

TARGET SCORING SYSTEM

Thank you very much for your decision to use the RIKA Target Scoring System and the confidence in our product.

This instruction manual shall be a detailed instruction for the professional handling of our Target Scoring System, for replacing wearing-materials, for recommended security arrangements and also information about searching eventual mistakes and getting rid of them.

Please read this instruction manual very carefully before starting the scoring system. Investing only a little time you will achieve excellent results and use this system very effective.

Keep the instruction manual always within reach, to be able to clear all occurring questions quickly.

This instruction manual was worked out very carefully. But kindly understand that little mistakes cannot be excluded completely.

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We hope that our Target Scoring System will give you helpful support at your daily training.

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Chapter 1

Security advice

This chapter informs you about very important guidelines of security, location for setting up and the surroundings.

1. Installation of the target scoring system

Location for setting up

Power supply

Earthing

Conditions for setting up

2. Precautionary arrangements

Location for setting up

How to handle the target scoring system

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1. INSTALLATION**SECURITY ADVICE****LOCATION FOR SETTING UP**

To guarantee an always smooth and optimal function of the RIKA target scoring system, please note the following advices:

- Never set it up nearby curtains or other easy flammable objects.
- Keep away water and other liquids from the target scoring system
- Protect it from exposure to direct sunlight
- Do not install it nearby ventilating systems, heating systems or ventilators
- Take care to ventilate the room sufficiently
- Choose a dry location
- Protect the target scoring system from any kind of dust and dirt
- Avoid shocks
- Place the target scoring system horizontal on fixed ground

POWER SUPPLY

Please mind the following advices for the power supply:

- Legal are the following tolerances:

net voltage- fluctuations:	+/- 10 %
frequency fluctuation:	+/- 0,3 %

- Please note, that the socket is not overloaded and the connected load is not too high.
- The socket should be near the target scoring system, easy to reach.
- Do not connect the target scoring system together with other machines in a multiple socket.
- When using an extension cable, the cross section of each cable-core should have at least 1,5 mm².
- Avoid straining and pulling the cable.

EARTHLING

Note that the mains supply for the system comes up to the VDE-regulations. Check especially the grounding connection before connecting.

Advice

Never connect the grounding cable to a gas-, water supply line or to a telephone grounding Cable.

1. INSTALLATION

SECURITY ADVICE

CONDITIONS FOR SETTING UP

The minimum space you need, to operate the system and to transport the evaluating targets without tilting, please gather from the following drawing.

ADVICE: Please note that the distance between back wall of the housing and wall must be 800 mm.

2. PRECAUTIONARY ARRANGEMENTS**SECURITY ADVICE****ADVICES REFERRING THE LOCATION FOR SETTING UP**

The optimal surroundings are:

temperature:	5°C to 40°C
humidity:	15 % to 85 %

During the transport the temperature can be between -15°C and + 50°C.

Please note, that after exposing the system to such extreme conditions, it has to be acclimatised at least 1 hour before starting an operation.

Avoid the operation with the system nearby electromagnetic fields like microwave-stoves , transmitters, power lines, engines a.s.o.

HANDLING OF THE TARGET SCORING SYSTEM

The target scoring system was built up to date to the standard of technical and recognized security technical rules.

Only use the system in technical perfect state, being conscious of danger and security by noticing the instruction manual.

Especially interruptions which might affect the security, must be eliminated immediately - inform your Trader (specialist).

To use the system according to its purpose you have to note the instruction manual and keep to the conditions of maintenance.

To secure an always optimal function of the system, please note the following points:

- Never place heavy things on the top of the target scoring system and protect it from shocks and pushes.
- Never remove the cover from the target scoring system during the evaluating process.
- Do not use/place magnetic things or flammable liquids or sprays near to the target scoring system.
- Never place liquid-containers on the top of the target scoring system.
- Please pay attention that no paper clips or equivalents get into the target scoring system.
- Do not try to remove secured covers.
- Put the mains plug right into the socket.
- The socket should be visible.
- If you notice a damage to the mains supply, switch off the system immediately and pull out the mains plug. Please inform the technical service to the customer of your RIKA trader immediately.
- Take care for enough ventilating, evaluating a larger number of targets
- In case of smoke formation, unusual sounds or unusual thermal formation, switch off the system immediately and pull the mains plug. Please inform the technical service to the customer of your RIKA trader as soon as possible.

2. PRECAUTIONARY ARRANGEMENTS

SECURITY ADVICE

- Spare parts have to come up to the technical demand of the producer. This is always guaranteed by using original spare parts only.
- Maintenance has to be done by an authorized expert only.
- Before opening the housing - pull the mains supply.
- Do not put things into the air slit, as you might get an electronic hit or it might catch fire.

