

Rangemaster X2+ sequencer User Manual



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1 DESCRIPTION OF THE UNIT:

1.1 APPLICATION:

Rangemaster X2 sequencer is a control unit used for clay target shooting for releasing clay targets from traps with voice release via microphones or manually via remote control in accordance to ISSF or FITASC rules.

1.2 FEATURES:

- Instant release voice recognition/Phono pull unit
- Adjustable microphone sensitivity
- Timer for skeet
- Random sequences for Trap FO/FU
- Chip card reader & payment option built in
- Activity lights on microphones supported
- 4X40 LCD display
- 15-18V DC external power supply with 100-240V AC input or car battery
- Built in RS232 data interface
- 8+5 micros directly connectable
- Resettable counter of targets built-in
- Auto-continue of rounds aborted due to power loss
- No-Bird detector built in
- ISSF & FITASC compliance

1.3 DISCIPLINES:

- Olympic Trap round, finals, shoot offs, training mode
- Trap FU, Trap FA
- Trap JFO-DE, Trap JFA-DE,
- DTL
- ATA
- DT 2017 round, shoot off
- Skeet round, shoot offs, finals, training mode
- Skeet J-AT, SKEET J-DE
- Sporting manual
- Compak sporting 40 FITASC schemes + optional inline mode

1.4 TECHNICAL DATA:

Power Input:	With external power supply: 100-240VAC or any other 15V/2A DC power source like car battery etc.
Power consumption:	< 10W
Operation temperature:	- 20°C up to +50°C
Dimensions:	Height: 20cm, width: 29cm, depth:7.5cm
Weight:	1,50 kg
Output:	+12V with ground switched
Fuse	3 fuses built in
Display:	LCD, 4x40 digits/letters
Counter:	1 Total counter, non resettable, 32bit 1 Counter, resettable, 32bit
Driving external trap-logic:	Via optional release boxes

1.5 SCOPE OF SUPPLY:

- X2 Phono Pull Unit
- 100-240VAC external power supply with connector
- 1 x 37 pin female connector to connect traps
- 1 x 37 pin male connector to connect microphones
- User's manual downloadable from www.rangemaster.at

1.6 OPTIONAL ACCESSORIES:

Relay boxes:

Relay box Skeet only (2 Traps, 2 Lights) – dry contact	X2-4R
Relay box Trap FA/FU only (5 Traps) – dry contact	X2-5R
Relay box Compak Sporting (6x for Compak +2 Traps Sporting) – dry contact	X2-8R
Relay box Compak Sporting/Skeet (6+2 Skeet Traps, 2 Lights) – dry contact	X2-10R
Relay box 15 Relays for Trap – dry contact	X2-15R
Relay box Trap/Skeet (15 +2 Traps, 2 lights) – 15xTrap,2xSkeet – dry contact	X2-19R
Relay box Trap/Skeet/Compak (15 + 6 + 2 Traps, 2 lights) – 15xTrap, 2xSkeet, 6x Compak – dry contact	X2-25R

Remote controls:

8 Channel digital remote control (transmitter) "ECO-SERIES" [TXSPO16](#)

8 Channel digital remote control (transmitter) "IQ-SERIES" [TXIQ8](#)

8 Channel digital remote control (transmitter) "ULTIMATE-SERIES" [TXULT8](#)

Internal options:

Wireless 8 Channel receiver module, 433MHZ [X2-R433](#)

VGA Monitor module [X2-VGA](#)

External options:

8 Channel wireless transmitter module "Buran" [BURAN](#)

Simpleconnect breakout PCB with connector and terminal blocks for connecting microphones and lamps – unboxed [X2-SCM](#)

Microphones & microphone accessories:

16 Ohm highly sensitive microphone [MIC02](#)

Lamp box for microphone [MIC07](#)

Heavy duty tripod [MIC03](#)

Microphone plug&socket set [MIC04](#)

Microphone socket mounting kit (incl. 4 x hexnuts, 4 x screws, 4 washer) [MIC05](#)

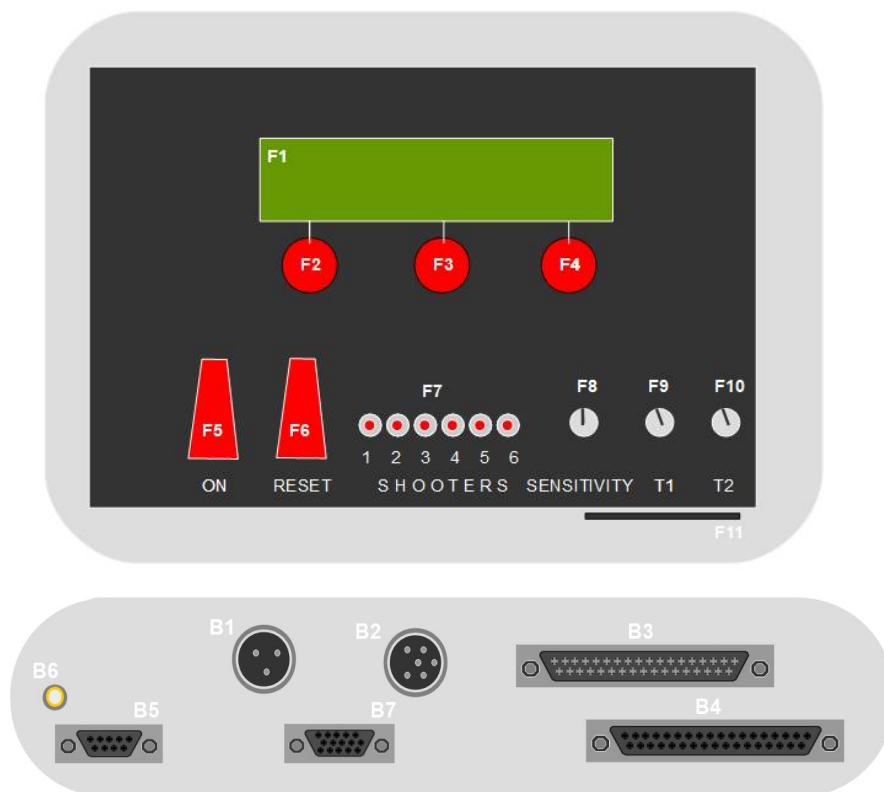
Payment options:

Secure chip cards with 4C printing [CCSEC](#)

Chip card loader, handheld [CCC](#)

Chip card loading software and chip card reader [CCS](#)

1.7 LEGEND:



LEGEND	
TOP/FRONT:	
F1:	40x4 DIGITS LCD DISPLAY
F2:	MENU LEFT
F3:	MENU CENTRE
F4:	MENU RIGHT
F5:	ON/OFF TOGGLE SWITCH
F6:	RESET UNIT TOGGLE SWITCH
F7:	SHOOTER SELECTOR FOR COMPETITIONS (TOGGLE SWITCHES)
F8:	MICROPHONE SENSITIVITY
F9:	TIMEOUT SHOT SENSOR/ MAXIMUM FLIGHT TIME OF TARGET
F10:	TIMEOUT SHOT SENSOR/ MAXIMUM FLIGHT TIME OF THE 2 ND TARGET
F11:	CHIP CARD READER SLOT
BACK:	
B1:	3 PINS POWER IN CONNECTOR
B2:	6 PINS SMART COINER CONNECTOR
B3:	37 PINS MALE MICROPHONES & LAMPS CONNECTOR
B4:	37 PINS FEMALE CONNECTOR FOR TRAPS OR BURAN
B5:	9 PINS X2-RS232 DATA INTERFACE BOX CONNECTOR
B6:	SOCKET FOR OPTIONAL ANTENNA FOR REMOTE CONTROL
B7:	VGA CONNECTOR

1.8 BASIC SAFETY RULES

Please read the instructions carefully before operating this equipment and keep this manual for future reference!

WARNING:

When using electric equipment, basic safety precautions including the following should always be followed to reduce the risk of electric shock, fire and personal injury.

Read all these instructions before operating this product and save for future use.

For safe operations:

- Do not expose this sequencer to rain
- Do not use electronic equipment where there is risk to cause fire or explosion
- Avoid body contact with opened sequencer
- Always unplug power cords before opening the sequencer or the junction box
- Follow to safety regulations of your country when switching voltages are exceeding 30V
- Have your system repaired by qualified personal in case of damage
- Use only tools and equipment with non-conducting handles when working on electrical devices and be sure hands are dry and, when possible, wear non-conductive gloves, protective clothes and shoes with insulated soles
- If water or a chemical is spilled onto equipment, shut off power at the main switch or circuit breaker and unplug the equipment
- Keep children away
- Always ensure that launching area of traps is clear and trajectory of targets is safe
- This manual does not include safety instructions for shooting; local shooting regulations have to be followed
- Keep the equipment in proper conditions; repair damaged cords & cables immediately
- When the unit is not in use, always disconnect from the power line!
- During thunderstorms and lightening, turn off and always disconnect from the power line, microphone connectors and trap connectors
- Do not use any accessory or attachment other than those recommended or supplied by us. There may be risk of personal injury in addition to invalidating the warranty

2 INSTALLATION

2.1 PREINSTALLATION WORKS

Preinstallation work includes piping and cabling for traps, microphones and skeet lamps (if it is a skeet or combined layout) and installing microphone connectors. These are very crucial part of installation work, because it needs accuracy to avoid problems, additional work and expenses.

2.1.1 PIPING & CABLING FOR MICROPHONES AND TRAPS

WARNING! CABLES FOR MICROPHONES:

- **MUST NOT** exceed the length of **45m each!**
- The shortest cable should not be longer than **50%** of the length of the longest cable!
- **MUST NOT** be placed near electrical cables closer than **0.5 meters!**

As microphone cables we **strongly recommend to use CAT7 S/FTP cable.**

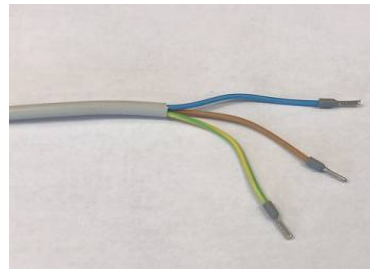
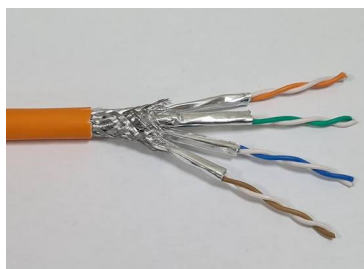
For microphone and trap cables use corrugated, UV-resistant pipes.

For countries with low temperatures during winter we recommend to use polyethylene, UV-resistant pipes.

Also consider the risks of damage of cables by rodents – close both sides of each pipe e.g. with steel wool.

Don't forget to **number** the cables from both sides when pulling them into the pipes!

