



# **TOPTRACER RANGE™**

**Customer Technical Guide  
& Support Manual**

**Version 1.0**



## Table of Contents

<b>Table of Contents .....</b>	<b>2</b>
<b>1. Introduction .....</b>	<b>3</b>
<b>2. Toptracer Range System Specifications .....</b>	<b>4</b>
<b>System Overview .....</b>	<b>7</b>
Single System Overview .....	8
<b>System Components .....</b>	<b>9</b>
<b>System Requirements .....</b>	<b>9</b>
Power and Data Wiring .....	10
Internet Connection .....	10
Artificial Light .....	10
Range Outfield .....	13
Targets .....	13
Roof Coverage .....	14
Defined Bays .....	14
Golf Balls .....	14
Facility Alterations .....	14
<b>3. System Performance .....</b>	<b>15</b>
General tracking capabilities .....	15
Limit number of concurrent tracked shots .....	15
Performance under normal conditions .....	15
Performance under other conditions .....	16
Testing for defects .....	18
<b>4. Maintenance and Support of the Toptracer Range System .....</b>	<b>19</b>
<b>Maintenance services .....</b>	<b>19</b>
<b>Support services .....</b>	<b>19</b>
<b>Service Level Further Details .....</b>	<b>20</b>
<b>Service Credits .....</b>	<b>21</b>
Claiming Service Credits .....	21
<b>2. Customer sales and related requests .....</b>	<b>21</b>
<b>3. Technical Support .....</b>	<b>21</b>
<b>5. Contacting Toptracer Support .....</b>	<b>22</b>
Support tickets .....	22
<b>6. Customer Obligations .....</b>	<b>23</b>
<b>7. Exclusions and Miscellaneous Terms .....</b>	<b>24</b>
Exclusions .....	24
Miscellaneous terms .....	24
<b>8. Glossary .....</b>	<b>26</b>

## 1. Introduction

This manual illustrates the technical specifications and workings of the Toptracer Range system and outlines the maintenance and support services offered by Toptracer. Goals for this manual include:

- Describe the Toptracer Range System, components, and functionality
- Identify and detail the customer's own obligations to ensure the proper functionality of the system
- Inform the customer on how to contact Toptracer and submit a support ticket
- Describe Toptracer's maintenance and support offerings
- Clarify service credits available to customer in the event the system fails to perform

This manual should be read in conjunction with Customer's *Toptracer License Agreement*. Please read the manual thoroughly and contact us with any questions. Contact details are found on Page 21 and a glossary of commonly used terms is included at the end of this document for reference.

Thank you for choosing Toptracer Range!



## 2. Toptracer Range System Specifications

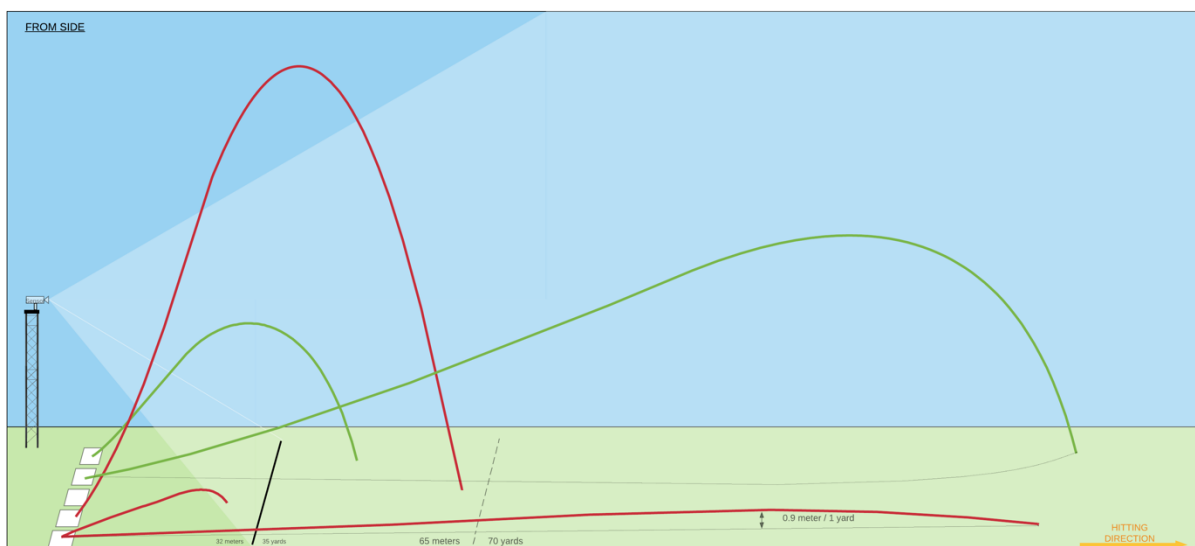
Important definitions:

*\*an expanded glossary of terms is included at the end of this manual*

**Bay:** an individual golf range hitting station containing a *screen*, which is covered by the *system*.



**Shot:** a golf shot that (i) carries more than 35 yards; (ii) enters the *tracking zone* sometime during its first 20 yards of ball flight; (iii) continues to fly inside the *tracking zone* for at least one second; and (iv) has an apex approximately ten feet or more above *bay level*. High lob shots that are shorter than 70 yards are not considered shots.



**System:** the Toptracer Range system in its entirety as described in this manual, including all hardware and software elements.

