TOYOTA GR86 / SUBARU BRZ CHASSIS

GEN2 PODIUM LINE RACING STEERING WHEEL SYSTEM

INFORMATION PACKET

SYSTEM ARCHITECTURE / PROGRAMMING / FUNCTION LIBRARY / FITMENT

DOCUMENT SCOPE

This editable packet summarizes system capabilities and the supplied MadtraceLAB function library. Actual functionality depends on vehicle chassis, market, factory equipment, installed options, and software configuration.

EXAMPLE CONFIGURATION SHOWN WITH OPTIONAL OLED DID

OVERVIEW

WHERE THE PODIUM LINE FITS

PRODUCT LINE POSITIONING

Clubsport Line is the streamlined GEN2 entry point. It retains factory steering-wheel functions, plug-and-play installation, programmable buttons, RGB lighting, MadtraceLAB, and multi-profile storage, but it does not include RevLED, center-console commands, advanced race controls, dual paddles, or the rear profile quick switch.

PODIUM Line adds the deeper control layer while preserving the freedom to use compatible round racing wheels. RevLED, center-console functions, advanced race controls, rear profile quick switching, and optional dual paddles distinguish it from Clubsport.

Formula Line carries the same high-level electronic capability into a purpose-designed GT/formula wheel. Its OLED DID and single magnetic paddles are standard, while traditional MOMO and NARDI adapters are not offered.

GEN1 is the legacy fixed-layout platform. It retains factory functions and plug-and-play installation, but it does not include programmable layouts, RGB customization, MadtraceLAB, RevLED, multi-profile operation, or advanced vehicle controls.

LINE	PRIMARY POSITION	KEY DIFFERENCE
Clubsport	GEN2 entry platform	Core factory functions and programmable controls; no RevLED or advanced race controls.
PODIUM	**Expanded GEN2 platform**	**RevLED, center-console and race controls, quick profile switching, and optional dual paddles.**
Formula	Dedicated GT wheel	Formula-specific wheel architecture; OLED DID and single paddles are standard.
GEN1	Legacy platform	Fixed layout; no MadtraceLAB, RGB customization, multi-profile operation, or RevLED.

PODIUM LINE TAKEAWAY

PODIUM combines Formula-level electronic control with greater steering-wheel and accessory flexibility.

PRODUCT LINE COMPARISON: CORE PLATFORM

FEATURE	CLUBSPORT	PODIUM	FORMULA	GEN1
Factory steering-wheel functions	Standard	**Standard**	Standard	Standard
Completely plug and play	Standard	**Standard**	Standard	Standard
Programmable button layout	Standard	**Standard**	Standard	Fixed layout
RGB customizable button colors	Standard	**Standard**	Standard	Not equipped
MadtraceLAB	Standard	**Standard**	Standard	Not equipped
OLED Driver Information Display (DID)	Optional	**Optional**	Standard	Not equipped
Single magnetic paddle shifter	Optional for AT	**Optional for AT**	Standard	Optional for AT

HOW TO READ THE TABLE

Standard = included in the line architecture. Optional items depend on vehicle, transmission, and ordered configuration. AT = automatic transmission.

PRODUCT LINE COMPARISON: RACE CONTROLS + ADAPTERS

FEATURE	CLUBSPORT	PODIUM	FORMULA	GEN1
Dual magnetic paddle shifters	Not equipped	**Optional for AT**	Not offered as an option	Not equipped
RevLED CAN bus shift lights	Not equipped	**Standard**	Standard	Not equipped
Center-console functions	Not equipped	**Standard**	Standard	Not equipped
Advanced race controls	Not equipped	**Standard**	Standard	Not equipped
Multi-profile settings	Standard	**Standard**	Standard	Not equipped
Rear button profile quick switch	Not equipped	**Standard**	Standard	Not equipped
6×70 mm MOMO original horn-cap adapter	Optional	**Optional**	Not equipped	Optional
6×74 mm NARDI-type steering-wheel adapter	Optional	**Optional**	Not equipped	Optional

WHY PODIUM STANDS APART

PODIUM adds the major race-control functions missing from Clubsport and GEN1 while retaining optional MOMO/NARDI adapter compatibility that Formula does not offer.

