

**MINISTRY OF DEFENCE
AND VETERANS AFFAIRS**



INTEGRATED ORGANISATION
FOR THE MAINTENANCE IN
OPERATIONAL CONDITION OF
ARMY EQUIPMENT

EQUIPMENT DIVISION

STERELA 100 series
Target system

User guide

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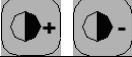











PRINCIPAL DEFINITIONS

Concepts	Definitions
<i>Shooting range</i>	The term shooting range refers to the set of targets controlled by the radio-control system.
<i>Chuck Taylor</i>	Assessment method consisting of confirming the taking out (and concealing) of a target on the first, second, third or fourth impact.
<i>Automatic mode</i>	Target system default mode, i.e. <ul style="list-style-type: none"> - "Shoot" side of the target by default, - "Neutral" target upon impact(s) then "Shoot" 2 seconds later and so on and so forth. However, the operator can display the "No-shoot" side at their discretion.
<i>Manual mode</i>	Targets controlled solely by the operator. Target concealed upon impact.
<i>Fix mode</i>	Targets controlled solely by the operator. Target remains visible even after impact.
<i>Manual timed mode</i>	Target is displayed upon order from the operator for the display time programmed via the remote-control system. Target concealed upon impact.
<i>Random timed mode</i>	Random display of the "NO-SHOOT" or "SHOOT" sides controlled by the MSR100 for a programmed display time. Target is concealed upon impact and then random mode continues.
<i>Standby mode</i>	Very low consumption mode during which the target is inactive.
<i>Thermal unit</i>	Heating unit installed on the cut-outs and simulates the target's heat signature.

PRINCIPAL ACRONYMS

Concepts	Meanings
<i>BC-PCI 100</i>	Controller
<i>CHP100</i>	Target System Charger.
<i>CHM100</i>	Radio-Control System charger.
<i>MSR100</i>	Radio-Control System compatible with PCI 100 only.
<i>PCI 100</i>	Shoot / No-Shoot Target System for Infantry.
<i>PCI 100LP</i>	Long-Range Shoot / No-Shoot Target System for Infantry.

SYMBOLS USED

Concepts	Meanings
	WARNING Failure to follow these instructions can endanger personnel and/or equipment.
MSR100 control pad	
	Direction buttons
	Confirmation button
	Back button
	"Shoot" target display button
	"No-shoot" target display button
	"Neutral" target button
	Impact reset
	Screen brightness setting buttons
MSR100 screen display	
	Operating mode selection
	Group selection
	"Address" menu
	"Language" menu
	"About" menu
	Selection
	Manual mode
	Automatic mode
	Fix mode
	Manual timed mode
	Random timed mode
	Standby

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WARNING

NOTE FOR USERS

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CHAPTER 1 GENERAL INFORMATION

1.1 INTRODUCTION

The PCI100 target system is designed for use in both outdoor and indoor shooting ranges.

In its basic "REVOLVING mode", the target system can display targets in three positions:

- "Shoot",
- "Neutral",
- "No-shoot".

When it is turned on, the target system starts up in automatic mode, the target is placed in the "Shoot" position and the target system awaits an order from the radio-control system.

The impacts are detected using a piezoceramic detector installed in the target system. They are automatically counted up for each of the sides displayed by the target system, which relays the information to the radio-control system in real-time. The detector's sensitivity can be set using the MSR100 radio-control system.

How the target system reacts to an impact depends on the operating mode it is in:

MODE	DESCRIPTION
<i>Automatic mode</i>	Target system default mode, i.e. <ul style="list-style-type: none"> - "Shoot" side of the target by default, - "Neutral" target upon impact(s) then "Shoot" 2 seconds later and so on and so forth. However, the operator can display the "No-shoot" side at their discretion.
<i>Manual mode</i>	Targets controlled solely by the operator. Target concealed upon impact.
<i>Fix mode</i>	Targets controlled solely by the operator. Target remains visible even after impact.
<i>Manual timed mode</i>	The target is displayed upon order from the operator for the display time programmed on the remote-control system. Target concealed upon impact.
<i>Random timed mode</i>	Random display of the "NO-SHOOT" or "SHOOT" side controlled by the MSR100 for a programmed display time. Target is concealed upon impact and then random mode continues.

The target system is stand-alone and powered by a built-in battery pack. This pack can be recharged using the CHP100 charger.

A long-range version of the target system, PCI100LP, is also available. This version is equipped with a different modem from the PCI100, allowing it to be used at up to a distance of approximately 2,000 m (in open terrain). It can only be used with an SRC300 radio-control system or a UCG300 management and control unit. Please refer to the user guides for these systems.

The MSR100 radio-control systems allows the setting of the mode in which the PCI100 target system is to be set up (Manual, Automatic, Fix, Manual timed, Random timed or Standby).

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Up to 20 target systems can be managed simultaneously by the MSR100 radio-control system.

The MSR100 is stand-alone and powered by a built-in battery pack. This pack can only be recharged with the CHM100 charger.

When connected to the maintenance connector, a BC-PCI100 controller can be used to access a number of target system settings and statuses.