**Toptracer Range Game Screen (or “Screen”):** a smart touchscreen device installed in a bay, which runs the Toptracer Range gaming application

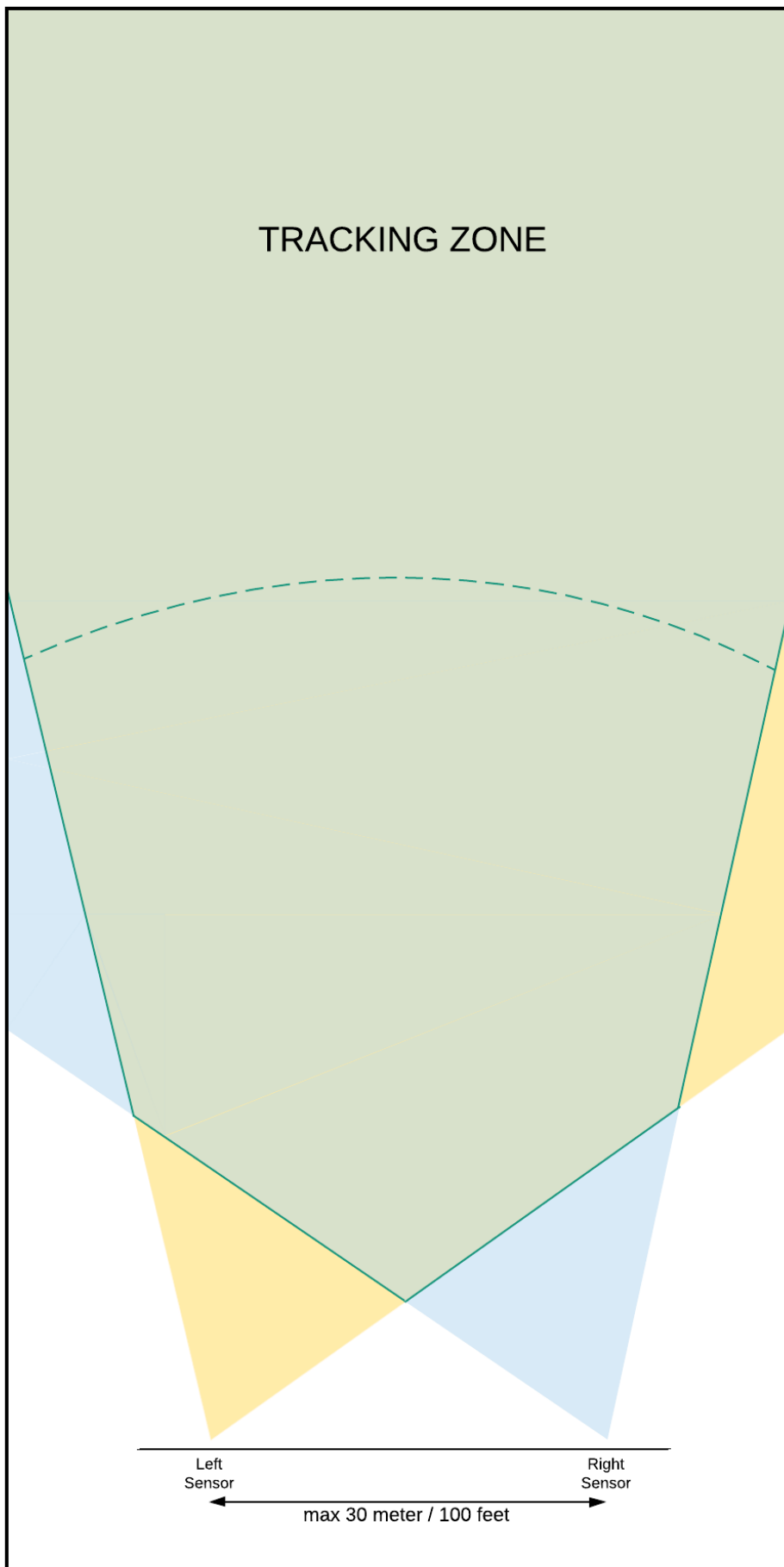


**Toptracer Range Sensor (or “Sensor”):** the sensor used to detect golf shots. The sensor communicates with the server containing tracking software over copper or fiber Ethernet.



**Tracking Zone:** the range outfield area where the system is able to track the golf ball with actual (non-extrapolated) observations.

