DISAG - INTERNATIONAL

Opertaing Instructions for the

RM III

Electronic Target Analysis Machine

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Legal precautions for the customer

With this hand book we have made every attempt to offer the customer up to date and complete information. DISAG-INTERNATIONAL will not be held liable for misinterpretation of the contents of this hand book which result in damage to the RMIII-Ring reading machine. This also applies when a machine is delivered in a defective state. We offer no guarantee that changes to the software program and use of software and computers from other manufactures will not have an adverse effect on the validity of the information offered in this handbook.

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We reserve the right to make technical changes to the product without prior notice.

IN GENERAL

The RMIII is a target analysis machine which meets the most recent regulations of the UIT and DSB for air rifle, air pistol, small bore, running target, zimmer stutzen targets and target bands with a width of 180mm.

The combination of many years of experience, a wide range of software, an ultra fine electronic sensor and a modern 32 bit microprocessor have led to the patented Disag ring reading \ target analysis machine and ensure a fast and accurate target analysis..

Utilization of the machine is achieved through one display and five keys. The incorporation of a computer can be achieved by using the RS-232 serial connection.

The shot results will automatically appear on the display, or could additionally be printed on the target itself with the incorporation of a built-in printer used in conjunction with a computer and the RS 232 serial connection.

Important safety precautions:

Your ring reading machine was manufactured to comply with very stringent standards and is guaranteed to deliver safe and reliable service for many years to come. As with all electrical instruments, there are a few basic safety measures which should be observed. These measures serve primarily for your own safety, but will also prevent eventual damage to the RMIII .

Please read this operating manual before plugging in the machine! Damage which is caused by non-observation of the instructions contained in this manual will not be covered by the guarantee.

Pay attention to all warnings and instructions which appear on the machine itself.

In the event that the apparent safe operation of the machine is no longer possible, the electrical source must be disconnected and the machine should be safeguarded from further usage.

Indications of unsafe operation:
-when the machine or the electrical connections are visibly damaged .
-when the machine has loose parts.
-when the machine no longer functions
-after long term storage periods in unfavorable climate conditions (ex: in damp rooms or in the open).
-after transport whereby the machine was subject to mishandling or where mishandling is presumed.

Repairs are to be conducted by qualified electricians only! Repairs by unqualified persons can result in physical danger to the user!

Pay attention that:

-the RMIII is placed in a stable and upright position whereby adequate space is available to the rear of the machine, allowing for the scored targets to pass through. To avoid overheating of the machine, ensue that the vent openings are not obscured. Do not place the RMIII next to heating elements or air- conditioners. As with all electrical instruments, do not subject the RMIII to direct sunlight.

-the RMIII does not come into contact with liquids. Therefore, do not consume beverages in the immediate area surrounding the RMIII.

-no objects cover or protrude into the vents of the RMIII which could cause an electrical short resulting in a fire hazard.

-only the maintenance prescribed in this handbook be carried out. Be sure to disconnect electrical connections before removing the outer housing. The removal of the housing can result in electrical shock.

Always ensure that:

-the correct electrical current is available by comparing the local current to the specification on the back side of RMIII. If doubt exists, contact your distributor.

-the printer is connected to a grounded electrical outlet.

-when a extension cord or multiple-outlet is used, that the specified electrical load limit is not exceeded.

-the electrical connection is unplugged before opening the housing!

General comments:

-Use only targets which are darkly printed. Poorly printed targets could result in inaccurate measurement.

-Only shots which are not closer than 2 cm to the front and not closer than 3mm to the right, left or to the rear of the target will be measured.

-When using target bands where the space between individual targets is very narrow, the RMIII will not be able to evaluate poor shots between the 1st ring.

-Pay close attention to the paper quality of the targets. If targets are stored in a damp area they have tendency to crease or become torn.

-Pay attention during operation, that the target bands do not become creased, bent or damaged in any way.

-The guarantee is voided when the RMIII is damaged by non- applicable or incorrect usage.

-Ensure that the machine is not jolted and jarred during transport or placement. The RMIII is a highly accurate measuring device and should be treated with care if optimal results are to be achieved.

-The scheduled maintenance service which is prescribed in this booklet is to be carried out by an authorized professional. Defects which occur due to unauthorized persons carrying out maintenance service will void any guarantees.

Setup:

Place the RMIII on a stable, upright surface. Pay careful attention that there is adequate space at the rear of the machine to allow for the targets to move freely through the machine.

The acceptable temperature range for operation of the RMIII is between +15C to 35C. During storage or transport temperatures between -15C and +50 are allowed. In the event that moisture has condensated during transport or storage, the machine must be allowed to acclimatize for approx. 2 hours before being used.

Avoid use in the immediate proximity of strong electromagnetic fields, ex: microwave ovens, radio equipment, high voltage cables and motors.

The machine is delivered with a set **voltage of 230 V.**

After turning the machine by usage of the toggle switch (front left), the RMIII will automatically begin a self-test. This self-test requires approx. 1 minute. After completion the word "Neu" will appear in the display.

First Steps:

Example of a ring analysis: A ten series with one shot per target should be evaluated as follows: Place the target\target band with the target facing up and to the right of the target conveyor channel and shove to the left about 1mm for better adjustment. As soon as the target is recognized in the luminated tunnel, the transport mechanism will begin to operate and the target will be automatically transported. All other operations are executed by the RMIII automatically. The RMIII automatically identifies the following: air pistol targets, small bore targets, zimmer stutzen targets, running targets, air rifle targets, single targets, and five and ten band targets, then displays the type of gun being used next to ring display. As soon as the transport band has stopped operating, the next target to be analyzed may be immediately inserted.

