



RRANGEMASTER
SSYSTEMS

1 out of 24 channel digital
Rangemaster **S**mart **R**eceiver
User Manual



Order code: RXSR45
Revision Date: 04.05.2022

TABLE OF CONTENTS

1. DESCRIPTION OF THE UNIT.....	2
1.1 FEATURES.....	2
1.2 DISCIPLINES.....	2
1.3 TECHNICAL DATA.....	2
1.4 OPTIONAL ACCESSORIES.....	3
2. INSTALLATION RECOMMENDATIONS.....	4
3. CONNECTING.....	6
4. SETTINGS.....	8
5. TROUBLESHOOTING.....	13
6. LIMITED WARRANTY.....	15
7. RMA FORM.....	16

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1. DESCRIPTION OF THE UNIT

1 out of 24 channel digital **Smart Receiver** is a device for receiving radio commands, controlling traps for releasing clay targets for sporting & compak sporting and monitoring traps state

1.1 FEATURES

- 1 out of 24 channel digital receiver
- Easy setup
- Smart menu
- External, rigid antenna
- Up to 700m range with Rangemaster transmitters (LoS)
- Operational temperature: -30°C to +70°C
- Power (input): via trap or car battery, optional external power supply
- Polarity fail-safe
- Transmission-addresses settable: 32
- Possibility to run up to 32 ranges without any interference
- Heavy duty relay built in (dry contact)
- Voltmeter built in
- Release pull time adjustable
- Minimum supply voltage settable (standby mode when minimum voltage level is reached)
- Clay magazine fill control
- Targets counter
- 16x2 LCD display
- 433 MHz

1.2 DISCIPLINES

Sporting and Compak Sporting

1.3 TECHNICAL DATA

Power Input:	Power (input): via trap/car battery, external power supply, polarity fail-safe
Power consumption:	<150mA
Min. supply voltage:	9 VDC
Max. supply voltage:	24VDC
Operation temperature:	-30°C to +70°C
Dimensions:	Height: 13cm (+13cm antenna), width 9.5: cm, depth: 6cm

Weight:	around 350 gr
Output:	Dry contact
Fuse	0.5A
Display:	16x2 LCD display
Counter:	Available
Frequency:	433 MHz

1.4 OPTIONAL ACCESSORIES

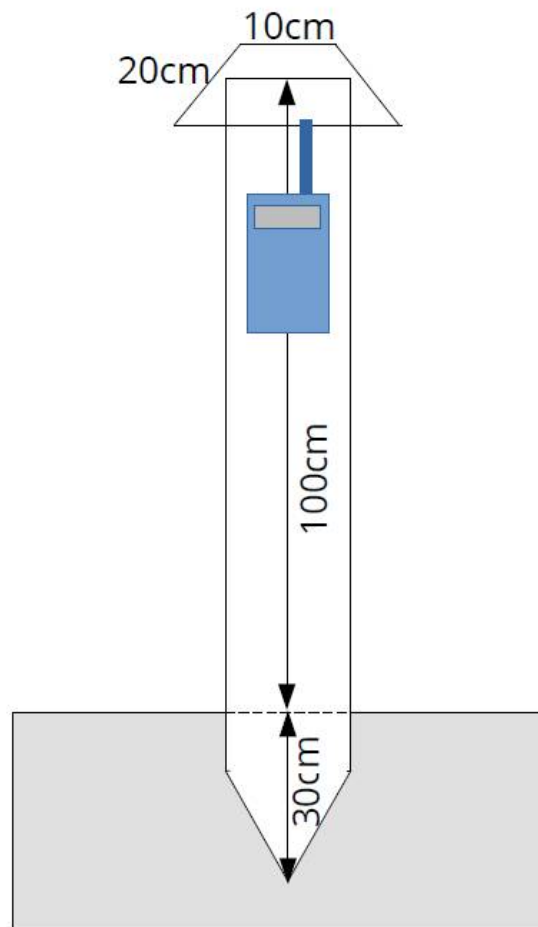
Remote controls/Transmitters

8 Channel digital remote control "IQ-SERIES"	TXIQ8
16 Channel remote control "IQ-SERIES"	TXIQ16
24 Channel remote control "IQ-SERIES"	TXIQ24
15-channel multifunctional remote control	TXSMART

Extras for remote range control

Rangemaster X3 pro net complete professional range automation system	X3PRO
Base station	RF-Base

2. INSTALLATION RECOMMENDATIONS



For installing the receivers we strongly recommend to use wooden poles with cover. Top of pole should be 1m above ground +30 cm goes under the ground. To make it easier to sink it into the ground, we recommend making the end pointed. Above the pole there should be a 20x10 cm wooden cover to protect the receiver from snow and rain.