DISPOSAL

Take care of non-polluting disposal of process materials, devices and substitutes

CHAPTER 2**TUNING THE SYSTEM**

This chapter informs you about the following points:

1. Generally
 - Possibilities for evaluating
 - Advice
2. Operating with the target scoring system
 - Generally
 - Display
 - Function of the keys

1. GENERALLY

TUNING THE SYSTEM

POSSIBILITIES FOR EVALUATING

The RIKA Ring and Divisor measuring System (the evaluation of the divisor is a special kind of shooting in Austria and Germany) is a fully automatic target scoring system, which evaluates, coming up to the latest regulations of the UIT and DSB targets for Air Rifle, Air Pistol, Small Bore, Running Target and strips up to a breadth of 220 mm.

By using a high-class evaluating and measurement system the kind of target and the size will be automatically recognised by our system. That means, that you can start evaluating immediately after switching on. No time consuming measures or trainings of the target are necessary. Faulty operations caused by false deposit can therefore be disabled from the start.

Pistol targets for 25 and 50 m or other special targets are available and can be recalled on a separate menu.

In the event of training with Running targets, air rifle targets, air pistol targets and small bore targets, maximal 5 shots per target can be evaluated, but only two shots are allowed to touch.

ATTENTION: For competitions which must come up to the U.I.T. guidelines, only one shot per target is allowed!!!

The evaluation works with an integrated, high-definition-scanner with direct reading and a Fuzzy-Logic-picture processing.

The setting of our systems happens by means of a lightened display and 4 clearly placed keys. The language which appears on the display is freely adjustable (German, English) a.s.o.

With a RS 232 interface you are able to connect it to a computer.

Furthermore, we have integrated a programme for trainingsanalyses in our ring reading system, so it's possible to recall the average result, the amount of the 10th, 9th, 8th and the average hit point location (stopping place) of the last series evaluated by using only one key.

The evaluated results are shown double-spaced on a lightened display. The internal printer prints the results directly on the target (optional). This printer is integrated into the system.

ADVICES/TIPS

- Only use targets with high-contrasted print (black). Badly printed targets might cause error-messages.
- At target strips where the distance between the single targets is too small, the target scoring system is unable to sort bad shots between the 1 rings definitely.
- Please look for sufficient paper quality of the targets. Targets which were stocked humid might crack or show fringed shot-wholes and also cause evaluating errors.
- Also look carefully that the targets are not cracked or damaged otherwise when shooting.
- In case of alienated operation or wrong usage we do not overtake any liability for eventual damage.
- Avoid shocks when transporting the scoring system or putting it down. This system is a measuring instrument and provides only excellent results by cautious handling
- Occurring maintenance's should be handled by an authorized RIKA-trader only. We do not guarantee for damages, arising through unauthorized services or improper maintenance through unauthorized persons

2. OPERATING THE TARGET SCORING SYSTEM

TUNING THE SYSTEM

GENERALLY

After switching on the system by pressing the master switch on the reverse of the housing, the following basic setting is tuned:

10th series,
evaluating divisor "no",
1 shot per target,
10th evaluation "no"
printer inactive

Put the target/target-strip right cling to the evaluating shaft of the system, the printed part facing you. As soon as the target was recognised by the light barrier (which is mounted right at the depositing area) the transport feed roller start and the target will be placed in. All other things happen fully automatically.

The system recognizes independently if it's an air rifle, air pistol, small bore or running target, and will show it automatically on the right bottom side of the display. As soon as a you hear an acoustical sound, put the next target into the evaluating shaft.

If you want to place the first target in the middle of the reading-shaft press **↑** or **↓** for starting

If the internal printer is active the results will be printed on the target automatically. Presumption is however, depositing the target on the right side in the printing area. Depositing it outside the printing area, the printer switches off automatically.

ATTENTION: Do not pull, push or move the target in any way by hand, after the system has started to pull in the target. If the target was placed wrongly so that the right hand corner didn't match in to shaft and the target might be damaged – false results can't be excluded.

DISPLAY:

- a. After switching on the system by pressing the mains switch on the reverse of the housing, the following appears on the display:

RIKA SAG 2
V 1.99

MEANING:

RIKA SAG 2
V 1.99

Software Version 1.9 is installed in this system

2. OPERATING WITH THE TARGET SCORING SYSTEM**TUNING THE SYSTEM**

After about 3 sec. the display changes and the following appears on the display:

<i>DEVICE</i>	<i>READY</i>
10 N	1 N

Now you can start evaluating!

MEANING:

<i>DEVICE</i>	<i>READY</i>
10 N	1 N

SERIE A series with 10 shots is tuned.