1.2 DESCRIPTION OF THE EQUIPMENT

1.2.1 PCI100 or PCI100LP target system

The target system is as follows:

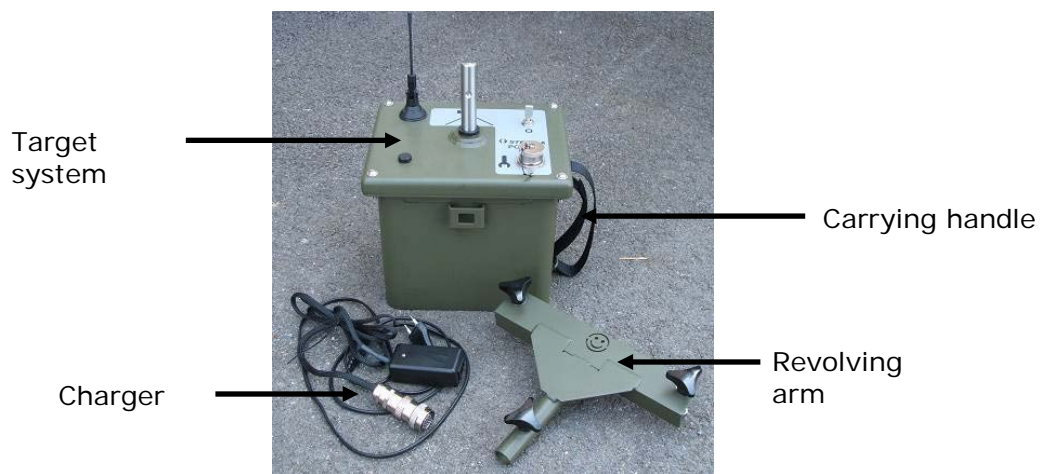


Figure.1 PCI 100 TARGET SYSTEM

The unit includes an electronic circuit board, radio transmission unit and a gear motor to drive the arm. An impact detector attached to the shaft of the target system is used to record impacts. The target system is equipped with a carrying handle to make it easier to transport.

The differences between the PCI100 and the PCI100LP are as follows:

- radio model built into the unit,
- aerial mast (longer on the PCI100LP),
- printing on the upper section,
- the PCI100 is controlled using the MSR100,
- the PCI100LP is controlled using the SRC300 or UCG300.

The upper section of the target system includes the following:

- a maintenance connector used to:
 - o connect the CHP100 battery charger,
 - o connect options [thermal unit, target lighting, return-fire simulator (audio, visual)]
 - o connect to the BC-PCI100 controller,
 - o upgrade software.
- an ON/OFF switch,
- a venting valve,
- an aerial.

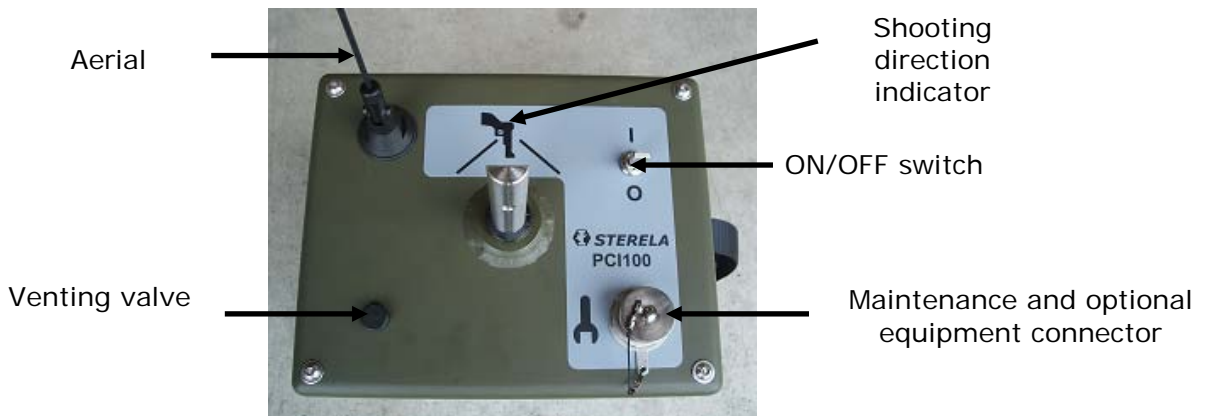


Figure.2 TOP SIDE

The revolving arm is connected to the target system with a tightening screw. The target is screwed onto the revolving arm using 2 tightening screws.

1.2.2 PCI100-STA revolving mode option

An optional pair of PCI100-STA stabilizing feet can be used to improve the stability of the target system when the target is struck or rotated.



Figure.3 STABILIZING FEET

1.2.3 PCI100-BAS horizontal mode options

1.2.3.1 Wall mounting

For use in "pop-up" or "scissor" mode, an optional wall bracket and special PCI100-BAS arm are available. The bracket allows the target system to be mounted on a vertical surface.