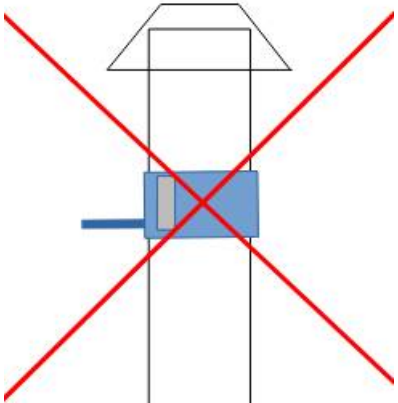
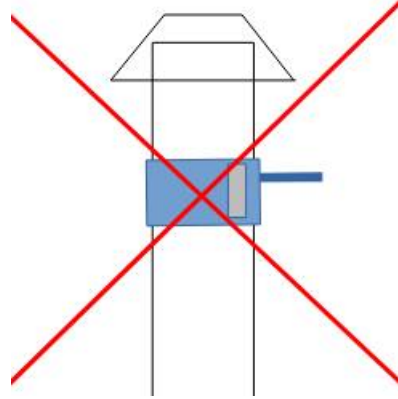


IMPORTANT:

Optimum height of the Rangemaster Smart Receiver is **1.5 m above the ground**, but not below 1.2 m. **Never leave the receiver on a battery, on the ground or on a trap!**

The receiver should be installed vertically with the antenna pointing straight up.

Ignoring the recommendations will void the warranty!

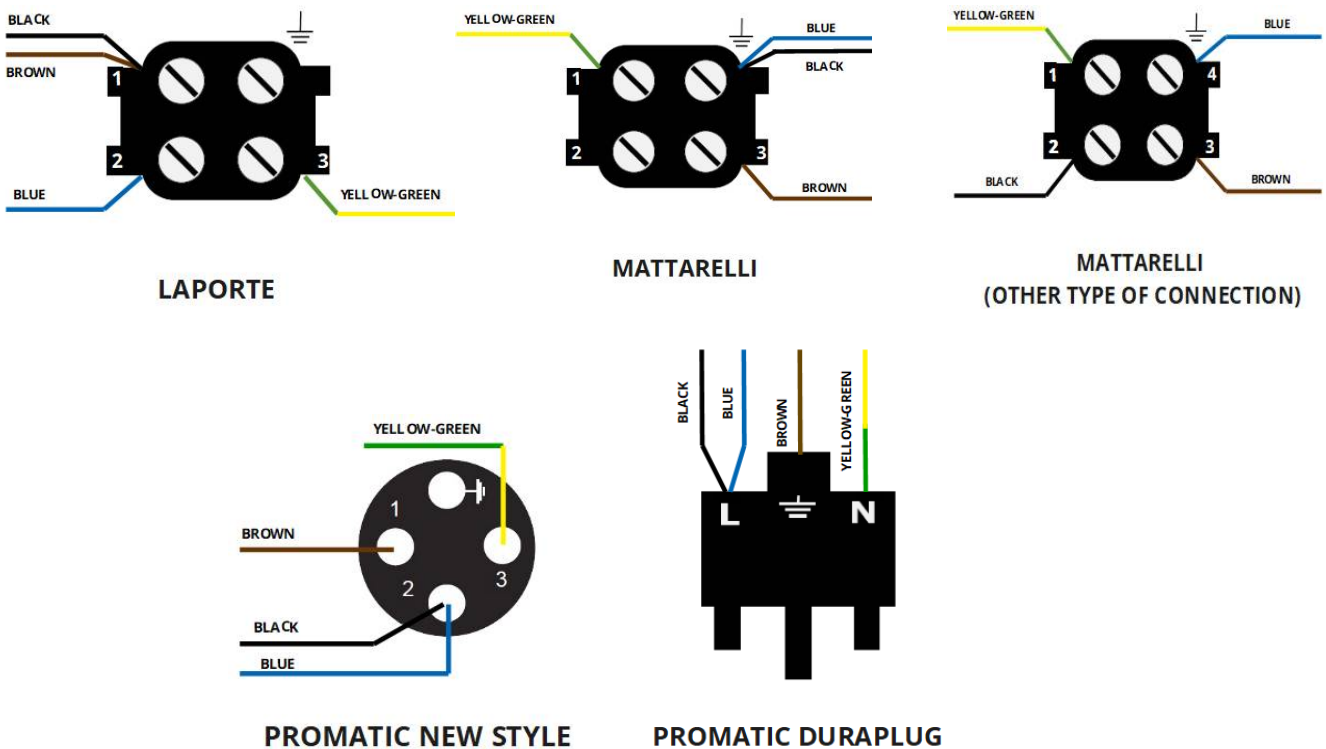


3. CONNECTING

The smart receiver is connected to the trap using a connector and a cable (the connector and cable are not included in the basic configuration).

