

CDX Phone Transceiver

User Manual

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Safety

This product is designed to assist in improving safety on a go-karting track. While it may help reduce certain risks when used correctly, it does not eliminate hazards associated with go-karting activities and **cannot replace proper track safe operating procedures, trained personnel, or compliance with applicable safety regulations.**

While every effort has been made to ensure the accuracy of the information contained in this manual, the manufacturer cannot be held responsible for errors, omissions, or inaccuracies in this publication.

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FCC statement

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This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation. Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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1 Introduction

The CDX Phone Transceiver is a device used to transmit speed commands to the CDX EV controller. See Chapter 4 (Technical data) for frequency and antenna details. The CDX Phone Transceiver is integrated into the protective phone case used with the mobile device. The Phone Transceiver is specially designed to support a handheld mobile device and is intended for operation by track marshals moving along the go-karting track. This product is intended as supplementary control device and does not replace established track procedures and supervision.

1.1 Package contents

The following items are supplied with the CDX Phone Transceiver.

- CDX Phone Transceiver

- Charger cable

- Charger adapter



Figure 3: CDX Phone Transceiver



Figure 1: USB charger cable



Figure 2: Charger adapter

1.2 Compatible expansion components

- CDX EV Controller
 - The CDX Phone Transceiver controls the CDX EV Controller to limit the speed on a go-kart.
- CDX Tablet Transceiver
 - The CDX Phone Transceiver can control the CDX EV Controllers together with CDX Tablet Transceivers. Speed settings are automatically synchronized between the CDX Phone Transceiver and the CDX Tablet Transceiver such that both are able to control and show the speeds of CDX EV Controllers.
- Lanyard
 - The CDX Phone Transceiver is provided with a lanyard attachment point on the underside of the device. A lanyard may be attached to support hands-free handling during operation. The use of a lanyard is recommended to assist with device handling when the operator needs to perform additional tasks, such as track signaling.