EXECUTIVE SUMMARY

This packet documents the JQ Werks Madtrace GEN2 PODIUM Line configuration for the Toyota GR86 ZN8 and Subaru BRZ ZD8 chassis.
The control hub combines CAN bus and LIN bus communication so supported factory and expanded vehicle functions can be operated from the racing steering wheel system.
A vehicle-specific harness, CAN integration module, adapter hub, and quick-release base with integrated chassis PCB create a plug-and-play installation without factory-wire splicing.
Eight front-facing buttons and two joystick-style rotary controls can be assigned through MadtraceLAB to the supported Steering Wheel, Car Control, and General commands reproduced in this packet.
Three complete profiles can be stored in the hub, each with independent button assignments and illumination settings.
RevLED CAN bus shift lights are standard; the OLED Driver Information Display and programmable magnetic paddle configurations are ordered options.
Command availability varies by GR86/BRZ market configuration, transmission, factory equipment, installed hardware, coding, and software.
The system removes the factory steering wheel and airbag and is intended exclusively for off-road, track, racing, and competition use.

FUNCTION AVAILABILITY

Slides 15 through 18 reproduce every function shown in the supplied Toyota GR86 / Subaru BRZ MadtraceLAB Steering Wheel, Car Control, and General screens. A listed command is a mapping option; operation still depends on the exact vehicle and configuration.

MECHANICAL CONSTRUCTION

PODIUM LINE HARDWARE

The control housing is machined from 6061-T6 billet aluminum using 5-axis CNC processes for accurate geometry, consistent alignment, and a premium finished surface.
Black anodizing provides the final exterior finish and complements the matching adapter hub and quick-release assembly.
The motorsport-grade adapter hub and quick-release base are machined from 7075-T6 billet aluminum and designed as a matched mechanical and electrical interface.
The quick-release base contains an integrated chassis PCB, reducing exposed components and keeping the vehicle-side interface compact.
Front button pods and dual joystick controls keep frequently used commands within reach while the driver's hands remain on the wheel.
The standard horn cap can be replaced by the optional OLED DID without redesigning the rest of the steering wheel system.

CONFIGURATION SHOWN

Steering wheel, paddle configuration, horn-cap adapter, and OLED DID selection may change the appearance of the completed system.

VEHICLE INTEGRATION: CAN + LIN

Modern Toyota and Subaru controls are distributed across multiple electronic networks. The PODIUM Line combines CAN bus and LIN bus integration within the steering-wheel control system.

CAN communication provides access to supported vehicle data and commands, including shift-light RPM data, drive-mode controls, stability controls, driver-assistance commands, and general vehicle controls.

LIN communication supports compatible factory steering-wheel electronics and helps preserve expected behavior within the original control environment.

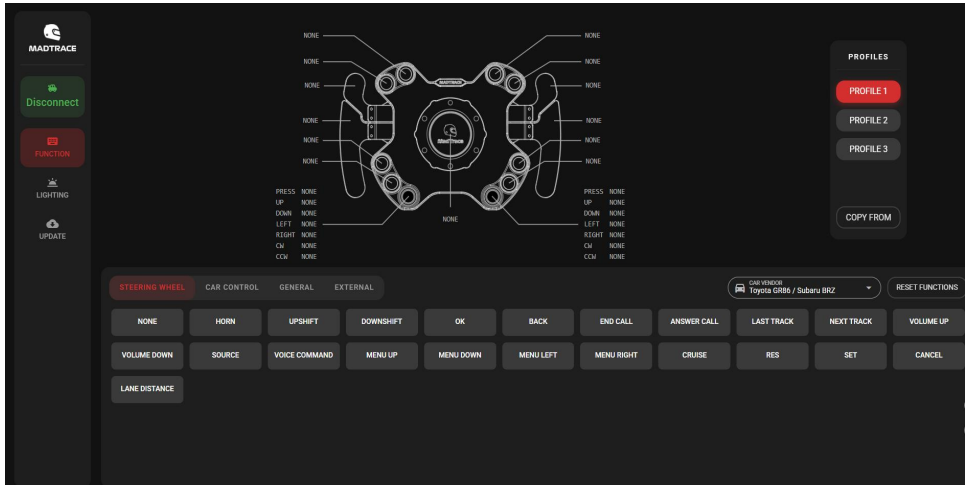
For the Toyota GR86 / Subaru BRZ profile, MadtraceLAB exposes horn, upshift/downshift, OK/back, phone-call, media, voice, menu-navigation, cruise-control, lane-distance, track, sport, stability-control, snow-mode, flash, turn-signal, and single-wipe commands.