In accordance to the trap used, customer can order or purchase connectors and a 4-core cable with a diameter of 0.75 mm² for connecting smart receivers with traps.

Connection scheme of wires on the socket of **Rangemaster Smart receiver** for connecting to traps when customer uses 4 coloured wire (blue, black, brown and yellow/green):



Rangemaster Smart Receiver wires connecting scheme:

Wire colour	Definition
brown	Power/ plus
blue	Minus
black	Dry contact (relay)
yellow/green	Dry contact (relay)



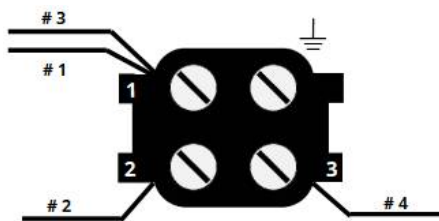
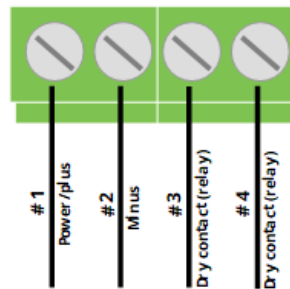
NOTE: Optimum height of the Rangemaster Smart Receiver is **1.5 m above the ground**, but not below 1.2 m.

IMPORTANT: The relay is used for switching signals only (dry contact) and must not switch heavy loads (e.g. a solenoid)!
 If machines are used where it is necessary to switch the solenoid, then an intermediate relay must be used!
 Max. current – 0.5A

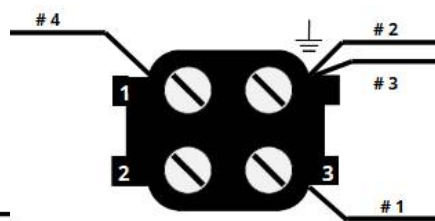
If cables are supplied by Rangemaster Systems:

customer gets cables with numbers written on each wire: #1, #2, #3, #4:

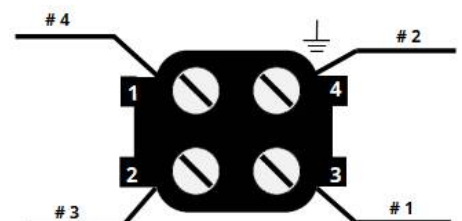
Wire number	Definition
1	Power/ plus
2	Minus
3	Dry contact (relay)
4	Dry contact (relay)



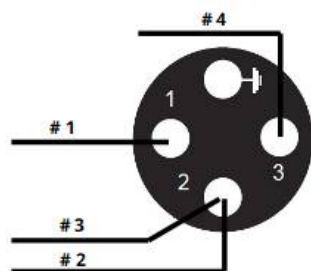
LAPORTE



MATTARELLI



**MATTARELLI
(OTHER TYPE OF CONNECTION)**



PROMATIC NEW STYLE



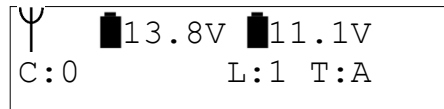
PROMATIC DURAPLUG

NOTE: Mattarelli traps can have different way of cabling and sometimes supplies 220V through the 4 pins plug. That's why before connecting, verify that the pinout and voltage applied by Mattarelli is correct and that the Mattarelli feeding box supplied 24V DC MAX.

4. SETTINGS

NOTE: The settings described below are relevant for firmware versions 3.C004, 3.C005, 3.C006. If you have receiver other firmware version to configure, contact Rangemaster Systems manager.