TEILER The divisor evaluation is inactive (N = NO). (Divisor evaluation is a special kind of shooting in Austria and Germany)

SCHUSS 1 shot per target is tuned

1/10 The 10th evaluation (for the final) is not active N "NO"

- b. After depositing the first target in the evaluating shaft (the progress is already finished) the following appears on the display:

<i>SHOT</i>	<i>1 OF 10</i>
10 R	AR

MEANING:

<i>SHOT</i>	<i>1 OF 10</i>
10 R	AR

The displayed shot is the first from 10 targets

The value of the first shot is a 10 (R = RINGS)

This field shows automatically the kind of target which was evaluated.

2. OPERATING WITH THE TARGET SCORING SYSTEM

TUNING THE

- c. If the system cannot recognize the shot whole or the target shows too many shots, and so on, an acoustical sound will point out this mistake. The display changes automatically, and the following appears on the display:

	HIT	8
9 R		AR

Now you can change the shown value of the shot with the **ESC** -key and the numbered keys.

To make a change please act as follows:

- Press the ESC-key and the displayed value starts to flash
- Now feed in the required value by using the numbered keys
- Finally confirm the fed value by pressing the ENTER-key.

The display changes automatically and on the display appears:

SHOT	8 OF 10
10 R	AR

Now you can continue the evaluation by depositing the next target in the evaluation shaft.

- d. Putting in a false target during the evaluation of an air-rifle-series in the shaft, for e.g. an air pistol target, an acoustical sound draws your attention to the mistake. The display changes automatically and the following appears on the display:

TARGET
NOT CORRECT

The false target will be outputted towards the back without evaluation automatically. Confirm the shown display with the **ESC**-key. The display changes and the following appears:

SHOT	8 OF 10
10 R	AR

Now you can continue the evaluation by depositing the next target in the evaluation shaft.

2. OPERATING WITH THE TARGET SCORING SYSTEM

TUNING THE

- e. If a target was put in too fast during an evaluating series, your attention will be drawn to this mistake by an acoustical sound and the display changes automatically to:

TARGET	
TO EARLY	

Automatically the target will be given out without evaluation. Confirm the shown Display by pressing the **ESC-key**. The following appears:

SHOT	9 OF 10
10 R	AR

Now you can continue the evaluation by depositing the next target in the evaluation shaft.

- f. After depositing the last target of the series in the evaluation shaft and after having finished the evaluation the following appears on the display:

SHOT	10 OF 10
10 R	AR

After about 1 second the display changes automatically and the following appears:

TOTAL RESULT AR	
98 R	

After about 3 seconds the display changes again automatically and the following appears on the display::

DEVICE	READY
10 N	1 N

Now the evaluating system is ready for a new series evaluation!

2. OPERATING WITH THE TARGET SCORING SYSTEM

TUNING THE

FUNCTIONS OF THE KEYS

SERIE: For tuning and displaying the series.

DEVICE		READY	
10	N	1	N

SERIE TEILER SCHUSS 1/10

MEANING: Now a series with 10 shots is tuned.

- a. If you want to change a tuned series, press the **SERIE**-key until your required series appears on the display

The SERIES-key is tied up as follows: 10; 15; 20; 30; 40; 50; 60; __ __; 1; 5;

DEVICE		READY	
60	N	1	N

SERIE TEILER SCHUSS 1/10

MEANING: Now a series with 60 shots is tuned.

- b. Appears this sign __ __ you can feed your own series, maximal 200 shots, by pressing the numbered keys.

TEILER: For tuning the divisor-measuring-limit and the divisor factor of the evaluated (*Divisor*)hit.

- a. Tuning the divisor-measuring-limit

DEVICE		READY	
10	N	1	N

SERIE **TEILER** SCHUSS 1/10

MEANING: Now The divisor evaluation is inactive (N = NO).

2. OPERATING WITH THE TARGET SCORING SYSTEM**TUNING THE SYSTEM**

- a.1. If you want to activate the divisor measurement, press the **TEILER**-key until the required tuning appears.

The **TEILER**-key is lined as follows::

- a. Values for divisor measurement: 50T; 100T; 150T; 200T; 250T; 500T;
750T; 1000T and ___T;
b. Values for the dividing factor: 1,0T; 2,0A; 3,0B; *,*F;

DEVICE		READY	
10	500T	1	N

SERIES **TEILER** SCHUSS 1/10

MEANING: A measurement limit of 500 divisors is tuned.