# TRACKING ZONE





## System Overview

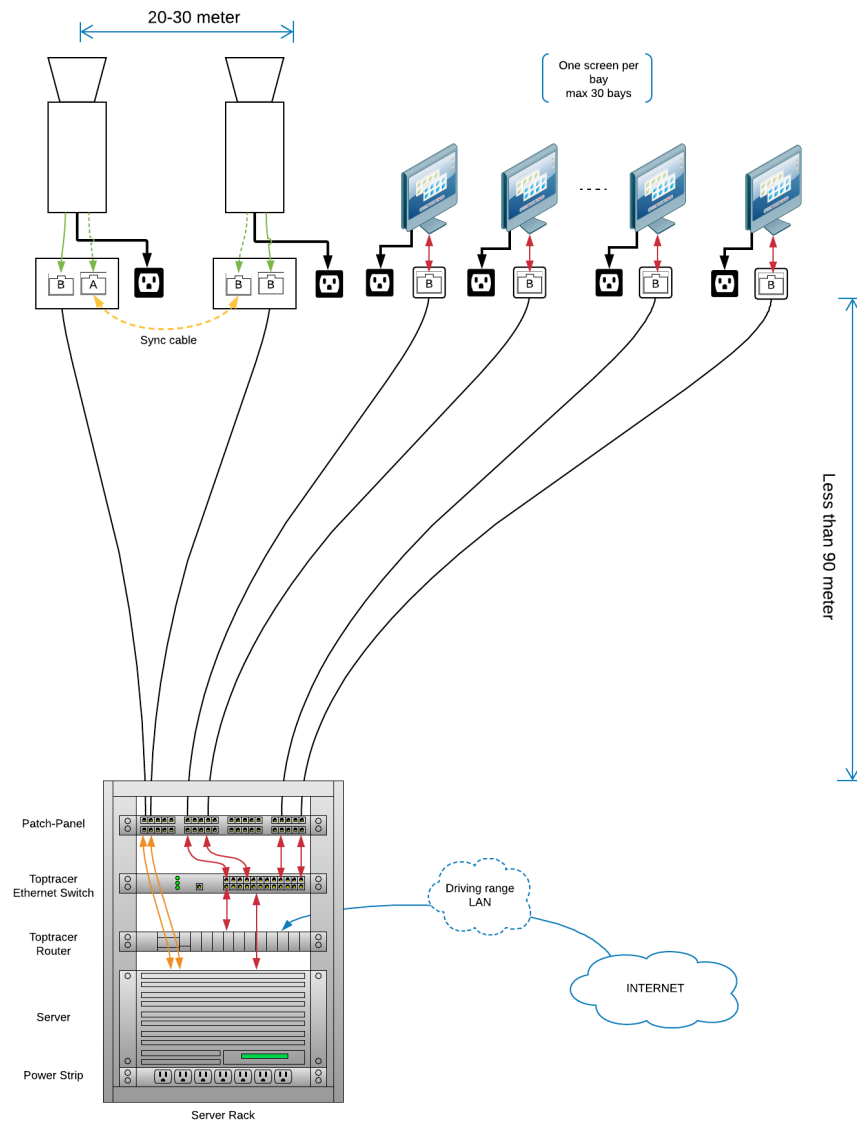
Toptracer Range is a golf ball tracking system for permanent installation at driving ranges. It uses a minimum of two *sensors* coupled with a server that runs image analysis software to detect and track *shots* hit inside of a *tracking zone*. Each *shot* is tracked and then *shot* information is made available to the *screens* in real time through the Toptracer Range network. The *screen* displays *shot* information to users in a format determined by the mode of play selected.

*Sensors* are placed under the ceiling of the top floor of the facility, a maximum of 30 meters apart. The *sensors* cover all *bays* located between them, as well as up to two levels of *bays*, as shown below.



For facilities with three levels, the *sensors* may need to be placed closer together. At large driving range facilities, more than one Toptracer Range system may be required. *Sensor* placement and required number of units are determined once a site is surveyed. One single Toptracer Range system can only cover up to 30 meters wide of hitting *bays*. Additional *bay* coverage will require more than one Toptracer Range system.

## Single System Overview





## System Components

A standard Toptracer Range System covering approximately 10 *bays* in a single floor facility consists of the following:

Item	Quantity	Description
<b>HARDWARE</b>		
Toptracer Range Sensor	2	Sensor used to detect golf shots. Communicates with Toptracer Server over copper or fiber ethernet.
Server	1	Server that runs the Toptracer Range software.
Router	1	Router configured for Toptracer Range software and remote maintenance.
Screen	10	A smart touchscreen device installed in a Bay which runs the Toptracer Range gaming application.
Switches		Switch managed by Toptracer.
Server rack	1	To house server, router and switch.
Screen Mounts	10	To mount Screens in Bays.
<b>SOFTWARE</b>		
Tracking Software	1	Software that tracks golf shots detected by the Sensors
Gaming Software	1	Games and other features integrating the tracking software into entertaining and informative experiences for range users. Consult your account manager for the current list of available games. Certain premium items may be behind paywall.
Bay Management Software	1	Software that allows the range operator to start and stop the Game Screens remotely.
Leaderboard Software	1	Software that show the leaderboards associated with the range. Due for release in Spring 2018.

## System Requirements

In addition to components provided by Toptracer, the *system* requires certain facility-provided elements to enable it to function properly. The technical elements are listed below, but range owners and managers should also consult the *Maintenance and Support* section of this manual (Page 18), and the *License Agreement* for a full description of all obligations. Toptracer is not responsible for any *system* performance or other issues caused by a failure of the customer to perform its obligations.

### *Power and Data Wiring*

The Toptracer Range *server*, *screens* and *sensors* require power and data connections in order to work. Network and power should be in close proximity (within approximately two meters) to each *sensor*, *screen* and *server* location. The customer is responsible for providing and maintaining the infrastructure for power and data cables and should consult with Toptracer prior to commencing installation to ensure best practice is followed.