(better use clips or permanent marker and take care to mark also the part which will not be dismantled or cut later)



2.1.2 MICROPHONE CONNECTORS

1. For microphone installation it is necessary to do piping and cabling according to the Microphone cabling scheme ([please refer to para 2.3](#))

NOTE:

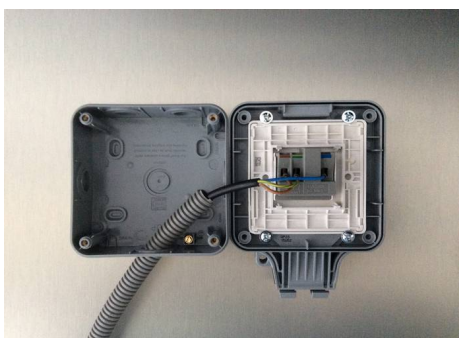
- Don't forget to number the cables from both sides
- Don't forget about other cables besides for microphones while doing piping!

2. On each position where the microphone is installed, mounting fasteners for outdoor outlets must be installed.

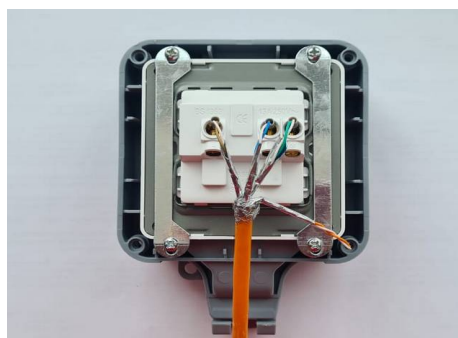
For example like it is shown on the pictures below:



3. Connect the cables as shown on the pictures below:



**Triple core cable with 0.75mm²
cable diameter**



S/FTP cable



- L** - brown wire (brown/white wire if you use S/FTP cable)
E - yellow/green wire (green/white wire if you use S/FTP cable)
N - blue wire (blue/white wire if you use S/FTP cable)

4. Connect the cables of microphones to the attachment cap as shown on the pictures below .



**Triple core cable with 0.75mm²
cable diameter**



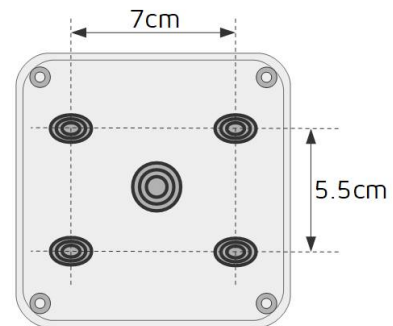
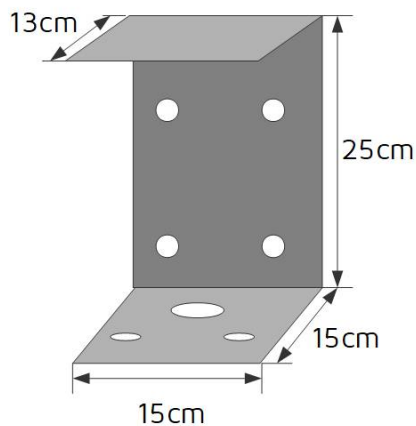
S/FTP cable



L - brown wire (brown/white wire if you use S/FTP cable)
E - yellow/green wire (green/white wire if you use S/FTP cable)
N - blue wire (blue/white wire if you use S/FTP cable)

Example for socket mounting for outdoor outlets
 ([can be provided by Rangemaster Systems](#)):

Dimension of back side boxes of outdoor outlets
 ([if you buy them from Rangemaster Systems](#)):



5. When pulling pipes make sure that they are long enough to pull one side of the grey pipe inside the connector box to provide better protection of the cable and better look.

2.2. CONNECTING TRAPS

First of all figure out, how your traps are controlled.

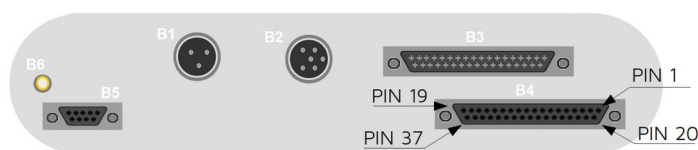
Usually, there are 3 ways of releasing traps:

- with dry contact – e.g. Laporte
- with 12V supplied: +12V permanently connected and Ground/minus switched
- with 12V supplied: +12V switched and ground/minus permanently connected
- with 24V supplied: +24V permanently connected and Ground/minus switched
- with 24V supplied: +24V switched and ground/minus permanently connected

by default, the X2 supplies +12V permanently connected and protected by 1A fuse with ground switched – via the 37 pins female trap connector.

Anyway, we recommend you to use one of our choice of [release boxes](#) for fast and convenient installation ([please refer to para 2.2.2](#)).

2.2.1 PINOUT 37-PINS SUB-D FEMALE CONNECTOR FOR RELEASING TRAPS



Pin:	Connects to:	FO:	FU:	FA:	Skeet:	Double trap:	Compak Sportng:	Sporting:
Pin 1-4	+12V	X	X	X	X	X	X	X
Pin 5	Trap 15	X						
Pin 6	Trap 14	X						
Pin 7	Trap 13	X						
Pin 8	Trap 12	X						
Pin 9	Trap 11	X						
Pin 10	Trap 10	X	X					
Pin 11	Trap 9	X	X			X		
Pin 12	Trap 8	X	X	X		X		
Pin 13	Trap 7	X	X			X		
Pin 14	Trap 6	X	X					
Pin 15	Trap 5	X						
Pin 16	Trap 4	X						
Pin 17	Trap 3	X						
Pin 18	Trap 2	X						
Pin 19	Trap 1	X						

Pin:	Connects to:	FO:	FU:	FA:	Skeet:	Double trap:	Compak Sportng:	Sporting:
Pin 20-26	GND FOR X2-R-BOX	X	X	X	X	X	X	X
Pin 27	Buzzer	X	X	X	X	X	X	X
Pin 28	Lamp skeet low				X			
Pin 29	Lamp skeet high				X			
Pin 30	Skeet low				X			X
Pin 31	Skeet hight				X			X
Pin 32	Compak 6						X	X
Pin 33	Compak 5						X	X
Pin 34	Compak 4						X	X
Pin 35	Compak 3						X	X
Pin 36	Compak 2						X	X
Pin 37	Compak 1						X	X

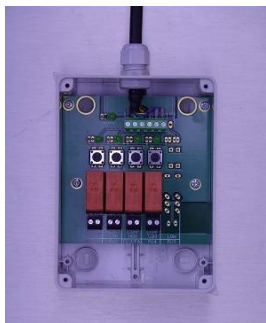
WARNING:

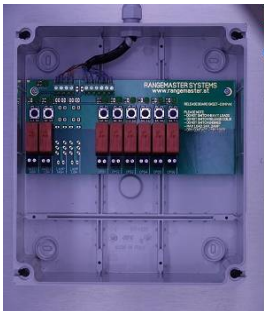


Never connect Solenoids or voltage supplying trap electronics directly to the X2 sequencer!
 Always use +12V Relays or your choice of our X2 relay boxes!
 +12V is common, GND switched for releasing the corresponding traps/relays!

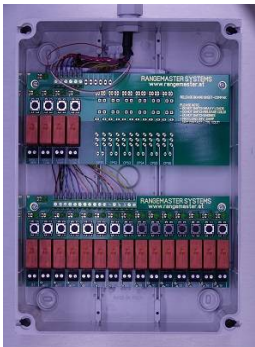
2.2.2 RELAY BOXES FOR TRAPS

When connecting X2 sequencer to the traps we recommend to use the following 12V relay boxes in accordance to the disciplines on each layout.

Each relay box comes with 2m cable with male connector which connects to 37 pin female trap connector on X2 ([please refer to para 1.7](#))

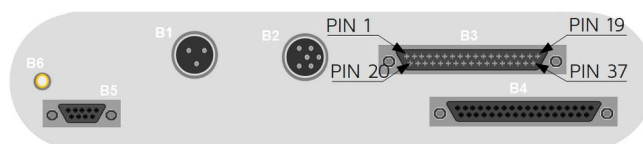
Picture of the relay box	Model of the relay box	Description
	X2-4R	Relay box Skeet only Has 4 relays: 2 Traps, 2 Lights. Good for: <ul style="list-style-type: none"> Skeet layout

Picture of the relay box	Model of the relay box	Description
	X2-5R	Relay box Trap FA/FU only Has 5 relays for 5 traps. Good for: <ul style="list-style-type: none"> American trap Universal trench Double Trap Wobble trap
	X2-8R	Relay box Compak Sporting Has 6 relays for Compak and 2 more relays for Sporting. Good for: <ul style="list-style-type: none"> Compak sporting Sporting
	X2-10R	Relay box Compak Sporting/Skeet Has 6 relays for Compak traps +2 relays for Skeet Traps, 2 relays for skeet signal lamps Good for: <ul style="list-style-type: none"> Combined layout with Skeet&Compak Sporting
	X2-15R	Relay box for Trap Has 15 relays for 15 Traps Good for: <ul style="list-style-type: none"> Olympic trench American trap Universal trench Double Trap Wobble trap

Picture of the relay box	Model of the relay box	Description
	X2-19R	Relay box for Trap&Skeet Has 15 relays for trap +2 relays for skeet traps, 2 skeet signal lamps Good for: <ul style="list-style-type: none"> combined Trap&Skeet
	X2-25R	Relay box for Trap, Skeet, Sporting Has 15 relays for Trap, 6 relays for Compak Sporting, 2 relays for Skeet trap and 2 relays for skeet signal lamps Good for: <ul style="list-style-type: none"> combined layout with Trap, Skeet and Compak Sporting