ADVISE: If ___T appears on the display you can feed any divisor you want, maximal a divisor of 6500, with the numbered keys

After putting in the first target whilst active divisor evaluation and the evaluation was finished - the following appears on the display:

SHOT		1 OF 10	
10 R	125T	AR	

After depositing the last target of the series in the evaluation shaft and the evaluation was finished, the following appears on the display:

SHOT		10 OF 10	
9 R	330T	AR	

After about one second the display changes automatically and the following appears:

TOTAL RESULT AR	
98 R	15T

ADVISE: At the same time showing the total result, the best divisor of the last evaluated series is shown on the display

2. TUNING OF THE TARGET SCORING SYSTEM TUNING

SYSTEM

After 3 seconds the display changes and the following appears:

DEVICE		READY	
10	500T	1	N

Now the system is ready for a new evaluation series !

b. Tuning the dividing factor:

To achieve equal opportunities at air rifle and air pistol competitions the air pistol divisors can be divided by a choosable divisor factor. This is marked on the target to avoid confusions. A divisor of 1,0 T is tuned basically.

If another divisor as 1,0 T is tuned -it's only active by using air pistol targets - by using any other targets the divisor is placed back to 1,0 T. So no changing by using air rifle or air pistol targets is necessary.

DEVICE		READY	
10	N	1	N

SERIE **TEILER** SCHUSS 1/10

MEANING: Now the divisor evaluation and the divisor are inactive (N = No)

B.1. By changing the dividing factor, press the **TEILER**-key until the required tuning appears.

The TEILER-key is lined as follows

a. Values for divisor measurement: 50T;100T;150T;200T;250T;500T;750T;
1000T and ___T;

b. Values for the divisor factor: 1,0T; 2,0A; 3,0B; *,*F;

DEVICE		READY	
10	2,0A	1	N

SERIE **TEILER** SCHUSS 1/10

MEANING: A divisor factor of 2,0 is tuned
(only active at air pistol targets)

2. TUNING OF THE TARGET SCORING SYSTEM**SYSTEM TUNING**

ADVISE: If 1,_C appears on the display you can feed:

a: any dividing factor of maximal 9,9 with the numbered keys.

b: or check the tuning of the present divisor factor, because the last tuned divisor factor is shown in this field.

After 3 seconds the display changes and the following appears:

DEVICE		READY	
10	N	1	N

Now tune the divisor measure limit like mentioned under point a.1.

Advise: Always tune dividing factor before the divisor measure limit.

SCHUSS: For tuning the shots per target with single targets.

(Shot)

A correct, more than one shot, measurement is possible with air pistol and small bore targets.

DEVICE		READY	
10	N	1	N

SERIE TEILER **SCHUSS** 1/10

MEANING: Now a series with 1 shot per target is tuned.

- a. If you want to change the tuned shots per target, press the **SCHUSS-** key until the required number of shots appear on the display

The **SCHUSS-** key is lined as follows: 1; 2; 3; 4; 5;

DEVICE		READY	
60	N	5	N

SERIE TEILER **SCHUSS** 1/10

MEANING: Now a series with 5 shots per target is tuned

2. TUNING OF THE TARGET SCORING SYSTEM

SYSTEM TUNING

ADVISE: It's possible to do a correct, more than one shot, evaluation with air pistol, small bore single targets. Not more than 2 shots are allowed to touch.
 If more than 2 shots touch, the display changes automatically and your attention will be drawn to this mistake by an acoustical sound and the following appears on the display:

HIT 6	
9 R	AR

To feed the shot-values as described in chapter "Display-point c."

A.1. As it is usual to give the remaining shots on an alternative target, if the divisor is good, we offer you the possibility to evaluate them, too.
 To do this tuning, act as described in point a.

1/10: Changing from a whole and a 1/10 ring measuring (final)

DEVICE		READY	
10	N	1	N

SERIE TEILER SCHUSS **1/10**

MEANING: In the basic tuning of the display appearing "N" NO - the 10th evaluation is inactive
 Now the shot result is shown in whole rings
 e.g.: 10, 8, 9 a.s.o.

a. If you want to change the tuning, press the **1/10-** key until the required tuning appears.

The 1/10 - key is lined as follows: N; R; RT; T;

DEVICE		READY	
10	N	1	R

SERIE TEILER SCHUSS **1/10**

MEANING: After pressing this key once
 "R" = RINGS. appears on the display
 Now the shot result is displayed in 10th
 e.g.: 10,5; 9,8; a.s.o.

2. TUNING OF THE TARGET SCORING SYSTEM TUNING

SYSTEM

DEVICE		READY	
10	N	1	RD

SERIE TEILER SCHUSS **1/10**

MEANING: After pressing this key twice
 "RT" = RINGS and DIVISOR appears on the display.
 Now the shot results and the value of the divisor in 10th are shown
 e.g.: RINGS: 10,5; 9,8; a.s.o.
 DIVISOR: 250,4T; 13,8T; a.s.o..

DEVICE		READY	
10	N	1	D

SERIE TEILER SHOT **1/10**

MEANING: After pressing the key three times
 "D" = Divisor appears on the display.
 Now the values of the divisor will be shown in 10th
 e.g.: 250,4T; 13,8T; a.s.o.