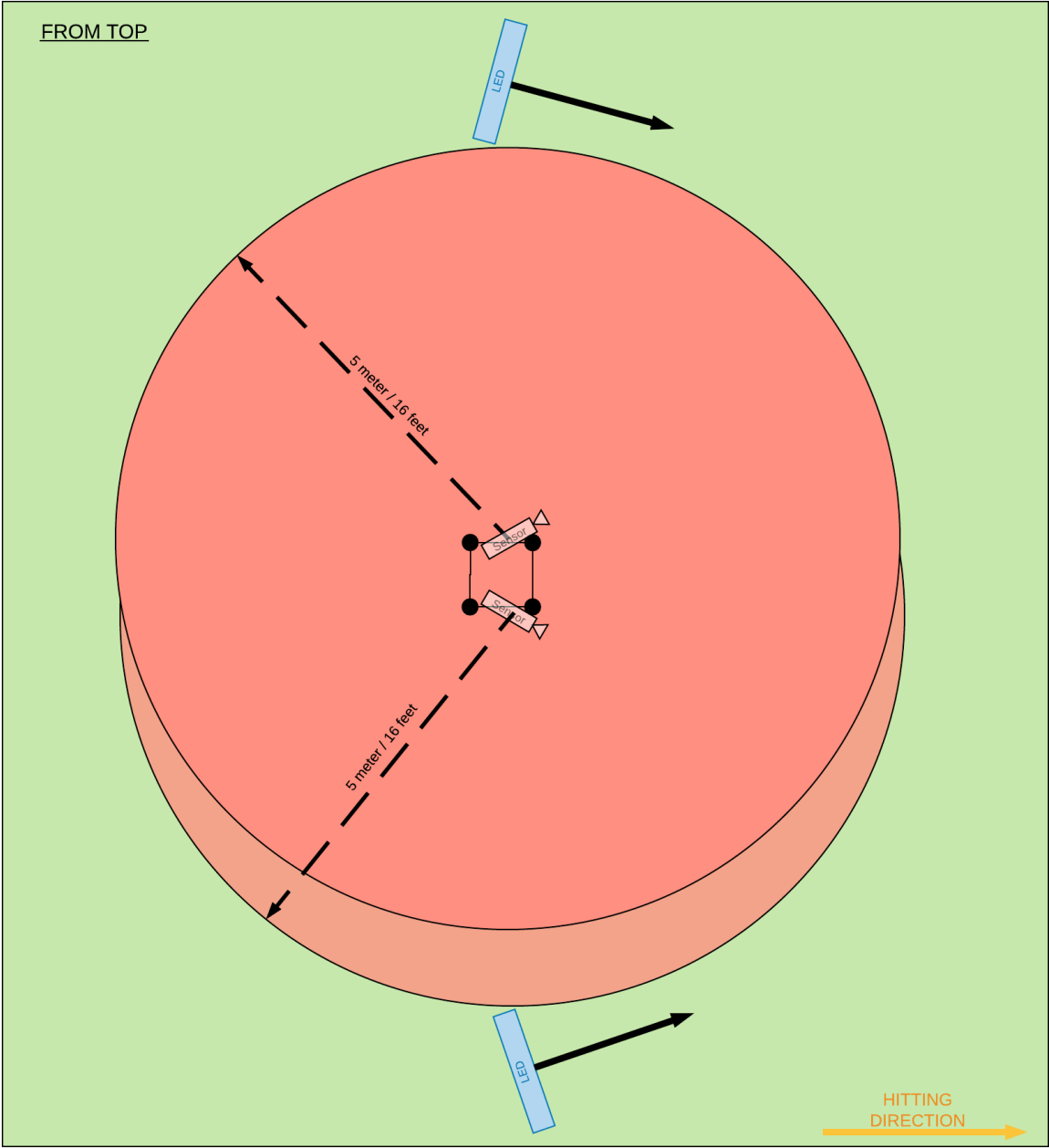
### *Internet Connection*

The *system* requires a wired internet connection (provided by the customer) with superior speed, bandwidth and stability, consisting of a minimum of 99% monthly uptime and 95% bandwidth availability of at least 4mbit/s upstream and 2mbit/s downstream, or in line with any additional specifications provided by Toptracer. The connection must be open and not subject to a firewall.

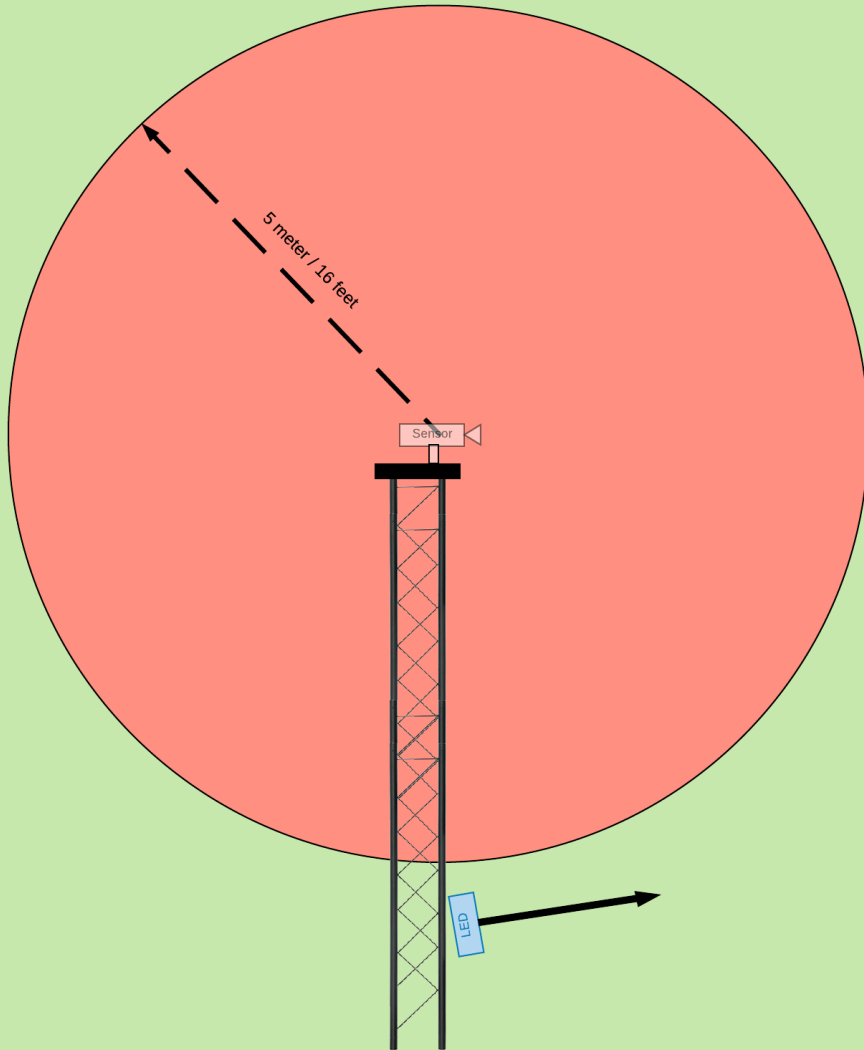
### *Artificial Light*

The *system* requires artificial light to work properly outside of daylight hours. The artificial lighting should be illuminated at all times outside of full daylight conditions, including a short period before dusk and after dawn conditions to facilitate a smooth transition from daylight to night time operation or vice versa.