1.3 Overview of product features

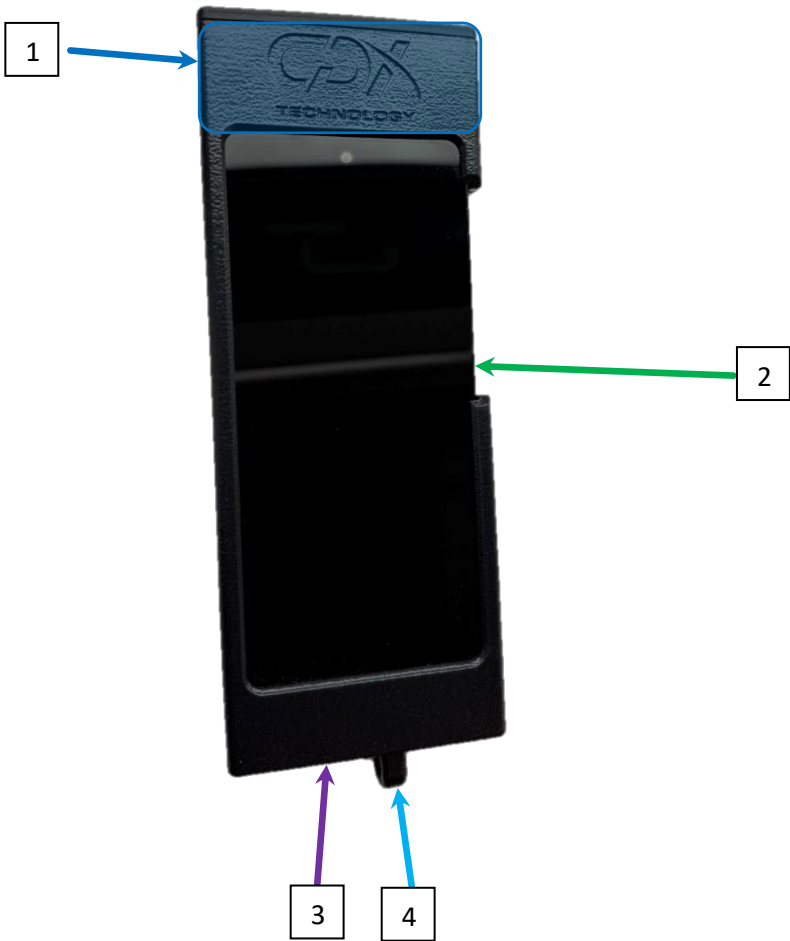


Figure 5: Front side of CDX Phone Transceiver with important parts highlighted

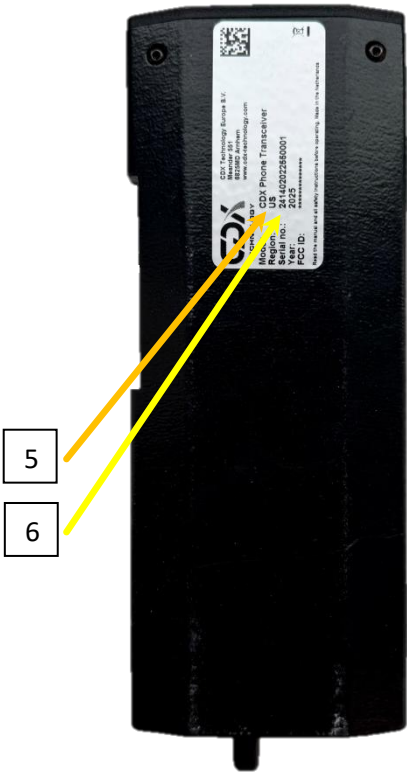


Figure 4: Back side of CDX Phone Transceiver with important parts highlighted

NUMBER		DESCRIPTION	
1.		Antenna location	
2.		On/Off button	
3.		USB-C charging connector	
4.		Lanyard attachment point	
5.		Region	
6.		Serial Number	

2 Operating instructions

The CDX Phone Transceiver is used to send speed commands to the CDX EV Controller. Track marshals positioned alongside the go-karting track monitor on-track activity and overall safety. If necessary, they can remotely adjust the speed of individual go-karts or bring them to a complete stop by transmitting speed commands via the CDX Phone Transceiver.

2.1 CDX Phone Transceiver User Interface

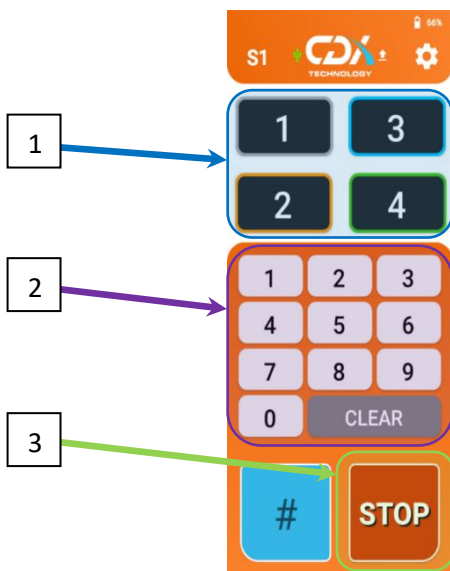


Figure 6: CDX Phone Transceiver Interface

NUMBER	DESCRIPTION
1.	Group go-kart speed control
2.	Individual go-kart speed control
3.	STOP button

2.2 Group speed control

Group speed control is used to activate a speed setting for all go-karts, within the range of the CDX Phone Transceiver. The group speed control buttons are shown in Figure 6, and highlighted with number 1.

2.3 Individual speed control

Individual speed control is used to apply a speed setting for a specific go-kart. The individual speed control buttons are shown in Figure 6, and highlighted with the number 2.

For example, if all go-karts are set to speed 4, but kart 22 is individually set to speed 3, the remaining go-karts will continue to run at speed 4.