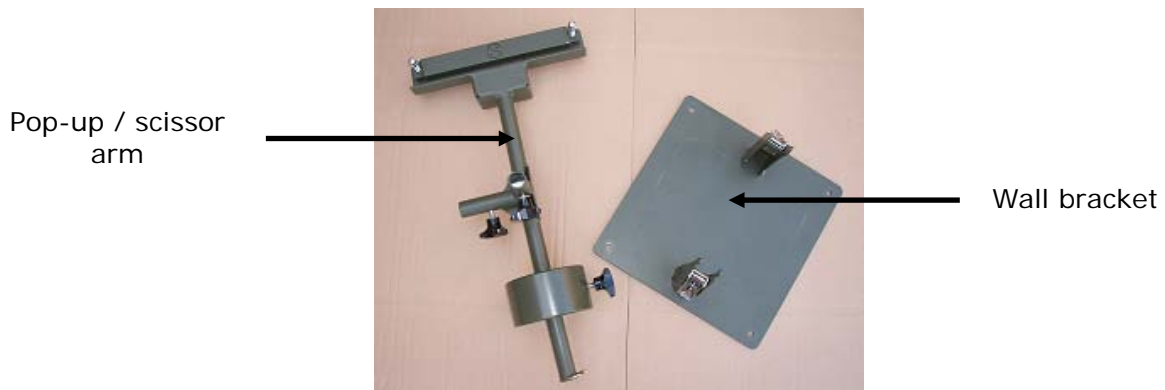


Figure.4 HORIZONTAL WALL-MOUNTED MODE OPTION

1.2.3.2 PCI100-EQU shooting range use

For floor-mounted use, horizontal mode is possible using the optional PCI100-EQU support bracket + stabilizing base.



Figure.5 HORIZONTAL FLOOR-MOUNTED MODE OPTION

1.2.4 MSR100 radio-control system

The radio-control system is as follows:



Figure.6 MSR100 RADIO-CONTROL SYSTEM AND ACCESSORIES

The MSR100 radio-control system is delivered with a wrist strap to prevent any accidental falls. The unit's ergonomic form means it is easy to grip and the buttons can be used with just one hand.

The ON/OFF push button is located on the right-hand side of the unit. The connector on the left-hand side is used to connect the CHM100 charger. An LCD graphics screen is used to display the different target system menus or statuses when operational.



Figure.7 EQUIPPED MSR100 RADIO-CONTROL SYSTEM

A raised keypad is used to access the radio-control system's functions.



Figure.8 KEYPAD

The backlit screen makes it easy to use when there is little light outside.

1.3 BC-PCI100 CONTROLLER

The controller is used to access the different settings or status readings, some of which can also be accessed using the remote-control.



Figure.9 CONTROLLER

- Functions also available with the MSR100 remote-control:
 - o address setting
 - o impact detection sensitivity settings
 - o Chuck Taylor settings
 - o thermal unit activation/deactivation
 - o target impact reset

- Functions only accessible using the controller:
 - o cut-out position settings
 - o target system internal temperature reading
 - o arm cycle number reading
 - o battery pack level reading

N.B.: The PCI100LP temperature, cycle number and battery pack level readings are available using the SRC300 or UCG300 radio-control system.

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1.4 EQUIPMENT PARTS

1.4.1 Target system

	Reference	Qty	Description	Observation
F8951	PCI100 or PCI100-LP	1	Shoot / No-shoot target system.	
F8951	PCI100-STA	1	Pair of "REVOLVING" mode stabilizing feet.	Option
F8951	CHP100	1	Battery pack charger.	Option
F8951	PCI100-BAS	1	Target system bracket and arm for use in Pop-Up or Scissor mode.	Option
F8951	PCI100-EQU	1	Bracket for pop-up or scissor target clamp.	Option
F8951	BRAMI204	1	Thermal unit cable for PCI100 or PCI100LP	Option

TABLE 1 : PCI 100 PARTS

1.4.2 Radio-control system

	Reference	Qty	Description	Observation
F8951	MSR100	1	Radio-control system.	
F8951	CHM100	1	Battery pack charger.	Option

TABLE 2 : MSR100 PARTS

CHAPTER 2 TECHNICAL FEATURES

2.1 RADIO-COMMUNICATION

- PCI100
 - o Frequency 869,450 MHz
 - o Transmission power 500 mW
 - o Maximum range within sight 1,000 m

- PCI100LP
 - o Frequency 444,6125 MHz
 - o Transmission power 1 W
 - o Maximum range within sight 2,000 m

2.2 TARGET SYSTEM

2.2.1 Dimensions

The overall dimensions are:

- Length 264 mm
- Width 214 mm
- Height (without the arm) 332 mm
- Height (with the arm) 458 mm

2.2.2 Mechanical features

The target system is made from corrosion-resistant materials (aluminium and stainless steel)

- Weight with battery pack 9.5 kg
- Battery pack weight 2.8 kg
- Cycle length \approx 1 s
- Centre-to-centre distance of the target tightening screws 250 mm
- Tightening screw thread M8
- Maximum target thickness 18 mm

2.2.3 Electrical features

- Supply voltage 24V
- Lead gel rechargeable batteries 3.2 Ah
- Battery life \approx 5,000 cycles
- Battery life (4 cycles per minute) \approx 20 hrs
- Charging time at 20° \approx 7 hrs
- Power shut-out if target blocked for at least 3 secs