ATTENTION: Do not attempt to pull, push or adjust the target once it has been placed in the machine. Please refer to the manual, section: ADJUSTMENTS for specific instructions.

Display:

There are four settings for the display, they indicate:

-The ring score: Immediately following the shot analysis.

-The current total score of the 10 series: After the target has passed through the machine.

-The total ring score: After the end of the series or after a 3 minute time lapse in which no targets have been inserted into the machine.

-When the key [TEILER] is depressed: The value of the shot placed closest to the center of the target is displayed.

-When the key [SERIE] is depressed: the value of the individual 10er series is displayed. The current scores can be systematically displayed by depressing the series key. When the a key is not depressed for a period of 3 seconds, the display will automatically switch to the total score.

The RMIII has three basic settings:

-10 er series
-teiler measure turned off
-single shot per target.

Automatic guns and target recognition

The RMIII automatically recognizes which type of gun and target are being read and displays this through the following indicator lights:

- LG-air rifle-single target,-5er band,-10er band.
- LP-air pistol-single target.
- KK- small bore-single target.
- LG+LP-running target- double targets.
- LP+KK-Zimmerstutzen-single target.

Settings:

After you have pressed the key [NEUSTART], you can change the following settings:

Series-settings:

[SERIE] enables you to set the display of the series:

-After this key is depressed:

The display indicates the set series chosen. Once you have depressed and released the serie key, the display will automatically return to the total score if the key is not depressed again within 3 seconds.

-If you depress the series key in rapid succession, the following settings will be displayed:

10er series
20er series
30er series
40er series
50er series
60er series
80er series
100er series
120er series

When the key is not depressed for a duration of 3 seconds, the RMIII will automatically calculate all previously submitted data and the total ring score will be displayed.

Teiler measuring functions:

[TEILER] Key- allows the selection of the teiler measuring parameters and display of the measured teilers.

-After you depress the teiler key:

The set teiler measuring parameters will appear on the display. If you do not depress the key again within 3 seconds after releasing it, the total ring score will appear automatically on the display.

When the key is depressed in rapid succession, the following settings will be displayed from which you can choose:

-no teiler measurement
-75 teilers
-125 teilers
-200 teilers
-300 teilers
-500 teilers
-800 teilers
-2000 teilers

When the key is not depressed for a duration of 3 seconds, the RMIII will automatically calculate and display the total ring score.

Multiple Shot-Setting

[SCHUSS] Serves as a setting and a display for the number of shots per target with air-pistol and small bore single targets:

-After the first stoke of the key [SCHUSS]:
The set number of shots appear on the display. When the key is released and not depressed again within 3 seconds, the display will revert back to the total ring score.

-When this key is depressed in succession, you can choose between:

1 shot per target
2 shots per target
5 shots per target

-Here again, when the key is not depressed again within 3 seconds, the RMIII will automatically calculate and display the total ring score.

1/10 Ring measurement

[1/10] Serves to change the 1/10 ring measurement to a full ring measurement.

-When this key is depressed, you can choose between full and 10th ring display:
[97]
[98.6]

Saving your settings:

In order to quickly and easily change settings, you have the ability to save three different settings.

To save a setting, hold down the key [NEUSTART] and depress the desired key setting:

[1/10] + [SERIE]: memory place 1
[1/10] + [TEILER]: memory place 2
[1/10] + [SCHUSS]: memory place 3

Please note: After being turned on, no weapon diode-indicator will light up. In this case, the settings will be carried out regardless of gun type. In most cases, the gun and target type will be simultaneously saved.

Retrieving saved settings:

To enable you to move quickly and easily between settings, you have the ability to retrieve three saved settings.

To retrieve a saved setting, hold down the key "1/10" while depressing an additional key:

[NEUSTART] + [SERIE]: memory place 1
[NEUSTART] + [TEILER]:memory place 2
[NEUSTART] + [SCHUSS]: memory place 3

Maintenance and repair:

You have purchased a high quality electronic measuring device, with which maintenance or servicing is traditionally only necessary after an extended period of time and usage.

For simple cleaning or to change the printing cartridge, follow these steps:

-Remove the screws from the top housing.
-While keeping all corners level, lift the housing upwards.

Caution! The surface mirror is very sensitive to finger prints, therefore, avoid direct contact. In the event the mirror is extremely dusty, we recommend: KONTAKT CHEMI Compressed air 67.

-While keeping it level, remove the ink cartridge by pulling it to the left and lifting it out of the two securing springs.

-Clean the lower glass plate with a soft brush or a lint free cloth.

-Replace the ink ribbon.

Pay close attention that the ribbon is rested on the printing head underneath the black positioners and that the transporter is correctly positioned on the printing head.

-A knob is located on the ink cartridge and when turned clockwise will pull the ribbon taunt.

-Replace the top housing.

Pay attention that no wires or cables are pinched when replacing the housing.

Replacement cartridges can be purchased in office supply stores or in computer shops. Use print cartridges designated for the Commodore MPS 801, ex: Pelikan No. 551853.

Malfunctions:

Problem	Possible Cause	Action
Too light or missing print (on machines with built-in printers)	Ink ribbon is old	Replace Ink ribbon
Machine gives inaccurate or undependable readings	The machine has been subject to extreme temperature variations	Allow the machine to acclimate for up to 2 hours.
	Pieces of torn targets are found in the in the target conveyer channel	See maintenance
	The optic or mirror is dirty	See Maintenance
	Shot holes are too close to the outer edge of the target	See General Comments
	Optic or mirror is mis-aligned	Have the machine adjusted from authorized dealer.
	Print on target is faint, imperfect or does not conform to UIT or DSB standards	Use a different target material.