2.3. CONNECTING MICROPHONES

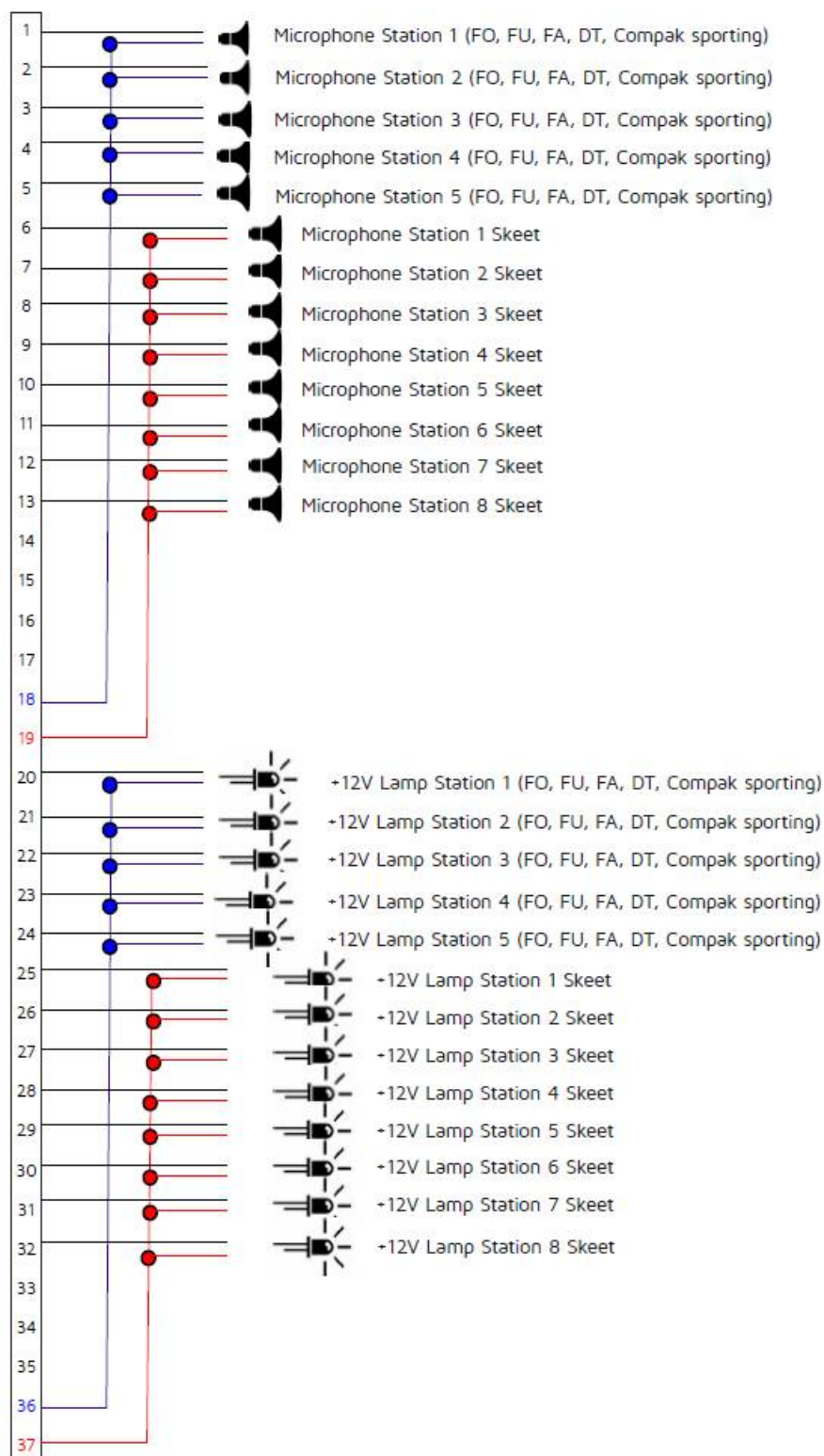
2.3.1 PINOUT 37-PINS SUB-D MALE CONNECTOR FOR MICROPHONES & LAMPS



Pin:	Connects to:	FO:	FU:	FA:	Skeet:	Double trap:	Compak Sporting:	Sporting:
Pin 1	MIC POS. 1	x	X	X		X	X	
Pin 2	MIC POS. 2	x	X	X		X	X	
Pin 3	MIC POS. 3	x	X	X		X	X	
Pin 4	MIC POS. 4	x	X	X		X	X	
Pin 5	MIC POS. 5	x	X	X		X	X	
Pin 6	MIC POS. 1				X			
Pin 7	MIC POS. 2				X			
Pin 8	MIC POS. 3				X			
Pin 9	MIC POS. 4				X			

Pin:	Connects to:	FO:	FU:	FA:	Skeet:	Double trap:	Compak Sporting:	Sporting:
Pin 10	MIC POS. 5				X			
Pin 11	MIC POS. 6				X			
Pin 12	MIC POS. 7				X			
Pin 13	MIC POS. 8				X			
Pin 14-17	N/C FUTURE USE							
Pin 18+36	-/COMMON MIC/LAMP	X	X	X		X	X	
Pin 19+37	-/COMMON MIC/LAMP				X			
Pin 20	+12V LAMP POS. 1	X	X	X		X	X	
Pin 21	+12V LAMP POS. 2	X	X	X		X	X	
Pin 22	+12V LAMP POS. 3	X	X	X		X	X	
Pin 23	+12V LAMP POS. 4	X	X	X		X	X	
Pin 24	+12V LAMP POS. 5	X	X	X		X	X	
Pin 25	+12V LAMP POS. 1				X			
Pin 26	+12V LAMP POS. 2				X			
Pin 27	+12V LAMP POS. 3				X			
Pin 28	+12V LAMP POS. 4				X			
Pin 29	+12V LAMP POS. 5				X			
Pin 30	+12V LAMP POS. 6				X			
Pin 31	+12V LAMP POS. 7				X			
Pin 32	+12V LAMP POS. 8				X			
Pin 33-35	N/C FUTURE USE							
Pin 36	-/COMMON MIC/LAMP	X	X	X		X	X	
Pin 37+19	-/COMMON MIC/LAMP				X			

PINOUT 37-PINS SUB-D MALE CONNECTOR FOR MICROPHONES & LAMPS:



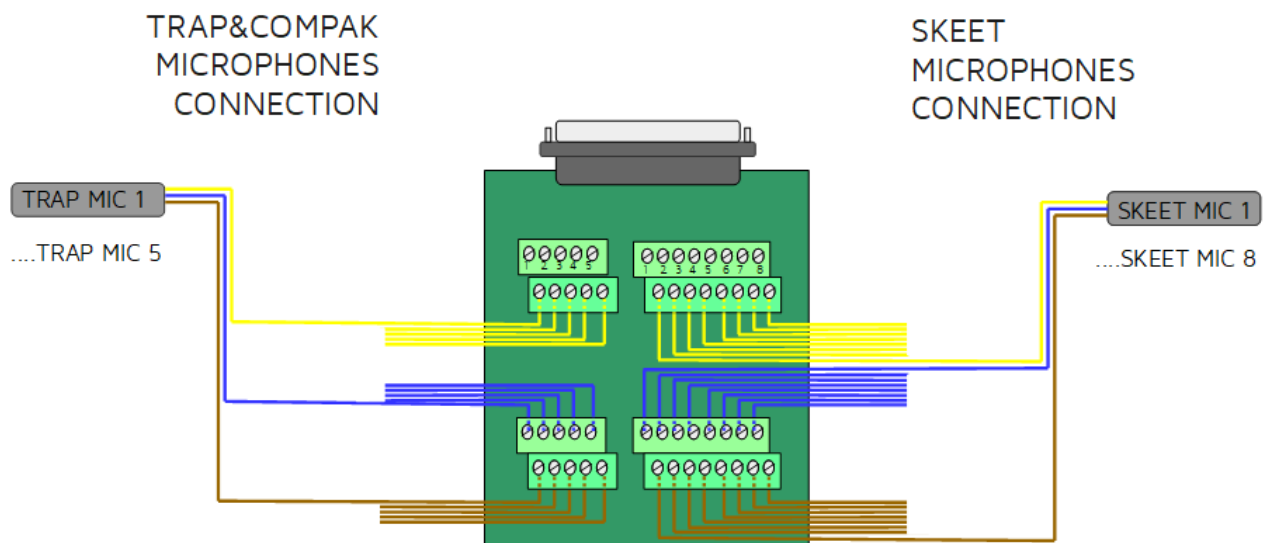
2.3.2 CONNECTION OF MICROPHONE CABLES WITH RANGEMASTER SIMPLECONNECT BREAKOUT PCB X2-SCM (NOT INCLUDED):

Microphone cables are to be connected to the socket, which connects to X2 sequencer via cable supplied.

For compatibility, customer can use CAT7 S/FTP microphone cable.

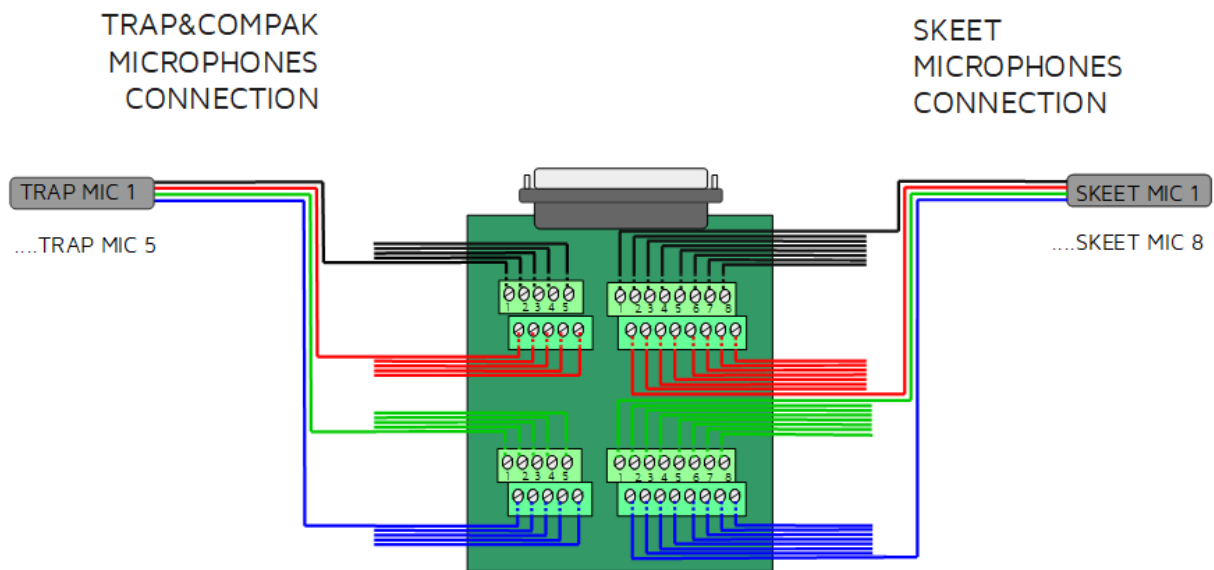
1. When using **Rangemaster Systems microphones** wires should be connected the following way from left to right starting with microphone #1 where:

- yellow wire (or green/white if you use S/FTP cable) No 1 connects to „LAMP +“ screw terminal
- blue wire (or blue/white if you use S/FTP cable) No 2 connects to „MICROPHONE -“ screw terminal
- brown (or brown/white if you use S/FTP cable) wire No 3 connects to „MICROPHONE +“ screw terminal