2.2.4 Operating weather conditions

- Operating temperature.....-20°C to + 60°C
- Storage temperature.....-25°C to + 60°C
- Protection index IP 66
- Waterproof to a depth of 20 cm
- Max. wind in revolving mode..... 60 km/h
- Max. wind in pop-up mode..... 20 km/h

2.3 MSR100 RADIO-CONTROL SYSTEM

2.3.1 Dimensions

The overall dimensions are:

- Height..... 187 mm
- Width..... 106 / 75 mm
- Depth 50 mm

2.3.2 Mechanical features

- Black polyamide case
- Total weight..... 510 g
- Battery weight 105 g

2.3.3 Electrical features

- Supply voltage 9.6 V
- NiMH battery 1 Ah
- Battery life (4 transmissions per minute) ≈ 18 hrs
- Charging time at 20° ≈ 3 hrs

2.3.4 Operating weather conditions

- Operating temperature.....0°C to + 40°C
- Storage temperature.....0°C to + 50°C
- Protection index IP 65

2.4 TARGET

The maximum target size that can be used is SC2 format, i.e.

- Aluminium maximum thickness 1.5 mm
- Plywood maximum thickness 5 mm

If a plywood target is used, it is recommended to use marine plywood that is at least 80% gaboon with painted edges to prevent water penetration.

2.5 BATTERY LIFE

2.5.1 PCI100 or PCI100LP target system

The target system is powered by a built-in battery pack. The pack's capacity allows approx. 5,000 cycles over 20 hrs.



The battery pack can be recharged only using the STERELA charger, reference CHP100.

2.5.2 MSR100 radio-control system

The radio-control system is powered by an in-built battery. The pack's capacity allows more than 4,000 radio transmissions, i.e. approximately 18 hrs of continuous use with four transmissions per minute.

Its battery life is extended by automatically cutting out the backlighting if no buttons are pressed for a minute.



The battery pack can be recharged only using the STERELA charger, reference CHM100.

2.6 BATTERY PROTECTION

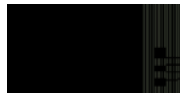
2.6.1 PCI100 or PCI100LP target system

The supply voltage is monitored by the target system's electronic systems. The target system stops working as soon as the battery pack voltage is too low. The batteries are therefore protected from excess discharging.

When the target system detects that the voltage is too low, the target is automatically positioned in "Neutral" mode. The target systems sends the low battery signal to the MSR100 (please refer to § 4.5.1). Recharge the battery pack as soon as possible using the CHM100 charger.

2.6.2 MSR100 radio-control system

To protect the battery, the supply voltage is monitored by the radio-control system's electronic systems. As soon as the battery's voltage is too low, the following message is displayed on the MSR100's screen. It is then recommended to recharge the battery as soon as possible using the CHM100 charger.



By pressing a button on the keypad, this message disappears and the remote-control can continue to be used, but the remote-control system's power supply can cut out at any time.

2.7 STANDBY

The PCI100 or PCI100LP target system has a standby function: the standby time can be programmed using the MSR100, SR300 or UCG300 radio-control system.



When the target system is on standby, it is in very low consumption mode. It cannot be started back up early using the MSR100, SR300 or UCG300. The only way to start it back up before the end of the standby time is to turn it off (ON/OFF switch) and back on again.

CHAPTER 3 SET-UP

3.1 TARGET SYSTEM SET-UP

3.1.1 REVOLVING mode

The target system is positioned vertically, with the shaft pointing upwards. The "REVOLVING" arm is used.

Depending on the state of the ground, the target system is:

- either directly installed on a flat surface (e.g. cement),
- or installed using stabilizing feet,
- or attached to the wall bracket (supplied with PCI100-BAS) installed on the ground.

Its stability can be improved using the steel stakes supplied with the PCI100-STA stabilizing feet.

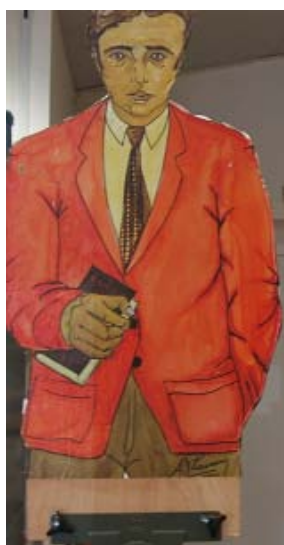
Take care which way round you place the target system.

It includes a drawing of a revolver, showing the shooting direction.



Take care which way round you mount the target.

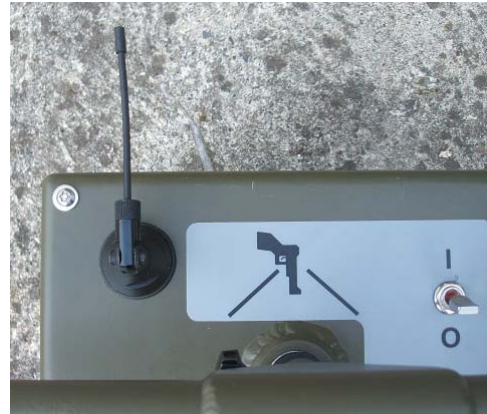
Mount the target with the "No-shoot" and "Shoot" sides the right way round. The figures engraved on the bracket arm show which way round the target should be installed. The double-sided target is mounted on the revolving bracket: take care to put it the right way round, matching the symbol engraved on the target system's arm (see example, below: No-shoot).