ESC: a. For recalling the total evaluation results on the display, **AFTER FINISHING** the evaluating series, press **ESC** once. After pressing twice, the subtotal-result (if more than 10 shots were tuned per target) and after pressing three times the single shots will be shown on the display..

ADVISE: After evaluating the last target of a series the total result is automatically shown on the display.
 The display changes automatically after some seconds to "DEVICE READY" and the displayed total result disappears.
 Please have a look at subdivision "Display-point e".

To change the display from subtotal results or single shots please use:

- ↑-key or ↓-key.
- Or feed the required shot directly by using the numbered keys and confirm with the **ENTER** - key.

For leaving the display of the total, subtotal or the single shots press respectively the **ENTER**-key.

2. TUNING OF THE TARGET SCORING SYSTEM TUNING

SYSTEM

- b. Open the input field with the **ESC**-key, if you want to feed values by hand during the evaluation process.
Please have a look at partition "Display-point c".

↑ u.↓: a. After finishing an evaluation process on the display you are able to recall the submittal results, or the single shot evaluation results by pressing the ESC-key. ↑ u.↓ Are used for changing the results on the display. Please have a look at ESC-point a.

- b. With these keys you can make the driving motor of the entry mechanism running forward to output eventual repressed targets from the evaluating shaft.

0 : For premature ending of an evaluating series.

After prewriting the **0-KEY** during an evaluation series the display changes automatically and the following appears:



After about one second the display changes and the following appears:

DEVICE		READY	
10	N	1	N

Now the evaluation system is ready for a new evaluation series.!

- ENTER:**
- a. To leave the display of the total, subtotal or the single shot results press the **ENTER-KEY**.
- b. After feeding shot-values by hand during an evaluation series use the **ENTER-KEY** for confirmation.
Please have a look at the partition "DISPLAY - point c."

→ : For recalling the program of trainings analyses on the display.

With this program the following can be recalled:
by pressing once, the average result,
by pressing twice, the number of the 10th, 9th, 8th a.s.o. and
after pressing three times the average hit point area (stopping place)
of the lack series evaluated.

2. TUNING OF THE TARGET SCORING SYSTEM TUNING

SYSTEM

←/□: For switching on/off the internal printer (if present).

After pressing the ←/□-key the display changes automatically and the following appears for about 1 second on the display :



The printer is integrated in the housing of the target scoring system. The printer will print on the side of the target, which is lying on the right side of the evaluating shaft. The results will be printed on the right margin of the target. When evaluating the total result of the evaluation is printed on the last target.

- a: The total result is marked with "□".
- b: The subtotal result will be marked with "Z".
- b: The more than one shot result will be marked with "M"

CHANGING THE OPERATION LANGUAGE:

FOR CHANGING THE OPERATION LANGUAGE PLEASE ACT AS FOLLOWS:

- a. Switching off the system by pressing the mains switch on the reverse of the housing.
- b. Switching on the system by pressing the mains switch on the reverse of the housing again and the following appears on the display:



As soon as this appears on the display press the **ESC**-key immediately. Now the momentary tuned language appears. By pressing ↑ or ↓ you can change the language.

- c. Finally confirm with the ENTER-key.

**2. TUNING OF THE TARGET SCORING SYSTEM
TUNING****SYSTEM****SPECIAL TARGETS**

After switching on the system by means of the mains switch at the reverse of the housing press the

1

(NUMBER KEY)

The display shows

INITIAL SETUP

Press the arrow keys ↑ or ↓ as long as the desired state appears on the display.

K 100 (= 25m and 50m pistol target and 100 m rifle target)

Final confirmation: **PRESS THE ENTER-KEY**

WORKING WITH DEFAULT MODE AGAIN ACT AS FOLLOWS:

Press

1

(NUMBER KEY)

The display shows

INITIAL SETUP

Final confirmation: **PRESS THE ENTER-KEY**

By transacting the mentioned steps the default mode is retrieved.

CHAPTER 3
GENERALLY

1. Generally

Maintenance and repair

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PC - Connection

Troubleseeking

Fittings - Transportcase

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General warranty-conditions

Definition of warranty

1. GENERALLY

GENERALLY

MAINTENANCE AND REPAIR

Maintenance and repair works shall be carried out only by authorized and skilled persons of a RIKA trader or must be carried out by RIKA. By non-observance the warranty will expire.

Changing the ribbon: If a change is necessary, only use the ribbon mentioned in our Instruction Manual. Please find the exact designation in chapter 3 Fixings/Technical data.

PROCESS: Disconnect the power lead to the target scoring system! Open the 4 screws on the reverse of the housing and also the 2 screws at the front- underside. Now pull off the housing ahead.. The mask runs in the reading shaft. Place the mask next to the system. In the area of the back, right hand side you can see now printer and ribbon. Before taking out the ribbon pay attention to leading and bearing of the ribbon. Now take off the old ribbon and put in the new one in reverse order.

