



MAZDA MX5 CHASSIS

GEN2 PODIUM LINE RACING STEERING WHEEL SYSTEM

INFORMATION PACKET

SYSTEM ARCHITECTURE / PROGRAMMING / FUNCTION LIBRARY / FITMENT

DOCUMENT SCOPE

This packet documents the Mazda MX5 MadtraceLAB profile, system capabilities, and supplied 26-function library. Actual behavior depends on the exact model year, MX5 or MX5 RF body style, ND generation, transmission, factory equipment, installed options, and software configuration.



EXAMPLE CONFIGURATION SHOWN WITH OPTIONAL OLED DID

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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

- The JQ Werks Madtrace GEN2 PODIUM Line is a quick-release racing steering wheel control system available for supported Mazda MX5 and MX5 RF applications.
- The supplied Mazda MX5 profile exposes 26 assignable commands: 19 Steering Wheel, 1 Car Control, and 6 General functions.
- A dedicated harness, CAN integration module, adapter hub, and quick-release base with integrated chassis PCB provide vehicle-specific integration without wire splicing.
- Eight front-facing buttons and two joystick-style rotary controls can be mapped through MadtraceLAB to supported steering-wheel, media, cruise, ESP, lighting, and wiper commands.
- Three complete profiles can be stored in the hub, each with an independent button map and lighting configuration.
- RevLED CAN bus shift lights are standard; an OLED Driver Information Display and programmable magnetic paddle configurations are optional upgrades.
- The system removes the factory steering wheel and airbag and is intended exclusively for off-road, track, racing, and competition use.

FUNCTION AVAILABILITY

Slides 15–18 reproduce all 26 labels shown in the supplied Mazda MX5 MadtraceLAB screenshots. ND3-specific commands and other equipment-dependent functions must be matched to the exact vehicle profile and hardware.

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.

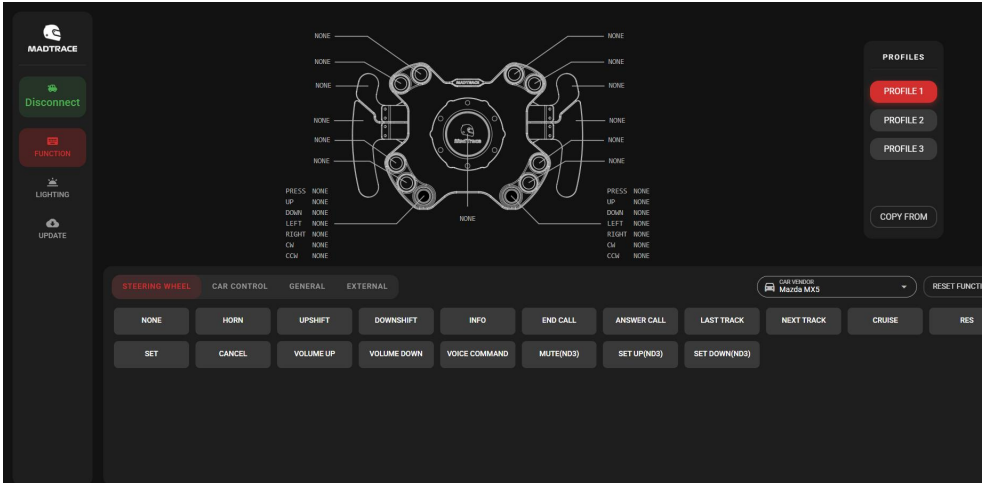
VEHICLE INTEGRATION: CAN + LIN

- Mazda MX5 steering-wheel, media, cruise, stability-control, lighting, and wiper commands are distributed across the vehicle's electronic networks. The PODIUM Line interfaces with supported chassis data through its vehicle-specific integration hardware.
- CAN communication provides supported factory data and commands, including RevLED RPM input, steering-wheel controls, ESP, and the vehicle functions exposed by the selected Mazda MX5 profile.
- LIN communication supports compatible factory steering-wheel electronics where required by the configured application.
- A dedicated vehicle harness and CAN integration module connect the system without cutting or splicing factory wiring.
- The supplied library includes 26 commands. MUTE(ND3), SET UP(ND3), and SET DOWN(ND3) are separate ND3 mappings and must not be assumed on earlier MX5 configurations.

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

Software reference for the Mazda MX5 vendor profile. Confirm the exact model year, MX5 or MX5 RF body style, ND generation, transmission, and software configuration before mapping or copying a profile.

MULTI-PROFILE SETTINGS + QUICK SWITCH

- Up to three complete profiles can be stored directly in the hub's internal memory.
- Each profile can contain independent button assignments and illumination settings.
- A primary race profile can prioritize shifting, ESP, cruise, and the essential road or track commands verified for the vehicle.
- A media-and-cruise profile can group information, call, track, volume, and cruise-control functions.
- A third profile can support a secondary driver, endurance layout, lighting and wiper controls, or other verified commands.
- Use MUTE(ND3), SET UP(ND3), and SET DOWN(ND3) only when the selected Mazda MX5 configuration explicitly supports those ND3 mappings.