3.1.2 HORIZONTAL mode

In horizontal mode, the "No-shoot" position is not operational and the aerial mast must be placed in a vertical position. To do so, use a size-3 Allen key to loosen the screw holding the mast on the holder, rotate the aerial into the appropriate position then retighten the screw.

Aerial
tightening
screw



3.1.2.1 Balancing of the arm

The target system's horizontal arm has a counter-weight. This is used to balance the arm, depending on the type of target used, in order to reduce the strain on the motor and make the system work as well as possible.

Before mounting the arm on the target system:

1. put the target in place on the arm,
2. place the arm on the corner of a table, balanced on the two perpendicular tubes,
3. loosen the counter-weight screw,
4. move the counter-weight until you find the balance point,
5. retighten the screw.

Counter-weight
tightening screw



The arm is ready to be mounted on the target system.

3.1.2.2 POP-UP mode



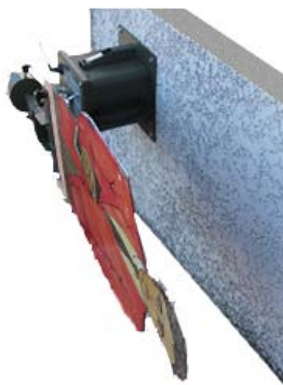
If the wind exceeds 20 km/h, this operating mode may be altered (shaft may block).

The wall bracket is installed on a surface parallel to the shooting direction, on the left-hand side. The target system is installed with the aerial in the top-left corner of the target system (looking at the label). Rotate the aerial so that it points upwards. The horizontal arm is placed on the shaft of the target system in the appropriate position so that the target swings backwards into "Neutral" position and upwards into the vertical "Shoot" position.



3.1.2.3 SCISSOR mode

The wall bracket is installed on a surface perpendicular to the shooting direction, on the concealed side. The target system is installed so that the aerial is in the top-left corner (looking at the label).







The horizontal arm is placed on the shaft of the target system in the appropriate position so that the target swings and rotates anti-clockwise into "Neutral" position and rotates upwards and clockwise into the "Shoot" position. The target is in a vertical position for shooting.



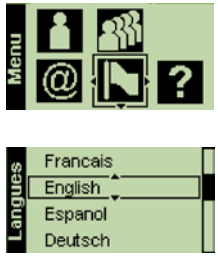

3.2 TARGET SYSTEM SET-UP





NEVER USE THE TARGET SYSTEM WITHOUT THE AERIAL: IF IT IS NOT USED, THE RADIO TRANSMISSION UNIT MAY BE DESTROYED

LOGICAL DIAGRAMS	ILLUSTRATIONS	INSTRUCTIONS
<pre> graph TD A[Power off] --> B[Cut-out attached] B --> C[Power on] </pre>	  	<p>The target systems must be systematically turned on before the radio-control system</p> <p>Check that the ON/OFF button is in the "OFF" position.</p> <p>Attach the cut-out onto the bracket and firmly tighten both tightening screws.</p> <p> Don't stay in the target's operating zone</p> <p>Turn the target system on by flicking the switch to the "ON" position. The target system starts up and the arm moves into the "Shoot" position in automatic mode.</p>

3.3 RADIO-CONTROL SYSTEM SET-UP

LOGICAL DIAGRAMS	ILLUSTRATIONS	INSTRUCTIONS
<pre> graph TD A[Power on] --> B>Welcome page displayed B --> C[Access to menu] </pre>	 	<p>Press the push button on the right-hand side of the remote-control system.</p> <p>The screen displays the welcome page then, after approx. 3 secs, the menu page.</p>
<p>Sélectionner une langue</p>		<p>Select  and confirm (<input checked="" type="checkbox"/>) .</p> <p>Choose the desired language then confirm (<input checked="" type="checkbox"/>) .</p>

CHAPTER 4 USE

N.B.: the screen brightness is set using the  and  buttons.

4.1 SETTING ADDRESSES USING THE MSR100



The possible addresses are:


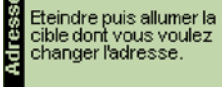

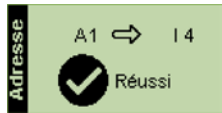
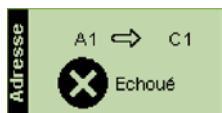






- PCI100: from A1 to Z5. The first digit can be set from A to Z and the second from 1 to 5.
- PCI100LP: from A1 to J50. The first digit can be set from A to J and the second from 1 to 50.



To avoid conflicts during radio transmission, the target systems used with the radio-control system must have different addresses.



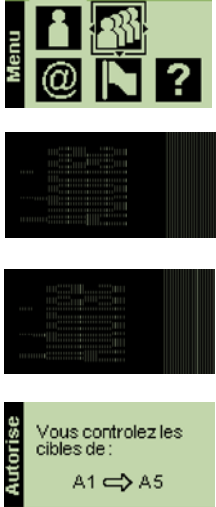







For the PCI100LP, please refer to the SRC300 and UCG300 user guides.