After connecting the **Smart Receiver** to the trap, the following information will be displayed:




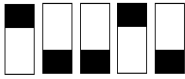
Ψ █ 13.8V █ 11.1V
 C:0 L:1 T:A

Ψ	Signal level
█	Battery voltage without load
█	Battery voltage on load while recocking.
C:	Number of targets released after the last press on REFILL button <i>(black button placed on the enclosure which resets the target counter to zero)</i>
L:	Name of the layout
T:	Name of the trap

RANGEMASTER SMART RECEIVER CONTROL BUTTONS (placed under the display)



PROG	Button to enter the menu and leave the menu
CHANGE	Changing the value (higher)
SAVE/NEXT	Save changes and go to the next mode

№	MENU MODES	DESCRIPTION
1	TOTAL THROWN	Counter which shows total number of targets thrown (press PROG button)
2	M: CHANNEL/RANGE	<p>Select the type to display name of the range.</p> <p>Options:</p> <ul style="list-style-type: none"> • CHANNEL (for kompak sporting) • RANGE / LAYOUT (for sporting) <p>After selecting a type, go to the next mode to finish setting of the range name using SAVE / NEXT key.</p>
2.1	RANGE/LAYOUT or CHANNEL	<p>1. RANGE/LAYOUT.</p> <p>There are two digits in this type. First digit means Range, second-layout (1.1...1.4 - 8.1....8.4).</p> <p><i>Example:</i> Range/Layout 1.1 (Layout 1/Receiver 1)</p> <div data-bbox="576 943 1046 1048" style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p style="text-align: center;">15.3V 15.3V</p> <p>C:0 L:1.1 T:A</p> </div> <p>There is also arrangement of DIP switches for setting the corresponding address for the remote control</p> <div data-bbox="635 1200 831 1279" style="text-align: center;">  </div> <hr/> <p>2. CHANNEL:</p> <p>This type allows to chose any channel from 00 to 31 (32 in total).</p> <p><i>Example:</i> CHANNEL 09</p> <div data-bbox="576 1570 1046 1675" style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p style="text-align: center;">15.3V 15.3V</p> <p>C:0 L:09 T:A</p> </div> <p>There is also arrangement of DIP switches for setting the corresponding address for the remote control</p> <div data-bbox="651 1821 836 1899" style="text-align: center;">  </div> <p>To change the name use CHANGE button. After selecting to confirm, click SAVE/NEXT.</p>

№	MENU MODES	DESCRIPTION
3	TRAP NAME	<p>Choose the trap name. Maximum number of traps on one layout – 24. To name the trap chose a letter from A to X. To change the name use CHANGE button. After selecting to confirm, click SAVE/NEXT.</p> <p>Example: Trap A</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p style="text-align: center;">15.3V 15.3V C:0 L:09 T:A</p> </div>
4	RELAY PULSE TIME	<p>The time period at which the relay switches on to release the target. Minimum: 0.1 seconds, maximum: 1.0 seconds. We recommend to use value 0.3-0.5. Higher value is used for older traps. Incremental step: 0.1 sec. To change the value, use the CHANGE button. After selecting to confirm, click SAVE/NEXT.</p>
5	TIME TO COCK	<p>The time required to fully recharge/cock the trap. Minimum: 0.5 seconds, maximum: 3.0 seconds. Incremental step: 0.1 sec. To change the value, use the CHANGE button. After selecting to confirm, click SAVE/NEXT.</p>
6	STANDBY V-ALARM	<p>The lowest battery voltage level at which the system is automatically locked. When the system is locked, the system stops counting the targets, even if the customer keeps pressing the remote control, which allows the shooter to save the credit on unreleased targets. Values from 7.5V to 12V. Incremental step: 0.5V. To change the value, use the CHANGE button. After selecting to confirm, click SAVE/NEXT.</p>
7	COCK VOLT ALARM	<p>The lowest battery voltage level <u>on load</u> at which the system is automatically locked. When the system is locked, it stops counting the targets, even if the customer keeps pressing the remote control, which allows the shooter to save the credit on unreleased targets. Values from 7.5V to 12V. Incremental step: 0.5V. To change the value, use the CHANGE button. After selecting to confirm, click SAVE/NEXT.</p>

№	MENU MODES	DESCRIPTION
8	CLAY CAPACITY	<p>The volume of the magazine: min. 50 clays, max. 1000 clays. To change the value, use the CHANGE button. Incremental step: 10 clays. To confirm, click SAVE/NEXT. When the magazine is fully loaded, it is necessary to press the REFILL button - the external button on the smart receiver enclosure, so the counter of the released targets is reset and the smart receiver is unlocked. This feature is not valid if TELEMETRICS option is switched off.</p>
9	TELEMETRICS* <i>(feature for X3 system only)</i>	<p>Switches off/on the option of receiving data about the state of the trap to the remote control. When telemetry option is off, the status information (number of targets, voltage) will not be available for transmission. To change the value, use the CHANGE button (YES/NO). To confirm, click SAVE/NEXT.</p>
10	PULL BUTTON MODE	<p>Selecting the function of the PULL button (the button located on upper part of the receiver):</p> <ul style="list-style-type: none"> • AS REFILL - acts in the same way as the REFILL button, resetting the counter (so both buttons will perform the same function) • AS PULL - used to release targets (for testing) <p>NOTE: Always check the seal! Replace if necessary!</p>
11	SERIAL NUMBER	Unique serial device number
12	FACTORY SETTINGS	<p>Resets all settings to factory settings. Press CHANGE button to reset. The following phrase will be shown on display: NEXT TO CONFIRM. To confirm reset press SAVE/NEXT button.</p>