It is a requirement that the light source comes from behind or in-line with the *sensors* in order for the light to reflect off the golf ball back to the *sensor*. However, the light source should never be closer than 5 meters (16 feet) from the *sensors*. The light needs to be high enough to cover the entire ball flight of a *shot*. See diagrams on following pages.

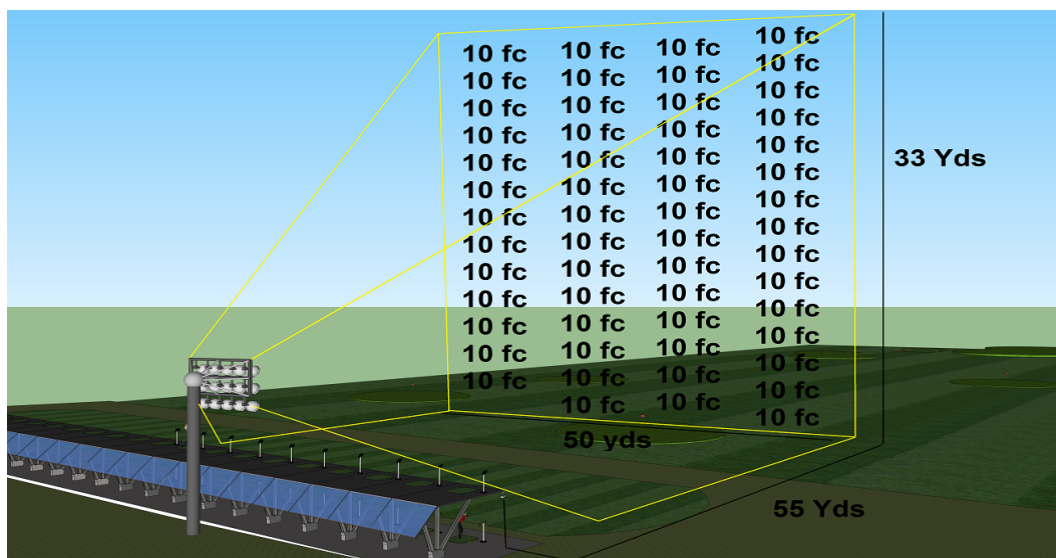


FROM SIDE



HITTING  
DIRECTION

The first 50 meters (55 yards) of the outfield is the most crucial area to illuminate properly, in order for the system to operate at night. The *system* requires the following light wall of vertical foot-candle 50 meters (55 yards) out:



For multi-level facilities, the light wall may require adjustment to cover high *shots* from upper levels. Higher light values will increase accuracy of the system.

Customers must meet the artificial lighting requirements to ensure proper system function and are encouraged to seek consultation from lighting specialists. Customers must also consult with Toptracer in regard to any planned light installations or alterations. Toptracer may offer lighting suggestions based on experience. However, considering individual uniqueness of each facility, these cannot be taken as guarantees and do not eliminate the customer's obligation to meet the required lighting standard.

### *Range Outfield*

Outfields must be relatively flat and predominantly land, not water (the *system* is not tested for use over "lake" ranges). Customer must not make any significant changes to the outfield without first consulting with Toptracer as outfield changes may require the *system* to be recalibrated.

### *Targets*

Targets in the range outfield must be fixed, as the *system* calibrates against fixed points. Targets should be well distributed throughout the *tracking zone*, beginning at a minimum of 40 yards from the *sensors* and to a maximum distance of 250 yards. Customers should discuss intended target layouts with Toptracer in advance (and Toptracer can provide a suggested target layout upon request). Prior to installation (or at a later date), Toptracer may require customers to adjust the layout of targets to optimize *system* performance. As with the outfield generally, no changes should be made to targets without first informing Toptracer, as any changes will require recalibration of the *system*, which may cause down-time.

### *Roof Coverage*

The *bays*, *screens* and *sensors* must be covered and fully protected by a permanent and adequate roof to protect against weather for an optimal user experience. *Sensors* must be able to be installed under the roof canopy rather than above.

### *Defined Bays*

*Bays* must be fixed, defined and numbered to enable the *system* to send tracking information to the correct *bay* and *screen*. *Bay* sizes or overall hitting area layout should not be amended without first informing Toptracer.

### *Golf Balls*

The *system* operates with all types of standard golf balls. For optimum functionality, white golf balls should be used. If the customer intends to change golf ball colors or alter the standard of golf ball used at its facility, it must inform Toptracer.

### *Facility Alterations*

If the customer makes any alterations to any aspect of its facility (i.e. without limitation, the positioning of targets), this may affect *system* performance and may cause downtime and/or require Toptracer to recalibrate the *system* or provide other support, which may be charged at Toptracer's then standard rates.

### 3. System Performance

This section sets out the *system's performance* under "normal" conditions and a variety of other environmental and non-environmental conditions. Any reference to the quality of the system's performance must be judged against the performance levels detailed in this section.

#### *General tracking capabilities*

A single *system* is able to track multiple *shots* that are hit simultaneously from multiple *bays* located on up to three floors. All *bays* between and below the two tracking *sensors* are covered by the system. Shorter *shots* (less than 50yards) are not guaranteed from the *bays* on the ground floor when *sensors* are placed on the ceiling of the third floor.