LOGICAL DIAGRAMS	ILLUSTRATIONS	INSTRUCTIONS
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">Select the "Address" menu</div> <div style="text-align: center; margin: 10px 0;">↓</div> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">Set address</div>	    	<p>Using the direction buttons, select  then confirm (.</p> <p>Turn on the target system. If it has already been turned on, turn it off then back on again.</p> <p>Using the direction buttons, set the new address then confirm (.</p> <p>If the new address is saved by the target system, this window is displayed. Press () to confirm.</p> <p>If the address has not been saved, this window is displayed. Press  or  to quit the menu and start again. If the problem persists, contact customer service.</p>

4.2 TARGET SYSTEM SELECTION USING THE MSR100







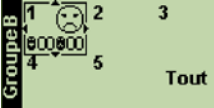









The MSR100 can simultaneously control up to 20 target systems in groups of 5 with the same first digit (e.g. from A1 to A5).

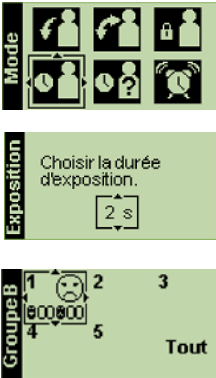


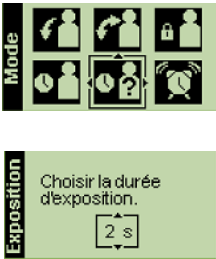



LOGICAL DIAGRAMS	ILLUSTRATIONS	INSTRUCTIONS
<div style="border: 1px solid black; padding: 5px; display: inline-block;">Select a group</div>		<p>Check that the target systems' aerials are in place and turned on (switch in the "ON" position).</p> <p>Using the direction buttons, select  then confirm ().</p> <p>Using the  and  direction buttons, select the address of the first target for the group to be controlled using the radio-control system then confirm (). Proceed in the same manner to select the address of the last target.</p> <p>The screen displays the group to be controlled. Press  or  to return to the menu page.</p>

4.3 USE WITH THE MSR100

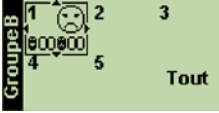
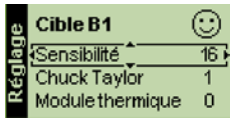

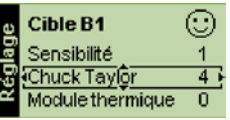
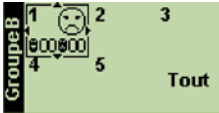
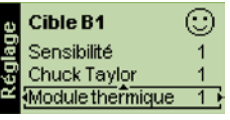
N.B.: in the operating modes described below, use the vertical and/or horizontal direction buttons to select a target or change groups.

LOGICAL DIAGRAMS	ILLUSTRATIONS	INSTRUCTIONS
<div style="border: 1px solid black; padding: 5px; display: inline-block;">Search for targets</div>		<p>Check that the target systems' aerials are in place and turned on (switch in the "ON" position).</p> <p>Using the direction buttons, select  then confirm ().</p> <p>The remote-control system automatically searches for the targets included in the group previously defined then displays the "Operating mode" menu.</p>

LOGICAL DIAGRAMS	ILLUSTRATIONS	INSTRUCTIONS
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;">Manual mode</div>	 	<p>In manual mode, the target moves into "Neutral" position upon impact. Only the operator can order the target to be displayed again.</p> <p>On the menu page, select manual mode ().</p> <p>The screen displays the selected target(s) for each group. An empty space means that the target with this address has not been detected.</p> <p>To display or conceal a target, you simply have to select it and press one of the following buttons:  (Shoot),  (No-shoot) or  (Neutral). "All" controls the entire group of 5 targets displayed on the screen.</p>
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;">Automatic mode</div>		<p>In automatic mode, the target automatically displays the "Shoot" side. Upon impact, it moves into "Neutral" position for 2 seconds and then returns to its initial position. The operator can display the "No-shoot" side at their discretion by pressing the  button.</p> <p>On the menu page, select automatic mode ().</p>
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;">Fix mode</div>		<p>In fix mode, the target remains in its position even upon impact. It's the operator who displays or conceals the target, depending on the shooting session.</p> <p>On the menu page, select fix mode () then proceed as in "Manual" mode.</p>

LOGICAL DIAGRAMS	ILLUSTRATIONS	INSTRUCTIONS
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;">Manual timed mode</div>		<p>In manual timed mode, the operator programmes the target display time. If the target is not struck, it moves into "Neutral" position as soon as the time is up. If the target is struck, it moves into "Neutral" position. Only the operator can order the target to be displayed again.</p> <p>On the menu page, select manual timed mode (.</p> <p>The display time set-up window is displayed. Set the desired figure [from 1 to 59 secs (± 1)] then confirm (.</p> <p>The procedure is now the same as in manual mode (see above)</p>
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;">Random timed mode</div>		<p>In random timed mode, the operator programmes the target display time. The "No-shoot" or "Shoot" display orders are automatically and randomly sent by the remote-control system. If the target is not struck, it moves into "Neutral" position as soon as the time is up. If the target is struck, it moves into "Neutral" position and awaits the next order sent by the remote-control system.</p> <p>On the menu page, select random timed mode (.</p> <p>The display time set-up window is displayed. Set the desired figure [from 1 to 59 secs (± 1)] then confirm (.</p> <p>Display a target to start timed mode.</p> <p>To stop, select a target or target group ("All") and push the "Neutral" button (.</p>

