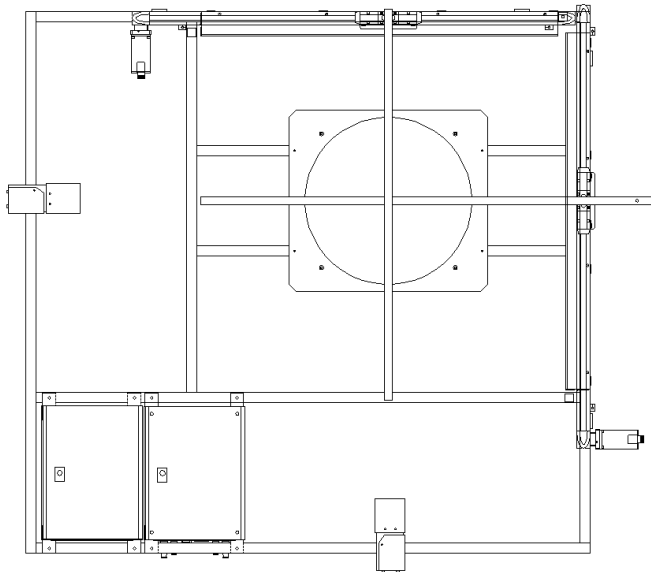


## OPTICAL TARGET TYPE 546



### General Description

This precision electronic target provides developers, testers and manufacturers with a highly accurate and cost effective method of checking the performance of weapons and ammunition, by measuring the co-ordinates of shots fired under test. It replaces traditional methods of measurement, such as paper or canvas targets, and removes the associated problems of repeated access to the target area to retrieve paper targets for analysis, erection of large targets, failure to measure all shots fired due to the overlap of rounds and the time and errors involved in manual measurement. In particular, removal of repeated access to the target area enhances range safety.

The Type 546 target is a high precision instrument with a small detection area, whereas the Large Area Optical Target (LAOT) is more appropriate where large detection areas are required. The main factor governing selection of target type is the expected dispersion of the rounds at the distance specified for the test. Target performance is independent of projectile velocity.

The Optical Targets have been designed for the rapid testing of new or repaired small, medium and large calibre weapons and for the production testing of similar calibre ammunition either on indoor ranges or on an enclosed portion of an outdoor range.

The target also measures rate of fire. Options available include a Pop Up Aiming Mark and a Moving Aiming Mark. The Moving Aiming Mark is a helpful tool when optical sights are to be calibrated, especially with high volume resighting. The photograph above shows a type 546 target with Moving Aiming Mark fitted.

### Target

The Optical Target consists of a rigid framework which can be easily dismantled for transportation. The framework carries two industrial line scan cameras mounted at known angles to each other. Each camera views a linear light source and when a projectile enters the field of view of the cameras, it causes a change in light intensity that is detected by the cameras. The cameras are controlled via an industrial PC which is also fitted to the frame. When a change in light intensity is detected, this change is related to the X and Y position of the projectile which is then processed and converted into true X Y co-ordinates by software running on the industrial PC. Data are stored locally and then transmitted to the Range PC.

The target is fitted with a small LCD display, allowing the user to quickly monitor the status of the target. The display also helps the user to calibrate the target in a few easy steps.

The target has its cameras mounted orthogonally with the light sources integral with the target frame. The active area of the Type 546 target is approximately a 500mm diameter area with a measurement accuracy of better than  $\pm 1\text{mm}$ .

### Calibration

These targets are supplied with a simple calibration device which allows regular absolute checking of the target performance. The Target is easily calibrated using the touch screen LCD display. Step by step instructions guide the user through the calibration procedure. Once calibrated, the performance of the system can be easily verified with the help of the calibration device. When the calibration procedure is finished the calibration device is removed for firing.

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### Range PC and Software

The target interfaces with a modern PC with our software, BallisticsDB, installed. BallisticsDB offers the user a range of statistical calculations on trial results and allows for full control of the target's operation. Data is transmitted from the Optical Target as a serial data stream. Communication is established using either radio or cable link.

### SPECIFICATION

#### GENERAL SPECIFICATION

PROJECTILE VELOCITY RANGE	50 to 1500 metres per second
RATE OF FIRE	Up to 15000 rounds per minute
OUTPUT DATA	True X Y Cartesian co-ordinate data in ASCII code
POWER	110, 220, 240 VoltsAC $\pm 10\%$ 50/60Hz 300VA
OPERATING TEMPERATURE	-10°C to 30°C
COMMUNICATION	Radio Link or Cable Link (RS232/RS485)

#### TYPE 546

ACTIVE TARGET AREA	500mm diameter circle
MEASUREMENT ACCURACY	Better than $\pm 1$ mm
PROJECTILE CALIBRE RANGE	4.5 to 50mm
TARGET DIMENSIONS	1925mm to 2175mm height, 1720mm width, 790mm depth.
OPTIONS	Pop-Up Aiming Mark Type 531, Moving Aiming Mark