CLEANING

It's normally enough, to blow out the system from time to time. It's not necessary to open the housing for this process.

If the system notifies a measure error after this process, a skilled person of the RIKA trader has to carry out an intensive cleaning at the inside of the machine.

PC-CONNECTION

With the RS 232 intersection and the RS 485 intersection on the housing reverse it is possible to connect the RIKA-ring-reading-machine to an evaluation-computer. The intersection values (see below) have to be tuned on the evaluation-computer. The shot values will be sent to the evaluation computer, when the tuned series on the **RING-READING-MACHINE** has been finished. This enables you to correct shot-mistakes before the data is sent to the computer!

INTERSECTIONS GENERALLY:

The RIKA ring-reading-machine supplies 2 serial intersections. The left intersection-connection (sight from the back) is an intersection according to RS 232-Norm and uses for connecting to the PC.

The right intersection-connection (sight from the back) is an intersection according to RS 485-Norm, which enables you to build up a network between more RIKA-ring-reading-machines.

RS 232 INTERSECTION:

This intersection enables to connect the RIKA-ring-reading-machine to a PC for reading the evaluating data through:

RIKA - evaluating programme
BSSB-2000 - evaluating programme - own programme, a.s.o.

1. GENERALLY**PC-CONNECTION****HARDWARE DATA:**

Transferparameter of the intersection: 9600 Baud, 1 Startbit, 8 Databits, no paritysbit,
1 Stopbit

A connecting cable between the RIKA-ring-reading-machine and a PC has to come up to the following requirements:

RS 232 intersection RIKA ring-reading-machine 9- pole plug RS 232 intersection PC 9-pole plug

RXD	2	0-----	0	3	TXD
TXD	3	0-----	0	2	RXD
GND	5	0-----	0	5	GND
				-0 4	DTR
				-0 6	DSR
				-0 7	RTS
				-0 8	CTS

RS 232 intersection RIKA ring-reading-machine 9- pole plug RS 232 intersection PC 9-pole plug

RXD	2	0-----	0	2	TXD
TXD	3	0-----	0	3	RXD
GND	5	0-----	0	7	GND
				-0 20	DTR
				-0 6	DSR
				-0 4	RTS
				-0 5	CTS

THE SOFTWARE RECORD:

The communication between the RIKA-ring-reading-machine and a PC is regulated by some control signs.

NUL (0x00)
 SOH (0x01)
 EOT (0x04)
 ACK (0x06)
 BS (0x08)
 FF (0x0C)
 CR (0x0D)
 SYN (0x16)
 ESC (0x1B)

1. GENERALLY**PC-CONNECTION**

(0xD0) Program RIKA-SAG1 give notice of departure
 (0xD1) Program to check in RIKA-SAG1 (inquiry – single shots)
 (0xD2) Program to check in RIKA-SAG1 (inquiry-10-series)
 (0xD3) Program to check in RIKA-SAG1 (inquiry total series)
 (0xD4) Program to check in RIKA-SAG1 (inquiry 5-series)
 (0xD5) Program to check in RIKA-SAG1 (inquiry remaining series)

Inquiry single shots: the data of the scoring system will be transferred after each shot, e.g.. for online-shot display. At inquiry-10-series the data will be transferred after 10 hits, at inquiry total series will be transferred at the end of the series tuned at the target scoring system. At inquiry 5-series the data will be transferred after 5 hits, at inquiry remaining series the remaining series will be transferred.

<u>DATA EXCHANGE:</u>	<u>PC</u>	<u>RIKA-SAG1</u>	
<u>Registration:</u>			
PC sends logon	0xD3 >	< XXX	Return of the version included (now 199 = V1.99, format: ASCII). With versions until V1.95 no answer from RIKA-SAG1.
<u>Inquiry (no data existing):</u>			
PC sends interrogate figures.	SYN >	< NUL	No data existing RIKA-SAG1 answers with NUL
<u>Inquiry (data existing):</u>			
PC sends interrogate figures	SYN >	< SOH < DATEN < EOT < CHECKSUM	Data existing, RIKA-SAG1 answers with SOH Data transmission according to fixed construction of data End of data record checksum = XOR-link from SOH to EOT.
<u>Confirmation(data o.K.):</u>			
PC sends FF if data were received correct. Data correct (FF) or false (BS) must be sent to get further information.	FF >		
<u>Confirmation (data wrong):</u>			
PC sends BS if the data weren't received correct.	BS >	< REPEAT < SOH < DATEN < EOT < CHECKSUM	Transfer data record once again. Data existing, RIKA-SAG1 answers with SOH Data transmission according to fixed construction of data End of data record Checksum = XOR-link from SOH to EOT.
<u>Notice of departure::</u>			
PC sends figure for notice of departure.	0xD0 >	< NUL	Generation number up to V 1.95 no reply of RIKA-SAG1.