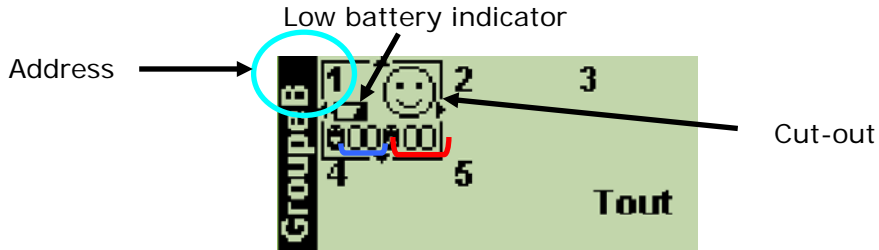
4.4 ADJUSTING SETTINGS USING THE MSR100


LOGICAL DIAGRAMS	ILLUSTRATIONS	INSTRUCTIONS
Impact detector sensitivity	 	<p>Using the vertical and/or horizontal direction buttons, select a target (or group) to set up then confirm (☑).</p> <p>Using the horizontal direction buttons, set the desired sensitivity (from 1 to 16) then confirm (☑). 1 is the highest sensitivity and 16 the lowest.</p> <p>A setting of between 3 and 6 is recommended for a 5 to 25 m shot with 5.56 and 9 mm calibres on a 1.5 mm aluminium or 5 mm wooden target. These figures are for information only and should be adjusted based on the shooting conditions (distance, weather conditions, etc.).</p>
Chuck Taylor	 	<p>The "Chuck Taylor" method is used to determine the number of impacts (from 1 to 4) required for the target to be considered as being "taken out".</p> <p>Select a target (or group) to set up then confirm (☑).</p> <p>Using the horizontal direction buttons, set the number of impacts (from 1 to 4) then confirm (☑).</p>
Thermal unit	 	<p>A thermal unit is used to simulate a heat source and can be used with infrared sights.</p> <p>Select a target (or group) to set up then confirm (☑).</p> <p>Using the horizontal direction buttons, select the activation (1) or deactivation (0) of the thermal unit.</p>

4.5 MSR100 STATUSES

4.5.1 PCI100 target system

Once an operating mode has been selected, it is possible to consult the target systems' statuses. To do so, use the horizontal and/or vertical direction buttons to select the target or group to verify.

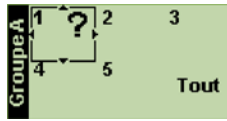


- Address: gives the group and target n° (in this case, B1).
- Low battery indicator: only appears when the battery is nearly flat in order to warn the user that the PCI100 battery pack needs to be recharged.
- Cut-out: side currently visible (in this case, "No-shoot").
- Number of impacts: number of impacts recorded on the target system for each cut-out struck ("No-shoot" or "Shoot"). To reset the number of impacts to 0, press the  button on the keypad. This reset applies to the selected target system or the entire group if "All" is selected.

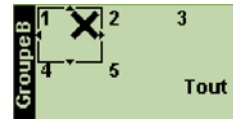
Other messages may be displayed on the screen:



PCI not detected



PCI power on
after searching for a target





Arm blocked (1)
or low battery (2)



The target system has not been detected during the search for targets. It may either be switched off, on standby or out of order.




The target system has been turned off after searching for targets. Any order sent shall be executed but without displaying the status information. Press the  button to return to the set-up menu then . The target statuses are displayed.



(1) The target system arm is blocked. You must inspect the target system and remove the cause of the blockage (in case of an external cause, turn off the power, remove the obstacle if there is one and turn the target system back on).
(2) The target system's electronic systems have detected that the battery voltage is low and has put the target system on standby. Recharge the target system's battery pack.

If these 2 steps are not satisfactory, send the target system to the next level for repairs.

4.5.2 Radio-control system

In the  menu, the user can see the software version, serial number and remaining capacity of the battery, as a %.