#### *Limit number of concurrent tracked shots*

The *system* will work well on a large and busy driving range, where an average of up to four *shots* per minute are hit per *bay* (up to 400 shots per minute on a 100-bay facility), as long as the *shots* are hit at a random pace and are not coordinated to happen all at once.

#### *Performance under normal conditions*

Conditions	Reliability (% of shots* tracked)	Accuracy of measured targets	Accuracy of carry impact (typical)	
Daylight, light wind	Typical 95%, minimum 90%	The <i>system</i> knows the position of all key targets on the range. The accuracy of the target positions is 2% (or better) of the total distance to each target.	Shots < 150yd	Majority of tracked shots have an impact position error, in relation to the closest target, of less than 2% of the total length of the shot.
			Shots > 150yd	Majority of tracked shots have an impact position error, in relation to the closest target, of less than 5% of the total length of the shot.

How is accuracy is measured:

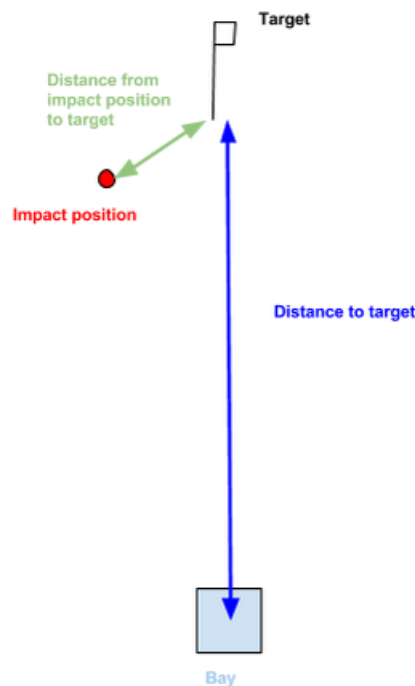
- As set out in the table above, accuracy is always calculated by measuring a *shot's* landing position to the nearest Target. Landing position is the first time a *shot* hits the ground, bounce or roll is not included.
- Accuracy is calculated as a % of a *shot's* total distance and is measured by comparing results tracked by the *system* against physical measurements recorded with



measuring tape/wheel (not a range finder or similar).

- **Example:**

- A 200-yard *shot* is measured by the *system* as landing two yards from the nearest *target*.
- The same *shot* is physically measured as landing 1 yard from the *target*.
- Accuracy % = (System Measurement - Actual Measurement)/Shot Length, x 100
- Accuracy % = (2-1) /200 x 100= 0.5%
- Therefore this *shot* would be fall within the System's Accuracy commitment of 5% for a *shot* over 150 yards.



### *Performance under other conditions*

The performance of the *system* may be affected by inclement weather or other environmental or other conditions outside Toptracer's control. The preceding section of this document describes the performance of the system under normal conditions only, while this section addresses performance under certain common other conditions. If more than one of the conditions below happen at the same time, the combined effect of the conditions may further reduce performance.

Performance commitments are not given for any conditions not listed in the table on the following page. The table uses the following definitions:

- *High reliability* = same reliability as in normal conditions
- *Medium reliability* = 80-90% of shots tracked
- *Low reliability* = 0 - 80% of shots tracked
- *High accuracy* = same accuracy as in normal conditions
- *Medium accuracy* = half the accuracy of normal conditions
- *Low accuracy* = worse than half the accuracy of normal conditions

Condition	Known issues	Cause	Toptracer guarantees	Toptracer does NOT guarantee	Comments (for information purposes only)
<i>Common conditions</i>					
Rain	Reliability and accuracy.	Reduced visibility and stress of the system.	<b>Medium reliability and medium accuracy</b> in light to moderate rain.	* Reliability or accuracy in moderate to heavy rain. * Reliability or accuracy when there is water on the front glass of the sensor housing.	
Non-daylight conditions (including dusk and dawn)	If artificial lighting is insufficient, reliability and accuracy may be reduced.	The sensors require a minimum amount of light to track golf shots with high reliability.	<b>High reliability and medium accuracy</b> , provided that the artificial light requirements specification provided by Toptracer has been fulfilled by customer.		See section - Artificial light requirements.
Strong winds	Strong winds may reduce reliability and accuracy	Winds may shake the sensors which lowers reliability. Strong winds may also reduce the accuracy if the ball for some reason cannot be tracked all the way to the ground. Wind may also cause movement of background objects (trees, etc.) which can affect reliability	<b>Medium reliability and medium accuracy</b> if wind speeds do not exceed 18mph and the sensors are mounted to a rigid building. If the system is being used in artificial light, accuracy of shots in windy conditions that are longer than 100 yards are not included in the accuracy guarantee.	Reliability or accuracy if wind speeds exceed 8mph and/or the sensors are mounted to a building that is moving due to wind.	
Fog	Fog can reduce accuracy and in very heavy fog, reliability may also be affected.	Low visibility	<b>High reliability and medium to low accuracy</b> in low to medium fog.		
Sun facing into the cameras	A rising or setting sun facing into a tracking sensor may affect reliability and accuracy		<b>Medium reliability</b>	Accuracy not guaranteed	

### *Testing for defects*

System performance can only be accurately measured through a reasonable sample of Shots which are properly recorded. As such, prior to claiming that an Issue exists, Customer must perform a test session of at least 20 Shots and complete a Test Protocol form which Toptracer can provide.