Confirm the ZN8/ZD8 chassis, market configuration, transmission, adapter hub, harness, CAN integration module, factory equipment, coding, and software before mapping. See pages 14 through 18 for paddle and function-library information.

MADTRACELAB 2.0

MadtraceLAB is the configuration and update platform for the GEN2 control hub.
The Function workspace displays the steering wheel graphic, available input locations, selected vehicle vendor, function categories, and active profile.
A user can select an input and assign a supported command from the Steering Wheel, Car Control, General, or available External category.
Lighting settings control button illumination and RevLED behavior for visibility, recognition, and driver preference.
The Update section manages compatible software and feature OTA updates through the hub's USB-C service connection.
Copy From can transfer an existing layout into another profile before profile-specific changes are made.

MADTRACELAB FUNCTION WORKSPACE



SCREENSHOT CONTEXT

The screenshot shows the Toyota GR86 / Subaru BRZ vehicle configuration. Select this exact vendor profile before programming, then verify every assigned command on the installed vehicle.

MULTI-PROFILE SETTINGS + QUICK SWITCH

Up to three complete profiles can be stored directly in the hub's internal memory.
Each profile keeps independent button assignments and illumination settings.
A performance profile can prioritize TRACK MODE(CSC TRACK), SPORT, ESP, SNOW, cruise, and lane distance.
A road-course profile can emphasize shifting, OK/back, menu navigation, media, signals, flash, and single wipe.
A third profile can support another driver, an endurance layout, or a verified revision.
The rear switch recalls saved maps instantly; the optional DID supports on-wheel mapping and profile changes.

STORED PROFILE	SUGGESTED USE	WHAT IS RETAINED
Profile 1	Primary race layout	Driver-selected functions + lighting
Profile 2	Clubsport / secondary driver	Independent functions + lighting
Profile 3	Endurance / secondary vehicle	Independent functions + lighting

CONTROL INPUT ARCHITECTURE

FRONT-FACING CONTROLS

Eight front-facing push buttons provide direct access to frequently used mapped functions.
Two joystick-style rotary controls expand the input count without adding more button pods.
Each joystick can support Press, Up, Down, Left, Right, Clockwise, and Counterclockwise assignments when enabled.
Paddle inputs are displayed separately and can be assigned to shifting or other supported commands.
An input may be left as None to prevent accidental activation or reserve the position for a future profile revision.

INPUT GROUP	AVAILABLE ACTIONS	TYPICAL GR86 / BRZ ASSIGNMENT
FRONT BUTTONS	8 PUSH INPUTS	Horn, OK/back, calls, cruise, track modes, or media
LEFT JOYSTICK	PRESS / U / D / L / R / CW / CCW	Menu navigation, volume, source, voice, or other verified commands
RIGHT JOYSTICK	PRESS / U / D / L / R / CW / CCW	Menu navigation, lane distance, cruise, or media
PADDLES	2–4 PROGRAMMABLE INPUTS	Upshift/downshift, signals, flash, single wipe, or other verified commands
REAR SWITCH	PROFILE SELECTION	Profile 1 / Profile 2 / Profile 3

HUMAN-FACTORS NOTE

Place functions where they can be identified and operated without the driver looking away from the track. Keep critical commands consistent across profiles.

REVLED SHIFT LIGHT + ILLUMINATION

RevLED CAN bus shift lights are standard equipment on the PODIUM Line control hub.
In MadtraceLAB 2.0, the user can set the RPM threshold at which the shift-light sequence begins and the redline alert flashes.
Engine-speed data is received through the vehicle communication system so the sequence can respond to the supported RPM signal.
The LEDs progress through the configured sequence, and all lights flash at the programmed redline condition.
Button illumination colors can be customized so groups of controls are easier to recognize during a driving session.
Different profiles may use different lighting schemes, providing visual confirmation of the active button map.
Without the optional DID, lighting behavior is configured through MadtraceLAB. With the DID installed, brightness and RGB button colors can be adjusted directly.
Review redline and illumination settings whenever the hub is moved to another vehicle or the engine calibration changes.