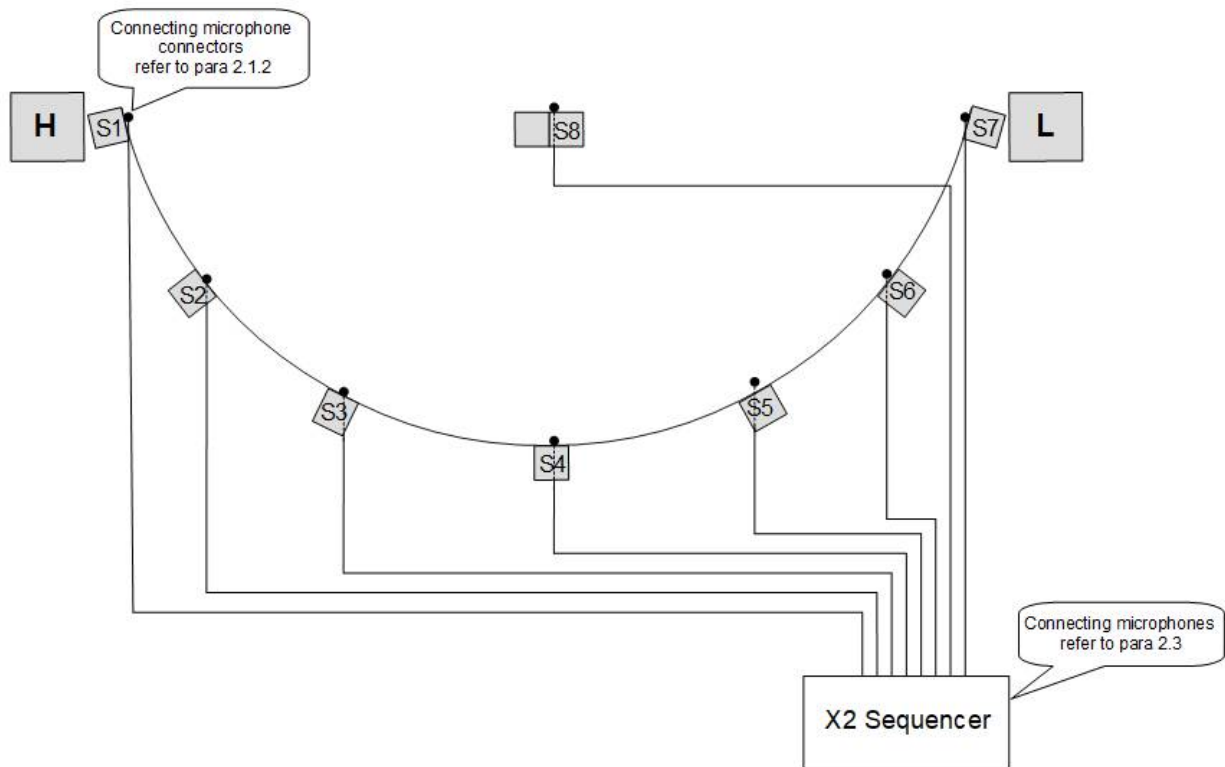
2. When using microphones with **4-wired microphone cable** (e.g. LAPORTE microphones) wires should be connected the following way:

- black (or orange/white if you use S/FTP cable) wire No 1 connects to „LAMP -“ screw terminal
- red wire (or green/white if you use S/FTP cable) No 2 connects to „LAMP +“ screw terminal
- blue wire (or blue/white if you use S/FTP cable) No 3 connects to „MICROPHONE -“ screw terminal
- brown wire (or brown/white if you use S/FTP cable) No 4 connects to „MICROPHONE +“ screw terminal



NOTE: Always connect microphones from left to right starting from #1 for all disciplines!

2.3.3 CONNECTING MICROPHONES FOR SKEET LAYOUT:



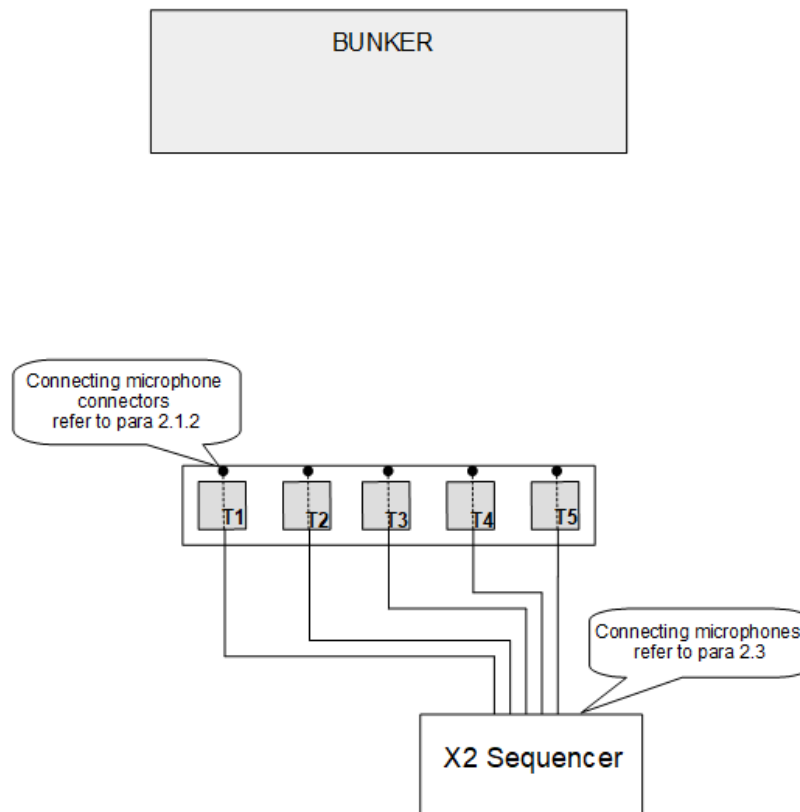
For microphone cables we recommend to use CAT7 S/FTP cable

WARNING!

Microphone cables:

- Must not exceed the length of 45m each!
- The shortest cable should not be longer than 50% of the length of the longest cable!
- Must not be pulled near electrical cables closer than 0.5 meters!

2.3.4 CONNECTING MICROPHONES FOR TRAP/COMPAK:



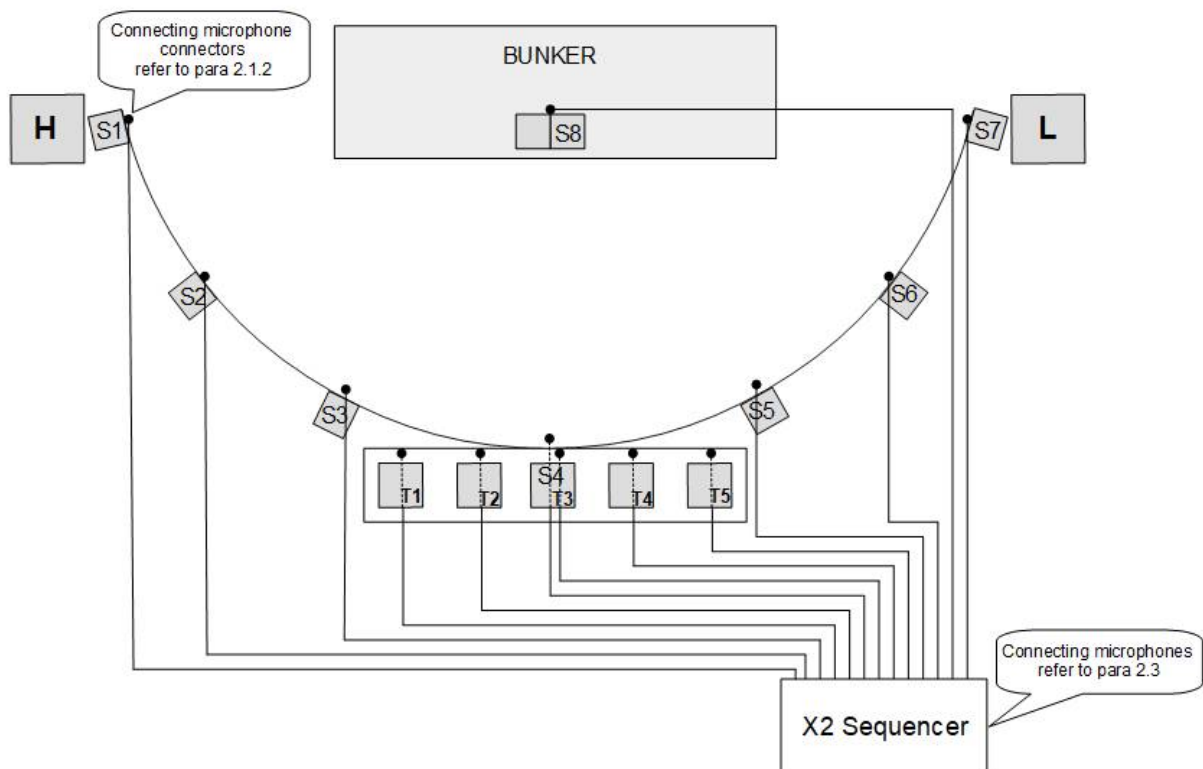
For microphone cables we recommend to use CAT7 S/FTP cable

WARNING!

Microphone cables:

- Must not exceed the length of 45m each!
- The shortest cable should not be longer than 50% of the length of the longest cable!
- Must not be pulled near electrical cables closer than 0.5 meters!

2.3.5 CONNECTING MICROPHONES FOR COMBINED LAYOUT (TRAP/COMPAK & SKEET):



For microphone cables we recommend to use CAT7 S/FTP cable

WARNING!

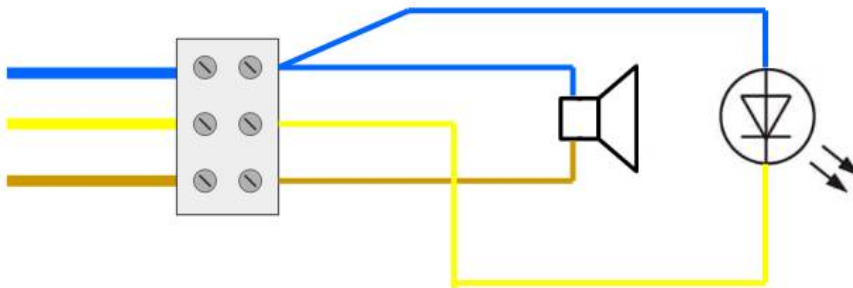
Microphone cables:

- Must not exceed the length of 45m each!
- The shortest cable should not be longer than 50% of the length of the longest cable!
- Must not be pulled near electrical cables closer than 0.5 meters!

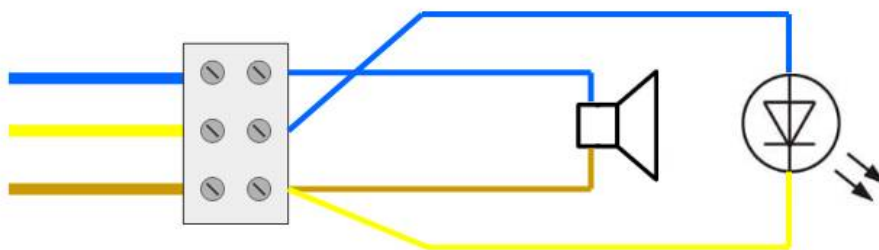
2.3.6 CHANGING CABLING OF MICROPHONES

In case if you had other Rangemaster equipment with microphones installed on your shooting ground, for X2 system you must change connecting of wires inside the microphone as it is shown in the pictures below . For X2 you have to use **New version of connection**.