2.4 Synchronization between Remote controls

All CDX Control interfaces (Tablet and Handheld) support synchronization functionality. When synchronization is active, the current speed setting of the assigned group is displayed on each control interface. The displayed speed setting can be found in the upper-left corner of the screen, next to the CDX Technology logo, referred to as S1 up to S4 (or S8 if the 8 speed settings are used).

2.5 Charging

Charging starts when the charger is plugged into the USB-C connector on the bottom side of the CDX Phone Transceiver, which is shown with the number 3 in Figure 5. The CDX Phone Transceiver must be powered on to allow the charging process to initiate. To support normal operation, it is recommended to avoid allowing the battery level to drop below approximately 20%. If the battery level is too low to allow charging while installed in the casing, the phone must be removed from the casing and charged separately.

Charging should only take place using the supplied charger and the supplied USB-C cable.

3 System Configuration

The CDX Phone Transceiver has various features that can be configured. This includes 4 or 8 speed mode, Track ID and Track PIN.

3.1 Speed restriction

The main function of the CDX Phone Transceiver is to limit the speed of go-karts using the CDX EV Controller. This is done using the group speed control buttons that are shown in Figure 6, and highlighted with the number 1.

3.2 4 speed or 8 speed mode

When the motor speed controller on the go-kart uses 4 separate speed presets and a stop command, the CDX Phone Transceiver should be used in 4 speed mode. This is the default configuration of the CDX Phone Transceiver. Optionally, for normal use speed 1-4 and STOP can be sent to the CDX EV controller. An optional 5-8 speed is available for go-karts that have a different motor controller. See the corresponding References CDX Technology Europe B.V. (2026). *CDX_Remote_App_User_Manual*. for further information.

3.3 Track ID and Track PIN

The Track ID and Track PIN feature allows the segmentation of a group of CDX EV controllers. By default the Track-ID is set to '0000' and Track-PIN is set to '0000'. In this mode the CDX EV controller accepts speeds commands from CDX Tablet Transceivers remotes regardless of track id and track pin settings of the CDX Tablet Transceiver. This is done to enhance the safety where someone cannot accidentally block their communication ability.

A Track ID and Track PIN can be used when individual control of two or more groups of go-karts is required. The Track ID and Track PIN are configured in the settings of the CDX Tablet Transceiver and must correspond to the settings in the CDX EV Controller.

This function can also be used to prevent misuse of the system by changing these 2 parameters. Preventing dangerous situations caused by people with malicious intent.

3.4 Region

Every CDX Phone Transceiver is preconfigured to work with the radio frequencies that are permitted in the specific region where it is bought. The region code is shown on the label of the CDX Phone Transceiver, shown in Figure 4, highlighted with the number 5.

It should be noted that the CDX Phone Transceiver only works with other CDX devices configured to the same region (frequency). Additionally, Transceivers are intended for use only in the region for which they are configured.

4 Technical data

This chapter presents the technical data in tables by category.

Electrical characteristic	Min	Typ.	Max	Unit
Charging input voltage	5	5.2		V (DC)
Charging input current		2.5		A

Environmental characteristic	Min	Typ.	Max	Unit
Operational temperature ¹	0		45	°C
Storage temperature	-20		60	°C

Radio characteristic		Unit
Transmission radio frequency	869 (Europe), 908 (North America)	MHz
Transmission power	16 (Europe), 251 (North America)	mW
Radio modulation	Direct sequence spread spectrum (DSSS)	
Radio antenna	PCB antenna	
Radio antenna gain	4.85	dBi

Physical characteristic		Unit
Dimensions (Width × Length × Height)	212 x 83 x 20	mm
Housing material	TPU	

¹ Upon request, wider temperature ranges are available.

5 References

1. CDX Technology Europe B.V. (2026). *CDX_Remote_App_User_Manual*.