1. GENERALLY**PC - CONNECTION****DATA RECORD:**

Serial.-No. RIKA-SAG1:	'XXXXXXXX'	8 steads + CR	(e.g. 19960001 = serial no. 1996-0001, Format: ASCII)
Bus-address. RIKA-SAG1:	'XXX'	3 steads + CR	(e.g. 007 = Adr. 7 when network is active, format: ASCII)
Manual Code:	'XXXXXXXX'	8 steads + CR	(e.g. number of marksman, format: ASCII)
Kind of target:	'XX'	2 steads + CR	'LP' air pistol 'KK' small bore 50m 'LG' air rifle 'ZS' 'LS' Running traget 'K3' Small bore 30m 'AB' Crossbow 'AD' "Eagle Target with divisor" 'BS' BSB-Air Rifle
Divisor-Measure:	'XX'	2 steads + CR	(e.g. 20 = factor 2.0, format: ASCII)
Quantity of buster shots:	'XXX'	3 steads + CR	(e.g. 200, format: ASCII)
Buster shots:			
Value of rings	'XXX'	3 steads + CR	(e.g. 109 = 10.9, format: ASCII)
Divisor	'XXXXX'	5 steads + CR	(e.g. 65000 = 65.000mm, Format: ASCII)
X-distance	'±XXXXX'	sign + 5 steads + CR	(e.g. 05500 = 55.00mm, format: ASCII)
Y-distance	'±XXXXX'	sign + 5 steads + CR	(e.g. 05500 = 55.00mm, format: ASCII)

All numerical values will be filled up with preceding zeros (ASCII), each line ends with CR.
Divisor = 1/1000mm of the target-centre, X- and Y-distance are 1/100mm of the target-centre.

REMOTE CONTROL: **PC** **RIKA-SAG1**

Tune the series: PC sends data	ESC S XXX >	'S' + 3 steads + CR (e.g. 100, format: ASCII, evaluation area: 1 - 200)
	< ACK	Feedback message RIKA-SAG1 data taken over.
	< NUL	Feedback message RIKA-SAG1 data not taken over.
Tune the divisor: PC sends data	ESC T XXXX >	'T' + 4 steads + 'CR'(e.g. 2000, format: ASCII, evaluation area: 0 - 6500)
	< ACK	Feedback message RIKA-SAG1 data taken over.
	< NUL	Feedback message RIKA-SAG1 data not taken over.
Tune the divisor (factor): PC sends data	ESC F XX >	'F' + 2 steads + CR (e.g. 20 = 2.0, Format: ASCII, evaluation area: 01 - 99)
	< ACK	Feedback message RIKA-SAG1 data taken over.
	< NUL	Feedback message RIKA-SAG1 data not taken over.

1. GENERALLY**PC - CONNECTION**

Tune the shot: PC sends data	ESC U X >	< ACK	'U' + 1 stead + CR (e.g. 5, Format: ASCII, evaluation area: 1 - 5) Feedback message RIKA-SAG1 data taken over
		< NUL	Feedback message RIKA-SAG1 Data not taken over.
<u>Tenth evaluation:</u> PC sends data	ESC Z X >		'Z' + 1 stead + CR (e.g. 0, format: ASCII, evaluation area: 0 - 3 0 ... no tenth evaluation 1 ... tenth at rings 2 ... tenth at divisor 3 ... Tenth at rings and divisors)
		< ACK	Feedback message RIKA-SAG1 Data taken over.
		< NUL	Feedback message RIKA-SAG1 data not taken over.
<u>Recall tuning:</u> PC sends data	ESC E >	< XXX	'E' + CR 3 stead + CR (Tuning series, format: ASCII)
		< XXXX	4 steads + CR (Tuning divisor, format: ASCII)
		< XX	2 steads + CR (Tuning divisor (factor), format: ASCII)
		< X	1 stead + CR (Tuning shot, format: ASCII)
		< X	1 stead + CR (Tuning tenth, format: ASCII
			0 ... no tenth evaluation 1 ... tenth at rings 2 ... tenth at divisor 3 ... Tenth at rings and divisors

1. GENERALLY**PC-CONNECTION****RS485-INTERSECTION:**

This intersection enables the building up of a network between a BUS-MASTER and up to 32 RIKA-ring-reading-machines to transfer the evaluating-data. The connection can be built up over some 100 m. The BUS-MASTER enables to transfer all evaluating-data to a PC, and RIKA supplies a separate programme for that.