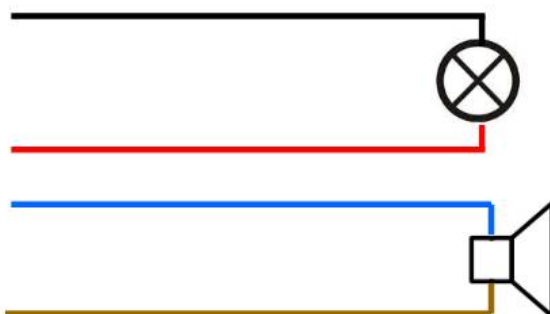
OLD VERSION OF CONNECTION



NEW VERSION OF CONNECTION



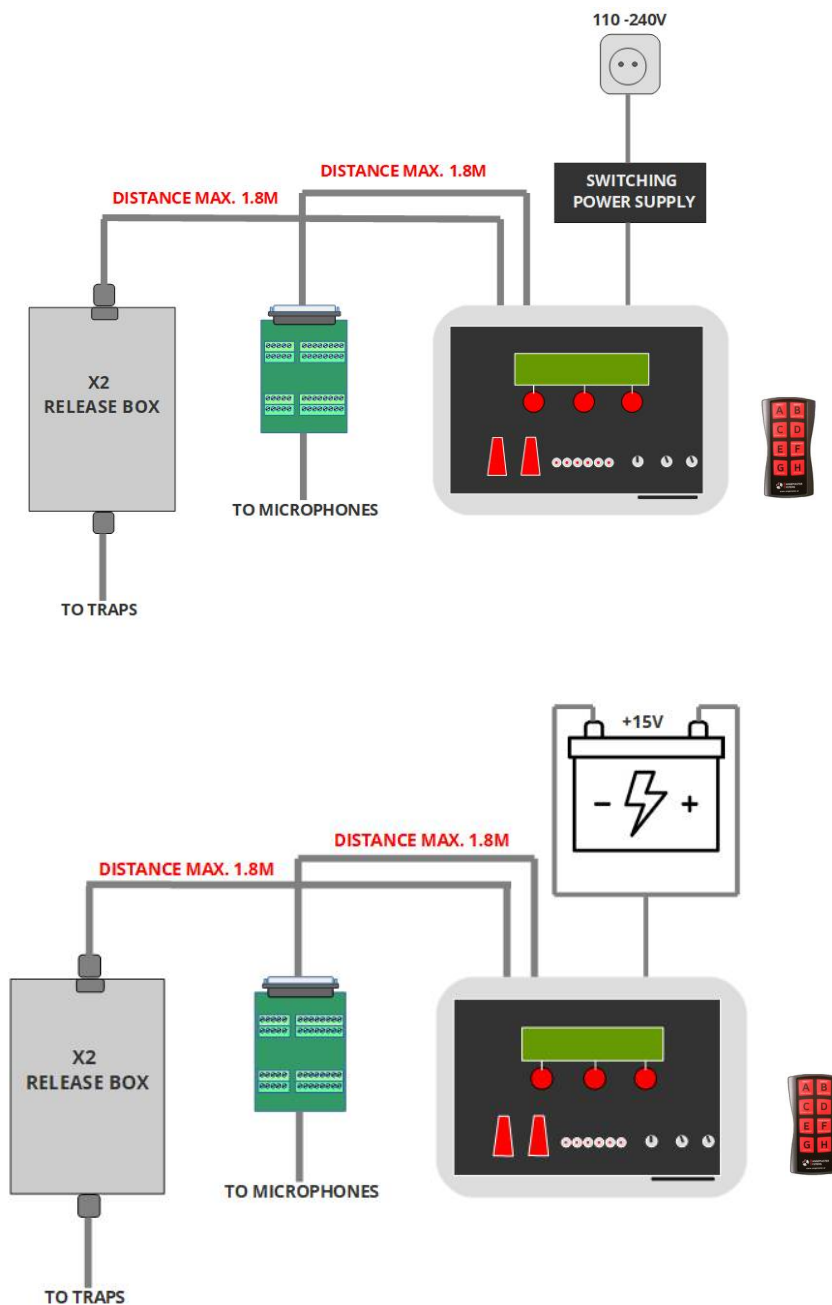
“LAPORTE” 12V VERSION OF CONNECTION WITH 4 CABLES



2.4 INSTALLATION OF COMPONENTS

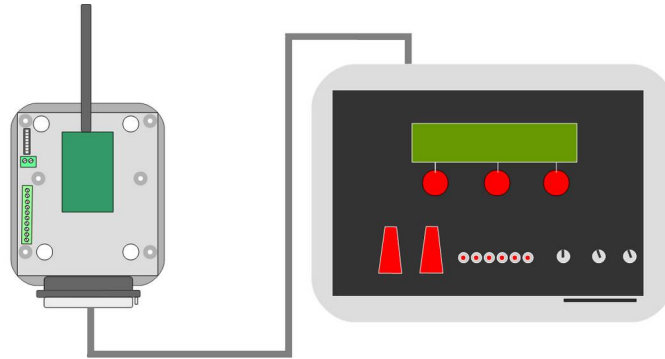
Installation of the X2 system looks the following:

1. Rangemaster X2 sequencer
2. Microphones connector which connects to X2 via 37 pins microphone connectors (we recommend to use our Simpleconnect breakout PCB which already comes with 2m cable and 37 pin connector)
3. Release box for connecting traps (we recommend to use our 12V relay boxes which already comes with 2m cable and 37 pin connector – [please refer to para 2.2.2](#))

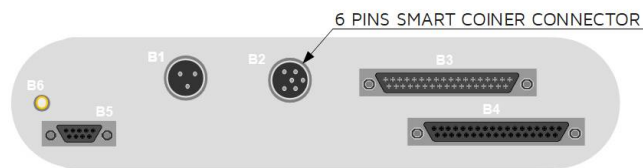


For wireless trap connection use wireless release module Buran

The wireless release module is connected to the X2 sequencer via 37 wire cable with socket to the 37 pins female traps connector on the back side of X2 sequencer (B4 on the picture).



2.5 CONNECTING COINER TO 6 PINS SMART COINER CONNECTOR



Back side of the X2 sequencer

Pin:	Connects to:
Pin 1	GND permanent
Pin 2	Impuls input (GND switched by coiner 1 puls per 1 coin)
Pin 3	External start button (GND switched by external button)
Pin 4	+15V permanently supplied for an optional lamp or LED Info: lamp or light is on when X2 accepts pulses from coiner
Pin 5	GND switched for an optional lamp or LED. GND supplied only when X2 accepts pulses from coiner. It is also possible to drive a coil (max. 100mA/5V) in order to allow coins to be inserted into the coiner. Use with Pin4
Pin 6	N/C

3 OPERATION

3.1 MODES

The Rangemaster X2 sequencer can be used in three different modes of operation:

- shooting with chip card
- shooting with coiner
- shooting without payment (for running competitions)

To set up the mode please [refer to para 5.4](#)

All disciplines are set in accordance to ISSF and FITASC rules.

Please refer to ISSF and FITASC rule books.

For training modes: please refer to [TFO Special](#), [Skeet Manual](#) and [Sporting manual](#) sections.

3.2 SHOOTING WITH CHIP CARD

- This mode is valid only with using a chip card with sufficient credit
- Limit of no birds applies ([please refer to para 5.3.3](#))

If you are using mode shooting with chip card you see the following window on the start screen:

```
Discipline: COMPAK 1S2DS  
Number of shooters: 0  
Insert your Chipcard now!
```

Registration of a shooter with a chip card please [refer to para 3.2.3](#)

3.2.1 SETTING NUMBER OF NO BIRDS PER SHOOTER

[Please refer to para 5.3.3](#)

If a "No bird" occurs, the buzzer will beep (if Buzzer is installed).

In case a shooter exceeds the set number of the no-birds per round he will hear a Buzzer beeping 3 times (if Buzzer is installed).

3.2.2 CHANGING DISCIPLINE WITH MODE CARD

Changing the discipline for the next round to shoot **in payment mode** can be done only by inserting

another mode card.

If you have a combined skeet and trap layout, you should have following mode cards available: Skeet round card, Skeet manual card, Trap Round card, Trap Special Training card. We recommend you to attach all cards to a string and place it close to the sequencer.

*E.g. You have Trap FO mode set on your X2 sequencer but shooter wants to shoot TFO Special (training mode). To change the mode **before** inserting his payment chip card he inserts the TFO Special mode chip card and the new mode is set automatically.*

To set a mode you should insert a mode card into the CCC-2 handheld chip card loader where you should enter a mode number in accordance to the table below or use CCLSW program which comes with CCS or CCS PLUS card reader.

NOTE: You can always rewrite already preset mode card

Discipline modes:	Description of the discipline:	Number of clays:	Mode number:
TRAP FO	Olympic Trench (Trap) Qualification round +first 25 targets of Final 2017	25	1
TRAP FO F2	Olympic Trench (Trap) Targets 26..50 in Final	25	2
TRAP FO S/O	Olympic Trench (Trap) Shoot off after Qualification and Finals	25	3
TFO SPECIAL	Olympic Trench (Trap) Station training with manual release or microphones (Phono Pull)	25	4
TRAP FU	Universal Trench Round – 5 traps	25	5
TRAP FA	Wobble Trap	25	6
TRAP JFO-DE	German Hunting Trench – 15 traps	15	7
TRAP JFA-DE	German Hunting American Trench	15	8
DTL	Down the line	25	9
ATA	American trap	25	10
DT 2017 R.	Double Trap Qualification round and first 30 targets of Final	30	11
DT 2017 S/O	Double Trap Shoot off after Qualification and Finals	50	12
SKEET ROUND	Skeet Qualification round: Station 1..8	25	13
SKEET J-AT	Special Austrian Hunting Skeet	25	14
SKEET J-DE	Special German Hunting Skeet	15	15
SKEET MAN	Skeet Station training with manual release or microphones (Phono Pull)	25	16
SKEET S/O 4	Skeet Shoot off after Qualification - Station 4 only	24	17
SKEET 2017F	Skeet Final - Station 3-5 - Targets 01..60 Reset after 30 Targets and remove shooters on demand	20	18
SKEET S/O 3-5	Skeet Shoot off - Stations 3,4,5	24	19
SPORTING MANUAL	8 channel manual release with remote control	25	20

Discipline modes:	Description of the discipline:	Number of clays:	Mode number:
COMPAK SPORTING - ROUND MODE:			
8xCOMPAK 5S0D	Compak sporting round 5 singles 0 doubles (8 FITASC schemes)	25	101-108
8xCOMPAK 3S1DR	Compak sporting round 3 singles 1 double on report (8 FITASC schemes)	25	109-116
8xCOMPAK 3S1DS	Compak sporting round 3 singles 1 simultaneous double (8 FITASC schemes)	25	117-124
8xCOMPAK 1S2DR	Compak sporting round 1 single 2 doubles on report (8 FITASC schemes)	25	125-132
8xCOMPAK 1S2DS	Compak sporting round 1 single 2 simultaneous doubles (8 FITASC schemes)	25	133-140

COMPAK SPORTING - IN-LINE MODE (OPTIONAL FEATURE):			
8xCOMPAK 5S0D	Compak sporting in-line 5 singles 0 doubles (8 FITASC schemes)	25	201-208
8xCOMPAK 3S1DR	Compak sporting in-line 3 singles 1 double on report (8 FITASC schemes)	25	209-216
8xCOMPAK 3S1DS	Compak sporting in-line 3 singles 1 simultaneous double (8 FITASC schemes)	25	217-224
8xCOMPAK 1S2DR	Compak sporting in-line 1 single 2 doubles on report (8 FITASC schemes)	25	225-232
8xCOMPAK 1S2DS	Compak sporting in-line 1 single 2 simultaneous doubles (8 FITASC schemes)	25	233-240

3.2.3 REGISTRATION WITH CHIP CARD

To register insert you payment chip card.