CONFIGURATION RESPONSIBILITY

Shift lights are a driver aid, not a substitute for the vehicle's engine-protection strategy. Match the visual redline to the verified engine setup.

OPTIONAL OLED DRIVER INFORMATION DISPLAY

The optional OLED Driver Information Display replaces the standard center horn cap on the PODIUM Line system.
Through the integrated CAN bus connection, the DID can display supported real-time telemetry such as vehicle speed.
The display provides direct access to button-layout mapping and profile selection without reconnecting the hub to a computer.
Display brightness and RGB button illumination can be adjusted from the DID interface.
Available telemetry channels depend on the selected vehicle and software configuration.
Test the vehicle after any on-wheel mapping change, even when the DID confirms that the assignment was saved.

DID CAPABILITIES

CAPABILITY	STATUS
Real-time speed	Supported telemetry
Button mapping	Direct control
Profile switching	Direct control
Display brightness	Adjustable
RGB button colors	Adjustable
Computer connection	Not required for DID changes

ORDER CONFIGURATION

The OLED DID is optional and is not included in the standard hub kit unless selected with the order.

OPTIONAL MAGNETIC PADDLE CONFIGURATIONS

The PODIUM Line can be configured with optional magnetic paddle controls for the Toyota GR86 ZN8 and Subaru BRZ ZD8 application.
The dual-paddle option adds a second paddle on each side, creating four individually programmable paddle inputs.
Paddle mechanisms are machined from 6061-T6 billet aluminum and designed to provide a motorsport-style interface.
Paddles are not restricted to upshift and downshift; any supported function available to that input may be assigned.
Where the vehicle and transmission support shifting commands, paddles may be mapped to upshift and downshift. On a manual-transmission configuration, they can instead support verified auxiliary functions such as turn signals, flash, or single wipe.
Paddle availability, quantity, and vehicle compatibility must be confirmed when ordering; the standard hub kit does not include every option.

MAPPING SAFETY

Program only functions that can be safely operated from a paddle. Avoid assignments that could cause an unintended vehicle-state change during steering input.

STEERING WHEEL FUNCTIONS: CORE + MEDIA

MADTRACELAB FUNCTION	COMMAND PURPOSE
NONE	Leaves the selected input unassigned.
HORN	Activates the supported horn command.
UPSHIFT	Requests the supported transmission upshift command.
DOWNSHIFT	Requests the supported transmission downshift command.
OK	Confirms the supported menu or display selection.
BACK	Returns to the previous supported menu or display level.
END CALL	Ends the supported active phone call.
ANSWER CALL	Answers the supported incoming phone call.
LAST TRACK	Selects the previous supported media track.
NEXT TRACK	Selects the next supported media track.
VOLUME UP	Raises the supported audio volume.
VOLUME DOWN	Lowers the supported audio volume.
SOURCE	Cycles the supported audio or media source.
VOICE COMMAND	Activates the supported voice-command function.

SOURCE + VERIFICATION

Labels match the supplied Toyota GR86 / Subaru BRZ Steering Wheel screen. Shifting, media, phone, voice, and menu commands require corresponding factory systems, transmission, pairing, coding, and software support.

STEERING WHEEL FUNCTIONS: MENU + CRUISE

MADTRACELAB FUNCTION	COMMAND PURPOSE
MENU UP	Moves the supported menu selection upward.
MENU DOWN	Moves the supported menu selection downward.
MENU LEFT	Moves the supported menu selection left.
MENU RIGHT	Moves the supported menu selection right.
CRUISE	Activates the supported cruise-control main command.
RES	Resumes the supported stored cruise-control speed.
SET	Sets the supported cruise-control speed.
CANCEL	Cancels the active supported cruise-control command.
LANE DISTANCE	Adjusts the supported lane-distance setting.

GR86 / BRZ EQUIPMENT DEPENDENCY

Availability depends on the exact ZN8/ZD8 market configuration, factory controls, installed equipment, coding, and software. Verify every mapping with the vehicle stationary.

CAR CONTROL FUNCTIONS

MADTRACELAB FUNCTION	COMMAND PURPOSE
TRACK MODE(CSC TRACK)	Activates the supported CSC Track / track-mode command.
SPORT	Activates the supported sport-mode command.
ESP	Accesses the supported stability-control command.
SNOW	Activates the supported snow-mode command.

