on-centre" type, i.e. the customer is only liable for paying the cost of dispatching the faulty product to the repair shop.

8.2.2 **DURATION OF THE GUARANTEE FOLLOWING SERVICES UNDER THE GUARANTEE**

Any service carried out under the guarantee will not prolong the duration of the guarantee.

8.2.3 **RESPONSIBILITY TOWARDS THIRD PARTIES**

The buyer will not hold Technofase responsible with regard to any controversy that may arise with the final user as the buyer undertakes to check in advance the appropriateness of the system configuration and of every single component he has purchased. It is expressly understood that Technofase is responsible only towards the first buyer and exclusively within the terms provided for by the guarantee clause.

9.1 Standard concerning disposal

EC-Directive 2002/96 Waste electrical and electronic appliances – RAEE.
This product complies with EU Directive 2002/96/EC.
The symbol of the crossed litter bin appearing on the appliance indicates that at the end of its useful life the product must be disposed of separately from household waste. The user is responsible for taking the appliance to a suitable collection point at the end of its life. Separate waste collection and subsequent recycling, processing and the eco-friendly disposal of exhausted appliances contribute towards preventing negative effects on the environment and on health and help to recycle the materials of which the product is made. Contact the local waste disposal service or the shop in which the product was purchased for more detailed information concerning the collection systems available.

Manufacturer

RDM BK43 is made by:

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