After inserting you see the following window:

```
Discipline: COMPAK 1S2DS
Number of shooters: 1
Decharged - new credit:          250
Insert your Chipcard now!
```

New credit – is the amount which left on your payment chip card.

```
Discipline: COMPAK 1S2DS
Number of shooters: 1
Insert your Chipcard now!
      >Start round<
```

| | |

Menu button 1 Menu button 2 Menu button 3

Menu button 2 >Start round< will start the round with the number of shooters registered. To add additional shooters will not be possible after pressing >Start round< .

In case there are other shooters willing to join this round of shooting, they should insert their chip cards one by one before pressing >Start round< button.

If you are shooting alone, press >Start round< menu button 2 after inserting your chip card.

In case of 6 shooters having registered, the round starts automatically.

NOTE: one chip card can be used for registration of all 6 shooters

NOTE: After the last target is released, the system will reset after 30 seconds and will be ready for registration of new shooters. It applies for shooting with chip card and coin mode.

3.2.4 AUTOMATIC NO BIRD DETECTION

In case one target is launched the system expects at least 1 shot.

For disciplines offering doubles such as skeet, compact sporting, double trap, the Rangemaster X2 expects two shots to be fired. In case there is only one shot fired, the Rangemaster X2 will give No Bird automatically.

To activate No bird sensor: Please refer to [para 5.3.2](#)

To set up number of No Birds in payment mode: Please refer to [para 5.3.3](#).

To set the flight time/No Bird timer adjustment: Please refer to [para 3.7](#)

No bird handling: Please [refer to para.5.5.4](#)

3.2.5 MANUAL NO BIRD

Using a wireless remote control by pressing the „E“ / „No Bird“, you can go back only one target.

If you have to go back to more than 1 target, use <NO BIRD> button on the Rangemaster X2 control unit.

```
Discipline: SKEET ROUND
Station: 1 Next:      T1:  T2: Thrown:
Shooter: 1 HIGH/PULL 4S.  5S.
<NO BIRD>      <HOLD>      <Manual>
```

| | |
 Menu button 1 Menu button 2 Menu button 3

If the system does not allow you to go back any further, then the number of No Birds were exceeded by the shooter and shooting has to be continued.

Disable or enable manual no bird please [refer to para.5.5.3](#)

3.3 COINER MODE

- Good for commercial shooting
- Limitation of No birds will apply (set the number of no-birds per discipline in the administration menu please [refer to para 5.3.3](#))

After switching on the Rangemaster X2 sequencer, following display is shown:

```
Discipline: TRAP FO
Number of shooters: 0
Insert a Coin now!
<Change discipline>
```

3.3.1 CHANGING THE DISCIPLINE IN COINER MODE AND REGISTRATION PROCESS:

Press the Menu Button 1 to go back to this screen:

```
RANGEMASTER X2      2017 Ser:2018-009
                    Delay-Time:3000 ms
Shooting with coiner
Mode:                > TRAP FO <          > next <
```

Use Menu Button 2 to scroll through the list of shooting modes.
Please [refer to section 5.3.4](#) to learn how to hide unnecessary disciplines.
If you passed the discipline desired, use the Menu Button 1 to scroll back.
When the desired mode is on the display, press Menu Button 3 for >next<.

Following display will appear:

```
Discipline: TRAP FO
Number of shooters: 0
Insert a Coin now!
<Change discipline>
```

Now:

- insert a coin into the coiner or
- correct the discipline/mode

After insertion of coin, the system will increase the number of shooters for the next round:


```
Discipline: TRAP FO  
Number of shooters: 1  
Insert a Coin now!  
      <Start round>
```

Menu Button 1 Menu Button 2 Menu Button 3

Now there is the choice, either to add more shooters by inserting coins or to start the shooting with the number of shooters shown.

After inserting the first coin, it is no longer possible to change the shooting mode.
You can only reset the system, but then credit will be lost.

If number of shooters registered is equal to the maximum number of shooters allowed for this shooting mode, it starts automatically.

NOTE: After the last target is released, the system will reset after 30 seconds and will be ready for registration of new shooters

3.3.2 AUTOMATIC NO BIRD DETECTION

Please [refer to para 3.2.4](#)

3.3.3 MANUAL NO BIRD

Please [refer to para 3.2.5](#)

3.4 SHOOTING WITHOUT PAYMENT

- This mode is good for running competitions or non-commercial shooting
- There is no limitation of no birds
- No automatic reset after finishing the round
- Number of targets released can be checked by using counter (please [refer to para 5.2](#))

If you are using mode shooting without chip card you see the following window on the start screen:

```
RANGEMASTER X2      2017 Ser:2018-009
                    Delay-Time:3000 ms
Shooting without Payment
Mode:                > TRAP FO <          > next <
```

NOTE: chip cards do not work on SHOOTING WITHOUT PAYMENT mode! When it is inserted on this mode, it will be written: **card invalid – Please remove card!**

3.4.1 MANUALLY SETTING THE DISCIPLINE

Use the two buttons Menu button 1 and Menu button 2 to scroll back or forth in order to set the wanted discipline and press >next< Menu button 3 to move on

```
RANGEMASTER X2      2017 Ser:2018-009
                    Delay-Time:3000 ms
Shooting without Payment
Mode:                > TRAP FO <          > next <
```

| | |
 Menu button 1 Menu button 2 Menu button 3

To hide all disciplines which are not used on the layout [refer to section 5.3.4](#)

To see the list of all disciplines with description please [refer to para 4](#)

3.4.2 SETTING NUMBER OF SHOOTERS

To set number of shooters this mode you should use the „Shooter selector toggle buttons“ (to see where they are placed please [refer to para 1.7 Legend \(F7\)](#)).

All 6 switches in the down position: 6 shooters will be in the next squad to shoot.

```
Discipline: SKEET ROUND

Shooters in round:123456      Total:6
>START<                      >Change mode<
```

Putting the corresponding switch to the up-position will remove the shooter from the next squad and reduce number of shooters in the next squad.

Discipline:SKEET ROUND

Shooters in round:12345X Total:5
 >START< >Change mode<

For all trap disciplines, following setup is recommended (in accordance to their positioning on stations):

Shooter/station:	1	2	3	4	5	6
1 shooter	1	X	X	X	X	X
2 shooters	1	X	X	4	X	X
3 shooters	1	X	3	X	5	X
4 shooters	1	X	3	X	5	6
5 shooters	1	2	3	4	5	X
6 shooters	1	2	3	4	5	6

NOTE: Station 6 is referring to waiting position behind shooting station # 1.

For skeet & compak sporting, use following setup:

Shooter/station:	1	2	3	4	5	6
1 shooter	1	X	X	X	X	X
2 shooters	1	2	X	X	X	X
3 shooters	1	2	3	X	X	X
4 shooters	1	2	3	4	X	X
5 shooters	1	2	3	4	5	X
6 shooters	1	2	3	4	5	6

3.4.3 STARTING THE ROUND

1. Choose the discipline (please [refer to para 3.4.1](#))
2. Press >next< button
3. Set number of shooters (please [refer to para 3.4.2](#))
4. Press >START< button

```

Discipline: SKEET ROUND
Station: 1 Next:      T1:  T2: Thrown:
Shooter: 1 HIGH/PULL  5S.  5S.
<NO BIRD>           <HOLD>           <Manual>
  
```

| | |

Menu button 1 Menu button 2 Menu button 3

When all shooters have finished their shooting, following screen appears:

```

Discipline: SKEET ROUND      Total:90
Station:   Next:      T1:  T2: Thrown:
Shooter:           5S.  5S.   25
<NO BIRD>                           <EXIT>
  
```

| | |

Menu button 1 Menu button 2 Menu button 3

In shooting without chip card mode there is no automatic reset and the menu button 3 (<EXIT>) must be pressed.

3.4.4 AUTOMATIC NO BIRD DETECTION

Please [refer to para 3.2.4](#)

NOTE:

In the mode shooting without chip card number of no birds is **unlimited!**

3.4.5 MANUAL NO BIRD

NOTE:

In the mode shooting without chip card number of no birds is **unlimited!**

3.5 COMPETITIONS

NOTE: Competitions should be always run in the shooting without payment mode

When running competitions in accordance to new ISSF rules, to remove the shooter in the final, use the toggle switches „SHOOTERS“ to remove the shooter in accordance to his position in the round.

3.5.1 SHOWING TARGETS FOR TRAP FO AND TRAP FU

In competition mode / non-payment mode, targets can be launched for showing targets as following:

```
Discipline: TRAP FO

Shooters in round:1XXXXX   Total:1
>START<    >Test throw<    >Change Mode<
```

Press >Test throw< button on the X2 unit to show all 15 targets for Trap FO (or 5 targets for Trap FU). Automatically all targets will be thrown one by one with a 3 sec gap.

```
Discipline: TRAP FO   Total:147

Display/ test throw clays:
Launcher/Trap: 12
```

NOTE: Before pressing the Test throw button, be sure that launching area and trajectory of target is clear!

3.6 FUNCTIONALITY OF KEYS:

3.6.1 FUNCTIONALITY IN ROUND DISCIPLINES:

Functionality of keys on the Rangemaster X2 unit:

<NO BIRD> : Go back after a broken clay

<HOLD>: switches off microphones and switches on the pause mode (Press again to continue)

<Manual> will release the next target without calling for the target.

Functionality of keys on wireless remote control for rounds:

A: When using a display system: Zero/Lost 1st target

B: When using a display system: Zero/Lost 2nd target – only applicable if doubles were launched

C: -

D: -

E: No Bird

F: Pause on/Pause off = <HOLD> button on the X2 unit

G: -

H: Manual Release = <Manual> button on the X2 unit

3.6.2 SKEET MANUAL (TRAINING MODE)

Functionality of keys on the Rangemaster X2 unit:

<EXIT>: Abort this shooting sequence and go back to registration process or main menu.

Functionality of keys on wireless remote control for Skeet Manual:

- A: Release manually or preset a single high/Pull for using microphone
- B: Release manually or preset a single low/Mark for using microphone
- C: Release manually or preset a double for using microphone
- D: -
- E: -
- F: Microphone on/off (switches off manual mode and switches on microphones and vice versa)
- G: 1 station to the right (when using microphones)
- H: 1 station to the left (when using microphones)

When using Manual release (with the remote control) the following window will be shown on the Rangemaster X2 display:

```
Discipline: SKEET MANUAL      Total:123
Station: Preset: Type: Timer: Thrown:
      1           Manual           1
<EXIT>   USE REMOTE CONTROL
```

To release targets use the push buttons (High/Low/Double) on the wireless remote control in accordance to the functionality of keys table shown above.

To activate microphones press F push button on the remote control.

The following window will be shown on X2 display:

```
Discipline: SKEET MANUAL      Total:124
Station: Preset: Type: Timer: Thrown:
      2     DOUBLE  Phono           2
<EXIT>   USE REMOTE CONTROL
```

Before calling for the next target, preset the target using A, B or C button and preset position of the shooting place using buttons G or H in accordance to the functionality of keys table shown above.

If you want to throw the same target on the same station, just call for a target once again. No need to preset the same target after shooting.