Troubleshooting

MISTAKE:	POSSIBLE CAUSES:	HOW TO CORRECT:
Display off	1) no mains voltage 2) machine protection defective	1) check cable check powerprotection in your house 2) Change the machine power-protection. You can find the mains switch on the housing reverse. Protection according to type plate
No printing or only slight printing (for machines with integrated printer)	1) colour ribbon is used up 2) to thin target material was used	Change the colour ribbon (see maintenance) Use another target-material
Machine evaluates unreliable or inexact	1) The machine is overclouded after a change cold/warm 2) Holes are too near the target margin 3) Bad target-material, cracked targets or bad shotholes	Acclimatize machine up to one hour See general advises Please mind the advises of the target producers according stocking and material of the targets

1. GENERALLY**FITTINGS - TRANSPORTCASE****FITTINGS - TRANSPORTCASE**

With this fitting is your ring-reading-machine optimally protected on the transport to various Championships or to your trader for maintenance.

Also this security case protects against dust, humidity and unauthorized access after finishing the evaluation.

1. TO OPEN THE MACHINE ACT AS FOLLOWS:

- a. Open the butterfly-fasteners on the left and the right by tipping-up and turning
- b. Lift up the upper part

2. FOR CLOSING ACT IN REVERSE ORDER:

- a. Check, if the upper part is really fixed to the lower part, before you lift up the case.

Advise:

It is not necessary to take the ring-reading-machine out of the lower part of the security-case for the evaluating process. Should you have taken the machine out of the case for maintenance, please mind, taking it back, to place it right into the mounted rubber.

Top view:

1. GENERALLY**GENERALLY****TECHNICAL DATA:**

Target Scoring system with transport case:

Dimensions:	410 x 310 x 240 mm
Weight:	about 13 kg
Maximum width of the target:	220 mm
Display:	2 x 16 symbols
Connecting loads:	1,0 A (115 VAC) 0,5 A (230 VAC) 50 - 60 Hz

Ribbon: Company Pelikan

NYLON:	551853
GR (D) 628	(GB) 2236 RN
8 MM	5/16"
1,25 M	1,3 YDS

Schwarz - black - noir - negro

Commodore MPS 801

2. WARRANTY

GENERALLY

GENERAL CONDITIONS OF WARRANTY

1. Requirement for executing our conditions of warranty is submitting the invoice you got when purchasing the system for which the warranty will be taken, whereas the identity of the system (type and number of the serie) must be mentioned on the invoice.
2. Not entitled for the use of our warranty:
normal wear, intentionally or careless damage, using force, mechanical damage or damages caused by frost, breaking of glass and plastic parts, eventual differences in colour. Damages caused by improper usage, especially by non-observance of the instruction manual; Damage caused by extern effect, connection to a false voltage as well as such aberrations of the norm which abate the value or the operative readiness of the system only slightly.
Damages which can put down to improper variances of the product or careless damage. This means especially damages which were caused by electrostatic discharge of persons.
3. In case of legitimate claims, please contact your trader, who can subject the decision if a defective part should be replaced or repaired, or if a defective system should be replaced by an equivalent, satisfactory one. Moreover we strictly reserve the right to require the return of the system through the purchaser.
4. Repairs in warranty have to be carried out only by persons which were authorized by RIKA for this. Replaced parts pass over to our property.
5. We decline an taking over of costs for reparations and replacements by third party, if we did not order them before. In case of outside operation any claim to warranty will be extinguished.
6. The period of warranty will not be prolonged or renewed by furnishing warranty works.
7. Transport damages have to be announced to the supplier on the weekday following to the day of delivery latest.
8. Claims going beyond the furnished warranty works will not be accepted (compensation, especially successor compensation).
9. Works, which are not within the frame of the warranty conditions, will be charged to you.

DECLARATION OF WARRANTY

For this item we guarantee for the time of **9 MONTHS**, valid from the date of delivery, according to the mentioned conditions and to the law of consumer-protection.

2. DECLARATION OF WARRANTY

GENERALLY

ADVISE: To be able to identify your instrument in case of theft, note your instrument-no. on both of the illustrations below. You will find the instrument-no. on the type-plate on the housing reverse. Please separate the lower part of this letter and send it, already completed, to us. This will help to answer your service-questions more effective and also we will be able to inform you as soon as possible in case of technical changes.

Producer:



Metallwarengesellschaft m. b. H. & Co KG

*A-4563 Micheldorf, Müllerviertel 20
Telefon ++43/7582-686*, Telefax DW 160
Telex 75314325 RIKA A
Telebox: RIKA-AUSTRIA*

Instrument No.: _____

Type: _____

**INFORMATION OF RETURN - WARRANTY FORM
OF THE RIKA RING-READING MACHINE**

Buyer:.....

Trader:.....

Tel.No.: Tel.No.:.....

Fax.No.: Fax No.:

Instrument No.: _____

Date of purchase: _____

Type: _____

Purchasing-Price: _____