#### 4. Maintenance and Support of the Toptracer Range System

##### Maintenance services

Maintenance Services are proactive services carried out by Toptracer on an ongoing basis aiming to ensure the continual proper functioning of the *system*, rather than addressing any specific customer-reported issues. Maintenance is delivered both remotely and through site visits, as detailed below.

- *Remote maintenance* – General software maintenance via remote access tools and monitoring systems that positively affect the quality or normal operation of the system. For example, a daily review of system faults, installation of fixes, patches or other software-related updates and ongoing sensor calibration updates. A customer might never be aware of the remote maintenance, but the Toptracer team are always working in the background to ensure the smooth operation of the system.
- *Field maintenance* – Hardware maintenance via site visits by Toptracer staff. Site visits may be specifically scheduled maintenance visits or carried out in conjunction with other visits by Toptracer staff to the facility.
- *Maintenance time commitments* – Toptracer commits to providing maintenance services for the following time commitments:

MAINTENANCE TYPE	TIME COMMITMENT
REMOTE	24 hours per year (delivered as approximately 2 hours per month)
ON-SITE	1 site visit per year

##### Support services

Support services are reactive services offered by the Toptracer team and are provided on a remote basis in response to customer requests regarding the system. Instructions on how customers should contact Toptracer are described in the *Contact Us* section (Page 20). Customer requests are organized into three categories: (i) System Performance Issues; (ii) Customer Sales or related requests; and (iii) Technical Support (non-performance related).

##### 1. System Performance Issues

System performance issues can be software or hardware related and could include untracked *shots*, a malfunctioning *screen* or accuracy issues. When the customer perceives a performance issue they should contact the support center to submit a support ticket. The support center will classify it accordingly and provide first line

support as appropriate. An issue only exists where the system fails to perform in line with the performance levels set out in this document.

a. Performance Issue Classifications

- i. **Class A** – complete *system* failure (or complete failure of one or more *sensor* pairs), meaning that no tracking is being provided to any *bays* at the *facility* (or to the *bays* covered by the failed pair of *sensors*). Could be caused by *hardware* or *software issues*, *sensor* or *server* failures are always treated as Class A.
- ii. **Class B** – All individual *hardware* item failures, other than *sensors* or *servers* (which are covered under Class A).
- iii. **Class C** – Accuracy or reliability issues as defined in the System Performance section of this document (Page 18).

ISSUE	RESPONSE TARGET	RESOLUTION TARGET
CLASS A	6 HOURS	3 DAYS
CLASS B	1 DAY	SHIP REPLACEMENT WITHIN 5 DAYS
CLASS C	2 DAYS	7 DAYS

## Service Level Further Details

- Class A and B Issues are deemed to be “resolved” once the issue no longer exists or the *system* performs such that the Issue no longer exists or can be moved to a lower classification.
  - Toptracer’s attempts to resolve Issues will be carried out remotely. Any engineer call-outs and site visits will be at Toptracer’s sole discretion. This does not affect the resolution targets (as set out above) or the customer’s right to claim service credits (as set out below).
  - Toptracer’s commitment for Class B issues is to ship replacement *hardware* within 5 days. Once *hardware* is delivered, Toptracer will remotely instruct the customer (or their contractor) on how to install the replacement. If the customer is unable or uncomfortable in installing the *hardware* itself, Toptracer will arrange a convenient time to conduct a site visit and install the *hardware*, but no commitment is given for lead times for such site visits.
  - If *hardware* needs to be replaced due to an Exclusion, Toptracer will continue to adhere to the resolution targets set out in Class B. Such replacements will be at the customer’s cost and ownership of such replacement hardware will remain with Toptracer.

## Service Credits

ISSUE	SERVICE CREDIT	WHEN APPLIES?
<b>CLASS A</b>	100% License fee discount for affected bays	From when resolution target is missed until issue is resolved *
<b>CLASS B</b>	100% License fee discount for affected bays	From when resolution target is missed until issue is resolved*
<b>CLASS C</b>	10% License fee discount for affected bays	From when resolution target is missed until issue is resolved

\* Up to a maximum of 30 days. If a Class A or Class B issue persists for more than 30 days the Customer has the right to terminate the License Agreement.

### *Claiming Service Credits*

To receive a service credit a customer must request it in writing with complete details within five business days of becoming eligible. Service credits are applied as credits to the customer's account. Payments will not be offered to customers, nor will any reductions be made to customer's regular monthly licensee fee payments, unless expressly agreed to by Toptracer. Toptracer will consolidate any service credits annually and make account adjustments as necessary.

## 2. Customer sales and related requests

Such requests should be made via the Support Centre and will generally be prioritised in the order received. No guarantees are given as to response or resolution times. Certain requests may affect the license fees payable by the Customer under their License Agreement, but this will be discussed and agreed in advance.

## 3. Technical Support

Customers may contact the Support Center for general technical support inquiries, excluding specific system performance related issues. Examples include questions on how to operate the bay management system or setting up and conducting a contest (i.e. long drive at the customer's facility). Where possible the Support Center will aim to resolve technical support queries directly with the Customer. No guarantee is given for response or resolution times.

## 5. Contacting Toptracer Support

The primary point of contact with Toptracer is the dedicated support center. Contact can be made by email:

✉ North America: [support-us@ttrange.com](mailto:support-us@ttrange.com)  
UK and Europe: [support-uk@ttrange.com](mailto:support-uk@ttrange.com)  
Japan: [support-jp@ttrange.com](mailto:support-jp@ttrange.com)  
Korea: [support-kr@ttrange.com](mailto:support-kr@ttrange.com)

Clients can also contact their dedicated account managers by phone.