4.6 USE OF THE BC-PCI100 CONTROLLER

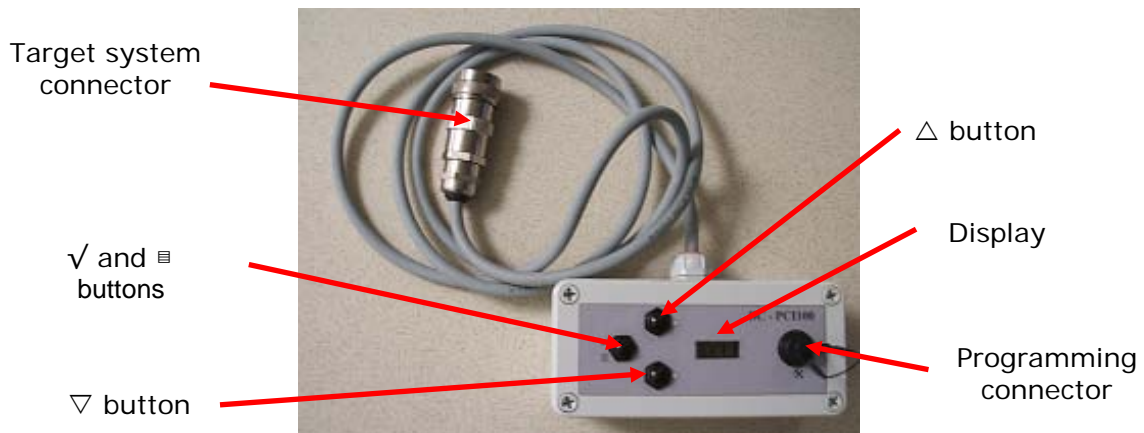


Figure.10 CONTROLLER FEATURES

Button	Meaning
√	Confirm selection
▢	Press at least 3 secs to access settings
△	Increase
▽	Decrease

TABLE 3 : CONTROLLER BUTTONS

Display	Meaning
POS	Target display position settings menu
:-("Shoot" side display settings
:- 	"Neutral" side display settings
:-)	"No-shoot" side display settings
OK	Confirmation of correct target position settings
B■■■■	Battery level indicator
@ A1	Address menu
@ B3	Group address settings
@ A3	Target address settings
S 02	Sensitivity menu
S 08	Sensitivity settings
CT 1	Chuck Taylor menu
CT 2	Chuck Taylor settings
MT 0	Thermal unit menu
MT 1	"0" = TU deactivated, "1" = TU activated
T+21	Target system internal temperature
M03k	Number of cycles
I005	Number of impacts

TABLE 4 : CONTROLLER DISPLAY

Connect the controller cable to the maintenance connector of the PCI100 or PCI100LP target system and turn it on (switch in the "ON" position). Wait for the target system to start up then press one of the push buttons: the first menu displayed is the target position settings menu. The flow chart on the next page shows the different steps to follow in order to change the settings or access set-up.

The modifiable fields are shown on an orange background in the table, above.

Note 1: the "Shoot" and/or "No-shoot" side display position settings can be used to complicate aiming by, for instance, displaying the cut-outs at a 45° angle from the line of fire.

Note 2: if the set-up of the positions for the display of the different sides is not correct, "NOK" is displayed. The display order must always be "Shoot", "Neutral", and "No-shoot". It is not possible, for instance, to display the "No-shoot" side between the "Shoot" and "Neutral" sides.

Note 3: for a setting to be taken into account, it must be confirmed (✓ button).








Note 4: the BC-PCI100 controller can be used to set up a PCI100 or PCI100LP. The operator must pay particular attention when setting up the addresses:

- For the PCI100: from A1 to Z5. The first digit can be set from A to Z and the second from 1 to 5.
- For the PCI100LP: from A1 to J50. The first digit can be set from A to J and the second from 1 to 50.

This means that if an address not between A1 and Z5 is set for the PCI100, the target system won't be recognised by the MSR100.

4.7 STANDBY USING THE MSR100

This mode can be used to place all the selected targets on standby for a set time.

LOGICAL DIAGRAMS	ILLUSTRATIONS	INSTRUCTIONS
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">Standby</div>	 	<p>On the operating mode page, select  then confirm ().</p> <p>Using the  and  buttons, set the standby time from 1 to 99 hours then confirm (). The target moves into "Neutral" position.</p> <p>Any order sent from the radio-control system is not executed until standby has ended. To regain control of the target system before the end of standby, the target system must be turned off then on again.</p>

CHAPTER 5 MAINTENANCE

5.1 MAINTENANCE



High pressure washing (cleaner, fire hoses, etc.) of all the equipment is strictly forbidden.



In case of cleaning with compressed air, wear protective goggles to protect yourself from any flying debris. Limit the air pressure to 2 bars.

Before carrying out any work on the equipment, cut the power supply.

- Check the overall condition (appearance and integrity) of the target system:
 - o connector and stopper,
 - o aerial holder
 - o aerial mast, tightness and type (long mast used for the PCI100LP)
 - o ON/OFF switch,
 - o mechanical condition of the target bracket arm(s).
- If cleaning is necessary, use a wet sponge without detergent or chemicals and/or a hosepipe.

The target system must be placed in a vertical position to be washed without any risk of cleaning water getting into the system.

5.2 STORAGE



The target system and radio-control system can be stored for an extended period provided that the battery packs are fully recharged every 3 months.

CHAPTER 6 DECLARATION OF CONFORMITY

APPLICABLE NORMS AND DOCUMENTS

The company STERELA certifies and declares that the following items of equipment:

**Shoot/No-shoot Target System - References PCI 100 and PCI 100LP
Radio-Control System - MSR100**

comply with the electromagnetic compatibility directive: 89/336/EEC and the related norms:

- French norm NF EN 61000-4-3: immunity to electromagnetic fields emitted at radio-electric frequencies
- French norm NF EN 61000-4-2: immunity to electrostatic discharges
- French norm NF EN 55022: radio-electric interference

Pins-Justaret, 14/09/2009

Sales manager / STERELA



Frédéric CHAPPE