5. TROUBLESHOOTING

No	PROBLEM	POSSIBLE REASON	SOLUTION
1.	Trap does not respond	Wrong layout or trap address	Set layout or trap address — refer to section 3 item 2.1
		User entered the menu and is changing the settings. During this process receiver is automatically blocked.	Exit the menu section
		The problem with the remote control: - battery is low - antenna is damaged	1. Check the battery level with the multimeter and, if necessary, replace with new ones. 2. Repair the antenna or replace
		Due to the low temperature, the trap may need more time to recharge	Increase the relay response time — refer to section 3 item 4/5
2.	Poor signal level	1. The problem with the remote control. 2. The receiver is installed at a distance farther than the signal coverage area of the remote control 3. The receiver antenna is damaged.	1. Check the battery level (replace with new ones if necessary) and check antenna (repair or replace if necessary) 2. The optimum height of the receiver is 0.7m above the ground, but not lower than 0.5m. refer to section 2.1 3. Repair the antenna or replace
3.	Trap does not respond and the power indicator is off	Bad contact in the connector or cable damage	1. Check the cable for damage and open the connector, check the connection of the wires inside the connector — refer to section 2 2. Check the voltage between the blue and brown wires with a multimeter to make sure that the trap supplies power.
4.	Trap does not respond when releasing the same targets in a row	Trap is recocking. Depending on the recharge time of the trap, the receiver is blocked and stops receiving a signal	Make 2-3 seconds gap between the release of the same target

№	PROBLEM	POSSIBLE REASON	SOLUTION
5.	Message on the display "STANDBY - NO CLAYS"	Trap is empty.	Fill the trap magazine and press REFILL button on the smart receiver enclosure
		REFILL button (the external button on the smart receiver enclosure) wasn't pressed after the full refill of the magazine.	If trap magazine is full, press REFILL button on the smart receiver enclosure
6.	Message on the display "STANDBY - BATTERY"	Low voltage supply	Make sure enough voltage is supplied

6. LIMITED WARRANTY

Rangemaster Systems gives a limited warranty on this products against defects in material or workmanship for time of 12 months.

This period starts upon receipt of the product.

Rangemaster System will not be liable for loss of data or loss of profit or turnover due to a defect.

The warranty only includes repair or replacement of defect components, which failed during daily use. "Daily use" has to be read as: Use in accordance to specifications and in intended use.

General information & warranty exclusions: Damages due to water, moisture, vandalism, lightening, surges over power line or power supply, usage outside of specifications, excessive heat or cold (both for operation and storage) damages because of dropping the product, unnecessary force, damages because of empty or discharged batteries or accumulators are warranty exclusions and do not entitle you for a free of charge repair or replacement.

In case of chip card readers with contacts are built in the product. Items or dirt inside the reader are warranty exclusions.

In case of touch screens are built in the product: Damages due to improper use (using something else than your finger) causing scratches or punctures on the screen or on the touch surface will not be covered with warranty.

Please ask for a RMA number by sending an email to support@rangemaster.at
Add invoice number, date of invoice and serial number of product.
Also add a detailed description of errors.

Return unit for repair to:

Maxima WarenhandelsGmbH
© Rangemaster Systems – Ext. Storage
8082 Weissenbach 9
Austria/Europe

Show your RMA number of the box. Send us a tracking link after returning the product to us.

7. RMA FORM

To:

Maxima WarenhandelsGmbH
 © Rangemaster Systems – Ext. Storage
 8082 Weissenbach 9
 Austria/Europe

RMA: _____

Date: ____/____/____

Date of purchase	
Supplied by	
Invoice number (Please attach copy of invoice)	
Product serial number	
Description of error	

Please return to:

Name	
Club	
Address 1	
Address 2	
Zip code	
City/Town	
Country	
Phone	
E-Mail	