### Support tickets

For support regarding system performance issues, contact the support center with the required information set out in this document. Response and resolution targets only begin once complete information is received, along with any additional information requested by the support center. Any time where Toptracer is waiting on further information from Customer is discounted when calculating response and resolution times.



## 6. Customer Obligations

Provisions by Toptracer of maintenance services are contingent upon the Customer fulfilling its own obligations in respect of the system, which include (without limitation) the following:

- Compliance with all obligations set out in the *License Agreement*.
- Compliance with all obligations set out in the *System Requirements* section of this manual (Page 9), including:
  - Power and data wiring
  - Internet connection
  - Artificial lighting
  - Outfield design
  - Target positioning
  - Roof Coverage
  - Bays
  - Golf balls
- Provide suitable space to accommodate *servers* for the *system*
- Keep all *bays*/locations at the *facility* using the system open, functional and in good order
- Keep all hardware clean and free of obstruction (i.e. cobwebs, etc.)
- Maintenance of any of Customer's own computers, screens, payment systems, ball dispensers or other Customer owned equipment.
- Provision of suitably qualified staff who are skilled and able to provide accurate information to work with Toptracer to investigate any issues.
- Ensuring remote access to the *system* is always available, as well as providing access to all documentation, diagnostics programs, etc.
- Obtaining and maintaining all permission, licenses, permits and other approvals that may be required to operate the Toptracer Range System (i.e. use of video camera recording equipment).
- Ensure that all third-party services that the system relies upon (i.e. power and data) are maintained to a suitable standard.

## 7. Exclusions and Miscellaneous Terms

### Exclusions

We are proud of our technology and the level of support we can provide, but there are certain things we are not responsible for, and which are not covered by Support and Maintenance, these include:

- Any failure by Customer to perform its obligations, as described in the *Customer Obligations* section (Page 9)
- Breaches of the license agreement by the Customer
- Modifications or maintenance to the system performed by anyone other than Toptracer or a Toptracer authorized representative
- Use of the system contrary to the instructions for use or other than for its permitted purpose (as defined in the License Agreement)
- Defects or failures in third party hardware, network and/or third-party software;
- Any hardware or software issue related to abuse/misuse/theft/criminal damage/negligence or similar
- Fire alarms
- Building construction works
- Devices connected to the system (i.e. end-user smart phones)
- Force majeure events including but not limited to fire, flood, earthquake, windstorm or other natural disaster; act of any sovereign including but not limited to war, invasion, act of foreign enemies, hostilities (whether war be declared or not), civil war, rebellion, revolution, insurrection, military or usurped power or confiscation, nationalisation, requisition, destruction or damage to property by or under the order of any government or public or local authority or imposition of government sanction embargo or similar action; law, judgment, order, decree, embargo, blockade, labour dispute including but not limited to strike, lockout or boycott; national calamity, riot or mourning, interruption or failure of utility service including but not limited to electric power, gas, water, telephone or internet service; theft or vandalism, any environmental, weather or other conditions highlighted in the system specification; adverse weather or environmental conditions (including without limitation snow, heavy rain, fog, smog, poor visibility, dust or sand storms, insect swarms or infestations and unexpected daylight conditions), or any other matter or cause beyond the control of Toptracer.

### Miscellaneous terms

- Temporary solutions (i.e. utilizing existing sensors to cover additional areas) to help overcome any customer-created Issues are provided in good faith, and any related problems concerns cannot be classed as *issues* and are not covered by support and maintenance.

- Toptracer is entitled to charge (at our then standard rates) for time spent investigating alleged Issues, which do not turn out to be a deficiency with the *system*.
- **CUSTOMER ACKNOWLEDGES AND AGREES THAT THE SUPPORT AND MAINTENANCE SERVICES ARE PROVIDED SUBJECT TO THE TERMS AND CONDITIONS OF THE LICENSE AGREEMENT, IN PARTICULAR SECTION 8 THEREOF, AND THE LIMITATIONS AND EXCLUSIONS SET OUT THEREIN. IN THE EVENT OF ANY INCONSISTENCY BETWEEN THIS MANUAL AND THE LICENSE AGREEMENT, THE LICENSE AGREEMENT SHALL PREVAIL.**

## 8. Glossary

Various italicized words and phrases are used throughout this manual for clarity and consistency. We intend their meaning to be self-explanatory in most cases, but the following glossary is provided to ensure frequently used terms are clarified:

**“Bay”**: individual golf hitting stations covered by the system at the facility, as more fully described in *Toptracer Range System Specifications* (Page 4).

**“Exclusion”**: the list of circumstances on page 28) which may cause an Issue but is not Toptracer’s responsibility and are therefore not covered by Toptracer’s *Maintenance and Support*.

**“Facility”**: the customer’s driving range or other golf facility at which the system is installed.

**“Hardware”**: the *sensors, screens, server* and other *hardware* leased by Toptracer to the customer and expressly identified in the *License Agreement*.

**“Issue”**: a failure by the *system* to perform in accordance with the standards set out in the System Performance section (Page 12), outside of items attributable to exclusions

**“License Agreement”**: the customer’s agreement with Toptracer for the license and operation of the *system*.

**“Manual”**: this technical guide and support manual

**“Screen”**: touch *screens* provided and installed by Toptracer in bay(s) at the *facility* and forming part of the *system*, as more fully described in the *System Overview* section (Page 6).

**“Sensor”**: the Toptracer Range cameras installed at the customer’s *facility* to conduct ball tracking, as fully described in the *System Overview* section (Page 6).

**“Server”**: a server provided and installed by Toptracer at the *facility* for use as part of the *system*, as fully described in the *System Overview* section (Page 6).

**“System”**: the entire Toptracer Range system covered by this document, see *system overview* section (page 6).