For the special skeet timer functionality, please [refer to para 3.7.1](#)

3.6.3 TFO SPECIAL (TRAINING MODE)

This mode is good for training certain targets. A shooter can preset a target and release it either by using the microphone or remote control (in this a shooter needs a puller).

```
Discipline: TFO SPECIAL
Station: Preset: Type: Timer: Thrown:
'1'      Center  Manu._      0
<EXIT>   USE REMOTE CONTROL
```

Functionality of keys on X2 unit:

<EXIT>: Go back to the registration process

Functionality of keys on wireless remote control Trap FO SPECIAL:

- A: Release/preselect right target for next release
- B: Release/preselect center target for next release
- C: Release/preselect left target for next release
- D: -
- E: -
- F: Microphone on/off (switches off manual mode and switches on microphones and vice versa)
- G: 1 station to the right (when using microphones)
- H: 1 station to the left (when using microphones)

3.6.4 SPORTING MANUAL

This mode is good for manual launching targets from maximum 8 traps (A-H).

```
Discipline: SPORTING MAN.
```

```
TRAGET: LAUNCHED:
```

```
USE TX/REMOTE TO RELEASE      <EXIT>
```

Functionality of keys on wireless remote control for Sporting Manual:

- A: release trap A
- B: release trap B
- C: release trap C
- D: release trap D
- E: release trap E
- F: release trap F
- G: release trap G
- H: release trap H

Buttons can be pressed simultaneously to launch doubles or even more targets

3.6.5 COMPAK SPORTING ROUNDS

In the shooting without chip card mode when setting compak sporting discipline, you see the following window on the display:

```
Discipline: COMPAK 3S1DS  
  
Compak-Scheme:17  
>Continue<    >Change<    >Change Mode<
```

>Change< button changes the scheme number:

E.g. for Compak 3S1DS there are 8 schemes from 17-24.

>Change Mode<: go to the main menu

>Continue< leads to the next section where you set number of shooter for this round (please [refer to para 3.4.2](#)) and press >START<

Functionality of keys on sequencer:

>No-Bird< : Go back after a broken clay

>Hold<: switches of microphone and stops the sequence (Press again to continue)

>Manual<: releases the next target

Functionality of keys on wireless remote control for Compak rounds:

- A: When using a display system: Zero/Lost 1st target
- B: When using a display system: Zero/Lost 2nd target
- C: -
- D: -
- E: No Bird
- F: Hold/Continue
- G:
- H: Manual Release

For automatic no-bird please [refer to para 3.4.4](#)

For no bird timeout and flight time adjustments please [refer to para 3.7.2](#) and [3.7.3](#)

To check schemes refer to the [FITASC "International Compak® Sporting Rules" book](#).

3.7 TIMER ADJUSTMENTS

3.7.1 SKEET TIMER

For skeet using T1 regulator on the Rangemaster X2 panel (F9 on the Legend picture [in section 1.7](#)) you can switch on or switch off the timer. To switch it off put the T1 regulator to the minimum. In this case targets will be launched immediately without any delay.

If you remove the regulator from minimum position (any position from 9 o'clock till max. position 5 o'clock) the timer will be activated in accordance to ISSF rules.

3.7.2 FLIGHT TIME/NO BIRD TIMER ADJUSTMENT

Flight time is the time from the moment the target was launched till it hits the ground or already unreachable for the shooter. With this value systems knows how long to wait for the shot fired before detecting a No-Bird.

For Trap, Skeet and Double Trap the flight time is a 2500 msec. Therefore, if shooters doesn't fire a shot withing 2,5sec the systems will consider it as no bird.

For TFO special, Skeet manual and Sporting manual there is no flight time adjustment necessary, as shot detection is not functional.

3.7.3 FLIGHT TIME/NO BIRD TIMER ADJUSTMENT FOR COMPAK SPORTING

Flight time is a time from the moment the target was launched till it hits the ground or already unreachable for the shooter. With this value systems knows how long to wait for the shot before detecting a No Bird.

With T1 and T2 regulators on the Rangemaster X2 panel (F9 and F10 on the Legend picture [in section 1.7](#)) you can adjust the flight time.

For that you should use the longest flight time for single target or the first target in the double (T1) and the longest flight time of the second target in the double (T2).

When adjusting regulators you can see that the values on the display change.

E.g. on the picture below you can see that T1 is set to 3 sec and T2 is set to 5 sec for the 1 single 2 doubles on report scheme. In this case the system will wait for 3 second maximum for each single or first target in doubles and 5 sec maximum for the second target in the double before it detects No-bird if during this time limit it doesn't detect a shot.

Discipline: COMPAK 1S2DR		Total:53
Station: 1	Next: T1:	T2: Thrown:
Shooter: 1 D	3S.	5S. 1
<NO BIRD>	<HOLD>	<Manual>

|
|
|
 Menu button 1 Menu button 2 Menu button 3

For all other disciplines the flight time is preset. For Trap, Skeet and DT the flight time is max.2.5 sec.

3.8 POWER LOSS DATA PROTECTION

In case the round was aborted e.g. due to power loss:
when the unit is connected to power again you can continue shooting from the place where you stopped without losing data.

In that case you will see the following window:

```
Last round was aborted at:  
Pos#:0  
Discipline:SKEET ROUND  
>Continue<                                >Abort<
```

 | | |
Menu button 1 Menu button 2 Menu button 3

To continue the shooting, please press >Continue< Menu button 1.
To abort the round and start a new round press >Abort< Menu button 3. The sequence will be deleted and cannot be regained.

3.9 RESETTING THE SEQUENCER

Resetting can be used when you want to abort the round.
To reset the sequencer use the RESET toggle switch: put it in up position and then push it back to down position.

NOTE: resetting a round in pay mode deletes all credits/targets left!

4 DISCIPLINES

Discipline modes:	Description of the discipline:	Number of clays:
TRAP FO	Olympic Trench (Trap) Qualification round +first 25 targets of Final 2017	25
TRAP FO F2	Olympic Trench (Trap) Targets 26..50 in Final	25
TRAP FO S/O	Olympic Trench (Trap) Shoot off after Qualification and Finals	25
TFO SPECIAL	Olympic Trench (Trap) Station training with manual release or microphones (Phono Pull)	25
TRAP FU	Universal Trench Round – 5 traps	25
TRAP FA	Wobble Trap	25
TRAP JFO-DE	German Hunting Trench – 15 traps	15
TRAP JFA-DE	German Hunting American Trench	15
DTL	Down the line	25
ATA	American trap	25
DT 2017 R.	Double Trap Qualification round and first 30 targets of Final	30
DT 2017 S/O	Double Trap Shoot off after Qualification and Finals	50
SKEET ROUND	Skeet Qualification round: Station 1..8	25
SKEET J-AT	Special Austrian Hunting Skeet	25
SKEET J-DE	Special German Hunting Skeet	15
SKEET MAN	Skeet Station training with manual release or microphones (Phono Pull)	25
SKEET S/O 4	Skeet Shoot off after Qualification - Station 4 only	24
SKEET 2017F	Skeet Final - Station 3-5 - Targets 01..60 Reset after 30 Targets and remove shooters on demand	20
SKEET S/O 3-5	Skeet Shoot off - Stations 3,4,5	24
SPORTING MANUAL	8 channel manual release with remote control	25

COMPAK SPORTING - ROUND MODE:

8xCOMPAK 5S0D	Compak sporting round 5 singles 0 doubles (8 FITASC schemes)	25
8xCOMPAK 3S1DR	Compak sporting round 3 singles 1 double on report (8 FITASC schemes)	25
8xCOMPAK 3S1DS	Compak sporting round 3 singles 1 simultaneous double (8 FITASC schemes)	25
8xCOMPAK 1S2DR	Compak sporting round 1 single 2 doubles on report (8 FITASC schemes)	25
8xCOMPAK 1S2DS	Compak sporting round 1 single 2 simultaneous doubles (8 FITASC schemes)	25

COMPAK SPORTING - IN-LINE MODE (OPTIONAL FEATURE):

8xCOMPAK 5S0D	Compak sporting in-line 5 singles 0 doubles (8 FITASC schemes)	25
8xCOMPAK 3S1DR	Compak sporting in-line 3 singles 1 double on report (8 FITASC schemes)	25
8xCOMPAK 3S1DS	Compak sporting in-line 3 singles 1 simultaneous double (8 FITASC schemes)	25
8xCOMPAK 1S2DR	Compak sporting in-line 1 single 2 doubles on report (8 FITASC schemes)	25
8xCOMPAK 1S2DS	Compak sporting in-line 1 single 2 simultaneous doubles (8 FITASC schemes)	25

5 ADMINISTRATION MENU

This section allows to make all main settings in the X2 sequencer unit.

To be able to enter this section user (administrator or operator) should have a special **X2**

Administrative card.

5.1 ACCESS TO ADMINISTRATION MENU

- Insert your **Administrative card** into the chip card reader
- Switch on **RESET** toggle of Rangemaster X2 unit (F6 [refer to section 1.7](#))
- Switch off **RESET** toggle on X2 sequencer unit

Access to the administration menu allows to manage the following fields:

5.2 COUNTERS

Here you can: check and reset the amount of clays thrown

How to get here: This section is placed in the administrative menu

In this section you can check the amount of clays thrown:

1. Since last set to zero (Temp.Count)
2. Payed with the chip card (Paid)
3. In total since the X2 was installed (Tot.)

Administration menu:

>Counters

>Change< > next <

To continue in this section press > next <

Administration menu:

Temp.Count:28 Paid:98 Tot.:28

>Set to zero< > next <

By pressing >Set to zero< button you reset the Temp. Count and Paid values and set them to zero.

The Total value can't be reset.

To exit this section: remove Administrative chip card and return **RESET** toggle to off position

5.3 MENU ADJUSTMENT AND NO BIRDS

Here you can: change the language, set number of No birds for payment mode,

How to get here: This section is placed in the administrative menu (please [refer to para 5.1](#)).

When you are in the Administrative menu press one (1) time >Change< button.

Administration menu:

>Menu adjustments + No-Birds

>Change< > next <

5.3.1 CHANGE LANGUAGE

Here you can: change the interface language from English into German and back.

How to get here: This section is placed in the administrative menu (please [refer to para 5.1](#)).

When you are in the Administrative menu press one (1) time >**Change**< button and press one (1) time >next< button.

Administration menu:

>Main menu language:English

>Change< > next <

To change the language from English into German press >**Change**<

Administration menu:

>Main menu language:Deutsch

>Change< >Weiter<

To change the language back into English press >Change<

To exit this section: remove Administrative chip card and return **RESET** toggle to off position

If you press > next < button you go to the next section.

5.3.2 VGA MODULE

Here you can: change VGA module settings from internal to external and vice versa. X2 Standard version has an option to attach external VGA module, X2 PLUS version has already internal build in VGA modul.

How to get here: This section is placed in the administrative menu (please [refer to para 5.1](#)).

When you are in the Administrative menu press one (1) time >Change< button and press two (2) times >next< button.

```
Administration menu:
```

```
>VGA Module: internal
```

```
>Change<                                > next <
```

To change the mode from internal into external press >**Change**<

```
Administration menu:
```

```
>VGA Module: external
```

```
>Change<                                > next <
```

To change the mode from external into internal press >**Change**<

To exit this section: remove Administrative chip card and return **RESET** toggle to off position

If you press > next < button you go to the next section.