GR86 / BRZ CHASSIS + EQUIPMENT DEPENDENCY

Availability depends on the exact ZN8/ZD8 market configuration, transmission, factory equipment, coding, and software. Verify every control before competition use.

GENERAL VEHICLE FUNCTIONS

MADTRACELAB FUNCTION	COMMAND PURPOSE
NONE	Leaves the selected input unassigned.
FLASH	Activates the supported high-beam flash command.
LEFT TURN SIGNAL	Activates the supported left-turn-signal command.
RIGHT TURN SIGNAL	Activates the supported right-turn-signal command.
SINGLE WIPE	Requests one supported windshield-wiper cycle.

These labels match the supplied Toyota GR86 / Subaru BRZ General screen.
Lighting, turn-signal, and single-wipe commands depend on the exact vehicle, market configuration, installed equipment, coding, and software.
Verify every assignment with the vehicle stationary before competition use.

VEHICLE FITMENT + INCLUDED EQUIPMENT

TOYOTA GR86 ZN8 / SUBARU BRZ ZD8 APPLICATION

VEHICLE FAMILY	CHASSIS	APPLICATION NOTE
TOYOTA GR86	ZN8	CONFIRM ZN8 CHASSIS, MARKET CONFIGURATION, TRANSMISSION, FACTORY CONTROLS, AND ORDERED HARDWARE
SUBARU BRZ	ZD8	CONFIRM ZD8 CHASSIS, MARKET CONFIGURATION, TRANSMISSION, FACTORY CONTROLS, AND ORDERED HARDWARE

EACH PODIUM LINE HUB KIT INCLUDES

1x PODIUM Line control hub unit
1x Quick-release base with integrated chassis PCB
1x CAN bus integration module
1x Vehicle harness kit
1x Resistor
1x Adapter hub
1x Adapter hub locking wrench
1x Trim-removal tool
1x Hardware kit
1x USB Cable
1x Allen key
1x Button-sticker set
1x JQ Werks / Madtrace sticker set

OPTIONAL EQUIPMENT

OLED DID, paddle shifters, MOMO horn-cap adapter, NARDI steering-wheel adapter, and steering-wheel rim selection are optional unless included in the purchased configuration.

CONFIGURATION WORKFLOW

1. Confirm the Toyota GR86 ZN8 or Subaru BRZ ZD8 chassis, market/region, transmission, factory steering-wheel controls, installed options, adapter hub, harness, and required commands.
2. Install the vehicle-specific adapter hub, harness, CAN integration module, and quick-release base according to the applicable guide. Do not splice factory wiring.
3. Connect the control hub through USB-C and confirm compatible MadtraceLAB software and system updates.
4. Select the correct vehicle configuration and map only commands supported by the actual vehicle and required by the driver.
5. Create Profile 1 as the verified baseline. Copy that layout to Profiles 2 and 3 before condition- or driver-specific changes.
6. With the vehicle stationary, test every button, joystick direction, rotary action, paddle, profile switch, RevLED sequence, and optional DID command.
7. Repeat verification after any software update, vehicle change, engine calibration change, or profile revision, then record the final map.

IMPORTANT

This is a high-level configuration workflow, not an installation manual. Follow application-specific instructions and use a qualified professional where required.

SAFETY, USE RESTRICTIONS + SUMMARY

IMPORTANT SAFETY INFORMATION

The JQ Werks Madtrace Racing Steering Wheel System is designed only for off-road, track, racing, and competition purposes. It is not intended for street use.
Installation removes the factory steering wheel and airbag. A solid racing steering wheel can increase the risk of bodily injury in a collision.
Do not use the system with the factory three-point seat belt. JQ Werks requires a six-point racing harness with a racing roll bar for off-road use.
Do not install the system on a vehicle subject to state safety inspection.
Laws and required safety equipment vary by country, state, and region. Consult qualified legal and motorsport-safety professionals.
Professional installation, complete stationary function testing, and driver familiarization are recommended before track use.

CONTROL WITH PURPOSE.

JQ WERKS x MADTRACE

SUMMARY

The GEN2 PODIUM Line combines precision-machined hardware, vehicle-network integration, configurable controls, stored profiles, and track-focused information systems in one removable driver-control platform.