STORED PROFILE	SUGGESTED USE	WHAT IS RETAINED
Profile 1	Race baseline	Verified essential commands + lighting
Profile 2	Media / cruise	Independent functions + lighting
Profile 3	Endurance / secondary driver	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 MX5 ASSIGNMENT
Front buttons	8 push inputs	Horn, media, cruise, ESP
Left joystick	Press / U / D / L / R / CW / CCW	Volume, information, call controls
Right joystick	Press / U / D / L / R / CW / CCW	Track selection, ND3 SET controls
Paddles	2 or 4 programmable inputs	Shift, signals, flash, wiper
Rear profile switch	Profile selection	Profile 1 / 2 / 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 supported Mazda MX5 vehicle and transmission applications.
- The dual-paddle option adds a second paddle on each side, creating four individually programmable paddle inputs.
- Paddles are not restricted to upshift and downshift; any supported function available to that input may be assigned.
- For supported automatic-transmission configurations, a common layout uses the lower pair for shifting and the upper pair for signals or other verified commands.
- Manual-transmission MX5 applications can use programmable paddles for non-shifting functions when supported by the selected vehicle profile.
- Do not copy ND3-specific mappings to earlier MX5 configurations without re-verifying every assigned command.
- Paddle availability, quantity, and compatibility must be confirmed when ordering; optional equipment is not included unless selected.

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	CONFIGURATION NOTE
NONE	Leaves the selected input unassigned.	Use for unused or reserve inputs.
HORN	Activates the supported horn command.	Verify stationary before use.
UPSHIFT	Requests an upshift on supported configurations.	Transmission and paddle dependent.
DOWNSHIFT	Requests a downshift on supported configurations.	Transmission and paddle dependent.
INFO	Cycles the supported information display.	Factory display dependent.
END CALL	Ends or rejects a supported phone call.	Infotainment and phone dependent.
ANSWER CALL	Answers a supported phone call.	Infotainment and phone dependent.
LAST TRACK	Selects the previous media track.	Active media source required.
NEXT TRACK	Selects the next media track.	Active media source required.
VOLUME UP	Raises supported audio volume.	Factory audio dependent.
VOLUME DOWN	Lowers supported audio volume.	Factory audio dependent.
VOICE COMMAND	Activates the supported voice-command function.	Infotainment dependent.
MUTE(ND3)	Toggles the supported ND3 mute command.	Use only on verified ND3 profiles.

SOURCE + VERIFICATION

Exact labels reproduced from 28.png. Test every assignment with the vehicle stationary and the correct Mazda MX5 profile selected.

STEERING WHEEL FUNCTIONS: CRUISE + ND3

MADTRACELAB FUNCTION	COMMAND PURPOSE
CRUISE	Selects or activates the supported cruise-control function.
RES	Resumes the supported cruise-control setting.
SET	Stores the supported target speed or setting.
CANCEL	Cancels the supported cruise-control state.
SET UP(ND3)	Requests the supported ND3 set-up command.
SET DOWN(ND3)	Requests the supported ND3 set-down command.

EQUIPMENT + PROFILE DEPENDENCY

MUTE(ND3), SET UP(ND3), and SET DOWN(ND3) require a verified ND3 profile. Cruise functions require the corresponding factory equipment and correct Mazda MX5 software configuration.

CAR CONTROL FUNCTIONS

MADTRACELAB FUNCTION	COMMAND PURPOSE
ESP	Accesses the supported electronic stability-control command.

FUNCTION AVAILABILITY

Exact label reproduced from 29.png. Availability depends on the exact Mazda MX5 model year, selected profile, installed stability-control system, and software configuration.

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.
RIGHT TURN SIGNAL	Activates the supported right turn signal.
SINGLE WIPE	Requests one supported windshield-wiper cycle.
WINDSHIELD WASHER	Activates the supported windshield-washer command.

- Exact labels are reproduced from 30.png for the Mazda MX5 profile.
- Turn-signal and windshield commands are vehicle-configuration dependent and must be verified on the actual car.
- Do not assume the same input map behaves identically across MX5 model years, ND generations, transmissions, or software revisions.

VEHICLE FITMENT + INCLUDED EQUIPMENT

MAZDA MX5 PRODUCT FITMENT

OFFICIAL PRODUCT FITMENT	MODEL YEAR / CHASSIS	PACKET APPLICATION NOTE
MAZDA MX5 Roadster&RF	ND2 2019–2023	Confirm exact model year, transmission, ND generation, and supported MX5 vendor profile.
MAZDA MX5 Roadster&RF	ND3 2024+	Confirm exact model year, transmission, ND generation, and supported MX5 vendor profile.

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 (Boss Kit)

- 1x Adapter hub locking wrench
- 1x Trim-removal tool
- 1x Hardware kit
- 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 exact Mazda MX5 or MX5 RF body style, model year, ND generation, transmission, factory steering-wheel buttons, and installed driver-assistance or stability-control equipment.
- 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 Mazda MX5 vehicle profile and map only commands supported by the actual vehicle. Use ND3-specific MUTE and SET functions only on a verified ND3 configuration.
- 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, optional DID command, and mapped media, cruise, ESP, lighting, or wiper function.
- 7 Repeat verification after any software update, vehicle change, transmission change, calibration update, hardware 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

For supported Mazda MX5 and MX5 RF applications, the GEN2 PODIUM Line combines vehicle-network integration, 26 configurable commands, three stored profiles, and track-focused hardware in one removable driver-control platform.