5.3.3 ACTIVATION OF NO BIRD SENSOR

Here you can: activate/deactivate No-Bird sensor

How to get here: This section is placed in the administrative menu (please [refer to para 5.1](#)).

When you are in the Administrative menu press one (1) time >**Change**< button and press three (3) times >**next**< button.

```
Administration menu:
```

```
Use No-Bird-Sensor: no
```

```
>Change<                                > next <
```

To activate or deactivate the No bird sensor use >Change button<:

Use No-Bird-Sensor: no – sensor is deactivated

Use No-Bird-Sensor: yes – sensor is activated

To exit this section: remove Administrative chip card and return **RESET** toggle to off position

5.3.4 SET NUMBER OF NO BIRDS FOR PAYMENT MODE (CHIP CARD & COINER MODES) AND HIDE DISCIPLINES

Here you can: set number of No birds per shooter for all disciplines in payment mode.

How to get here: This section is placed in the administrative menu (please [refer to para 5.1](#)).

When you are in the Administrative menu press one (1) time >**Change**< button and press four (4) times >**next**< button.

To find the necessary discipline you should go through all disciplines by pressing >next< button.

```
Administration menu:

No-Bird-TRAP FO :4      Visible: Yes
>Incr.No Bird<  >Visib:Yes/No<  >next<
```

To increase number of No-Birds press the left button >**Incr.No Bird**<

Max. number of No birds is 10 per shooter.

By pressing > **next** < you can change the discipline to set the number of No Birds.

To hide or show disciplines use **Visible: Yes/No** button. This feature helps to hide all disciplines which are not offered on the layout or should be temporary hidden. Especially in *Shooting without chip card mode*, where [mode cards](#) are not used.

```
Administration menu:

No-Bird-TRAP FO :4      Visible: No
>Incr.No Bird<  >Visib:Yes/No<  >next<
```

To exit this section: go through all disciplines or toggle the reset button up and down.

NOTE:

- Number of No birds set in this section applies for the chip card or coiner modes only!
- Please set the number of No-Birds in accordance to approximate number of broken targets to avoid complaining from the shooters.

5.4 PAYMENT OPTIONS

Here you can: set the payment options

How to get here: this section is placed in the administrative menu (please [refer to para 5.1](#)).

When you are in the Administrative menu press two (2) times >**Change**< button.

```
Administration menu:

> Payment options
>Change<                                > next <
```

By pressing > next < you can change the payment option to:

SHOOTING WITH CHIP CARD

This mode allows to shoot only with the chip card with valid credit on it.

Administration menu:

Payment: Shooting with chipcard

>Change< > next <

NOTE:

- If you are using this payment option: Shooting with chip card, you should also set the Chip Card type (please [refer to para 5.4.1](#))
- To be able to use chip card payment option you should order chip card loader and chip cards

SHOOTING WITH COINER (IF ATTACHED TO THE SYSTEM)

Administration menu:

Payment: Shooting with coiner

>Change< > next <

NOTE: To be able to use coiner payment option you have to order a coiner unit from us

SHOOTING WITHOUT PAYMENT

Used for running competitions or if you have an administrator/trainer on each layout to control the number of clays thrown.

Administration menu:

Payment: Shooting without paym.

>Change< > next <

5.4.1 CHIP CARD TYPES

Here you can: set the chip card type. Valid for payment with chip card option only!

How to get here: this section is placed in the administrative menu (please [refer to para 5.1](#)).

When you are in the Administrative menu press two (2) times **>Change<** button and after press two (2) times **>next<** button.

There are two chip card types which you can choose:

Chip card type 2: if you use this type targets per round will be deducted.

```
Administration menu:

Chipcard-type: 2
>Change<                > next <
```

The number of targets is already preset.

To see how many targets are deducted per one insertion of the chip card, please [refer to the table in para 4](#).

Chip card type 3: if you use this type points will be deducted per insertion of the chip card.

```
Administration menu:

Chipcard-type: 3
>Change<                > next <
```

E.g. on your shooting ground to shoot one Trap round costs 6 euro. So you can set 1 euro as 1 point. In this case you should set Trap FO: 6. It means 6 points will be deducted from the shooter's chip card if he wants to shoot 1 round of Trap.

NOTE:

If you set 1 point as 1 euro you can't use cents. It means you can't use 5,5 euro value. It can be 5 or 6.

If you want to use cents, you can set 1 euro as 10 points, in this case you can set the prices as following:

Skeet – 5,5 euro – 55 points.

Trap – 6,8 euro – 68 points

Sporting – 8,2 euro – 82 points

NOTE:

please choose chip card type in accordance to your pricing model (clays or points)

To set the number of points press **>next<** button.

Administration menu:

Chipcard-Points TRAP FO :6

>Incr.points< >Decr.points< > next <

In **Chipcard-Points section** you can adjust number of points for each of all disciplines in the administrative section.

To increase the number of points press button **>Incr.points<** and to decrease points press button **>Decr.points<**

Maximum value of points is 99, Minimum value is 0. Pressing **>next<** you can change the discipline

To exit this section: go through all disciplines or toggle the reset button up and down.

5.5. MISC. SETUPS

Here you can: make settings for X2:

- Ignore reset in payment mode
- Disable hold button
- Disable manual no bird
- Handle no bird
- Lock T1/T2 in paymode
- T1-Target 1 for Compak
- T2-Target 2 for Compak

How to get here: this section is placed in the administrative menu (please [refer to para 5.1](#)).

When you are in the Administrative menu press three (3) times **>Change<** button.

Administration menu:

>Misc.Setups

>Change< > next <

5.5.1 IGNORE RESET IN PAYMODE (YES/NO)

Here you can: disable the reset button in payment mode (shooting with chip card)

If you set to yes, you no longer can use the **RESET** toggle switch ([refer to F6 button on the 1.7 Legend](#)) in payment mode after round has been started. It means it will be ignored if user reset it.

How to get here: this section is placed in the administrative menu (please [refer to para 5.1](#)).

When you are in the Administrative menu press three (3) times **>Change<** button and one (1) time **>Next<** button.

To change from **Yes** to **No**, press **>Change<** button

```
Administration menu:

>Ignore Reset in Paymode      :No
>Change<                      > next <
```

To change from **No** to **Yes**, press **>Change<** button

```
Administration menu:

>Ignore Reset in Paymode      :Yes
>Change<                      > next <
```

We recommend you to keep it set to **No**

5.5.2 HOLD BUTTON IS DISABLED

Here you can: disable or enable hold button, which is used as a PAUSE to disable microphones in paymode after round has been started

How to get here: this section is placed in the administrative menu (please [refer to para 5.1](#)).

When you are in the Administrative menu press three (3) times **>Change<** button and two (2) times **>Next<** button.

```
Administration menu:

>Hold button is disabled      :No
>Change<                      > next <
```

To disable the hold button, use **>Change<** button and vice versa.

Administration menu:

```
>Hold button is disabled      :Yes
>Change<                      > next <
```

We do not recommend you to use this option set to yes

5.5.3 MANUAL NO BIRD IS DISABLED

Here you can: disable or enable manual no bird in paymode only.

How to get here: this section is placed in the administrative menu (please [refer to para 5.1](#)).

When you are in the Administrative menu press three (3) times **>Change<** button and three (3) times **>Next<** button.

To disable this feature, use **>Change<** button and vica versa to set it to **YES** or **NO**

Administration menu:

```
>Manual No Bird is disabled    :No
>Change<                      > next <
```

If user sets it to yes, no longer **NO TRAGET** can be pressed via menu button or remote control.

E.g.: broken target is launched, shooter shoots on broken target.

If manual no bird disabled in paymode, shooter cannot repeat this target

We recommend you to keep it set to **No**

5.5.4 NO BIRD HANDLING

Here you can: make No bird handling effects paymode only.

How to get here: this section is placed in the administrative menu (please [refer to para 5.1](#)).

When you are in the Administrative menu press three (3) times **>Change<** button and four (4) times **>Next<** button.

To set Soft/Hard, use **>Change<** button

Administration menu:

```
>No bird handling              :Soft
>Change<                      > next <
```

If it is set to **Soft**, shooter can infinitely call for targets without shooting. The No bird limitation per shooter ([please refer to 5.3.4](#)) is ignored.

Administration menu:

```
>No bird handling           :Hard
>Change<                   > next <
```

If it is set to **Hard**: every call will be considered as a release of a clay; if no shot is fired, the number of targets will be released from the number of no birds granted to each shooter in payment mode. If the number of no targets granted to the shooter have been used, a longer beep will occur and the target can not be released again; further no targets will also be void for this shooter in the same round.

5.5.5 LOCK T1/T2 IN PAYMODE

Here you can: lock flight time, using T1 and T2 knobs (F9/F10: [refer to 1.7](#)) setter during shooting Available in all modes (shooting with or without chip card).

How to get here: this section is placed in the administrative menu (please [refer to para 5.1](#)).

When you are in the Administrative menu press three (3) times **>Change<** button and five (5) times **>Next<** button.

To lock/unlock, use **>Change<** button to set to **YES** or **NO**

Administration menu:

```
>Lock T1/T2 in paymode      :Yes
>Change<                   > next <
```

If the disable T1/T2 is set to **Yes**, the flight times for T1 and T2 are taken from the value set via the knobs before the round and can't be changed during the round;
if the disable T1/T2 is set to **No**, you can adjust the flight time of targets in real time during shooting. We recommend you to set it to **No**

5.5.6 T1 - TARGET 1 FOR COMPAK

Here you can: set the maximum flight time for the first target for a compak sporting using T1 knob, when no bird will be automatically detected if no shot is made.

How to get here: this section is placed in the administrative menu (please [refer to para 5.1](#)).

When you are in the Administrative menu press three (3) times **>Change<** button and six (6) times **>Next<** button.

Administration menu:

```
T1 - Target 1 for Compak    :11 Sec
>Change<                   > next <
```

To increase the flight time for wheat, use the T1 knob placed on the control panel. Minimum flight time - 2 seconds, maximum - 12 seconds.

E.g.: you have 6 traps on the layout and the flight time of the trap C is 6 seconds. This is the longest flying target. In this case, the system will "wait" for a shot for 6 seconds. If the shot is not made within 6 seconds, the automation system perceives it as "No target" and will repeat the same target. The same about the second target in the doublet, which is adjusted by the T2 regulator (see section 5.5.7).

5.5.7 T2 - TARGET 2 FOR COMPAK

Here you can: set the maximum flight time for the second target in a double for a compak sporting using T2 knob, when no bird will be automatically detected if no shot is made.

How to get here: this section is placed in the administrative menu (please [refer to para 5.1](#)).

When you are in the Administrative menu press three (3) times >**Change**< button and one (7) time >**Next**< button.

Administration menu:

```
T2 - Target 2 for Compak      :10 Sec
>Change<                     > next <
```

To increase the flight time for wheat, use the T1 knob placed on the control panel. Minimum flight time - 2 seconds, maximum - 12 seconds.

E.g.: you have 6 traps on the layout and the flight time of the trap A is 7 seconds. This is the longest flying target. In this case, the system will "wait" for a shot for 7 seconds. If the shot is not made within 7 seconds, system perceives it as "No target" and will repeat the same double.

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, dropping the product, 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	