



Life Racing

Professional Electronics for Automotive and Motorsport



Product Catalogue
2024-2025

Contents

Life Racing was formed in 2002 to provide specialist electronics for the professional motor racing industry, OEM automotive suppliers and military applications. Life Racing has extensive experience in the design, manufacture, development and support of a broad range of products including engine control units (ECUs), power distribution units (PDUs), display units, integrated paddle shift systems and high reliability wiring harnesses to all levels and variations of motorsport and automotive applications.

This includes unique strategies for direct injection, drive-by-wire, gear shifting, boost control and traction control.

We have extensive experience in particular of knock-limited, intake-restricted turbocharger control gained over years of support where we have multiple class and series wins in conjunction with race engine development companies.

ENGINE CONTROLLERS

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F88 Series

F88

The F88 ECU is an extremely high-level precision engine management controller. The twin processor unit uses a high-speed RISC processor for code execution and an additional large FPGA for high-speed engine position tracking, allowing the scheduling of code to be independent of signal patterns, increasing flexibility, efficiency and accuracy under transient conditions. This powerful combination also allows advanced control algorithms but yet remains easy to calibrate for the end user.



F88RX/RS/R/RXL/RSL/RL

The F88 R and L ranges have been specifically designed for applications where cost is paramount. These ECUs incorporate the same control strategies and processing power as the F88 however unnecessary hardware components have been removed so that the overall cost can be reduced for users who do not require the full complement of I/O the F88 utilises. The broad range of specifications means the perfect ECU can be selected for each application.



| Product | Part Number |
|---------------------|-------------|
| F88 | ECU-A01 |
| F88RX | ECU-A02 |
| F88RS | ECU-A03 |
| F88R | ECU-A04 |
| F88RXL | ECU-A05 |
| F88RSL | ECU-A06 |
| F88RL | ECU-A07 |
| 88Way Connector Kit | CON-B01 |

F90 Series

F90RX

The F90RX ECU has been introduced to allow easy and cost-effective control for complex and challenging applications. This twin processor unit is available with 3 full bridges and can sequentially control up to 12 cylinders.



F90A

The F90A ECU is the entry level unit that utilises Autosport connectors, it is based on the F90RX design and is intended for when the installation demands an Autosport solution for harsh environment applications. This ECU is available with 3 full bridges and can sequentially control up to 12 cylinders.

F90F

For advanced and challenging applications our F90F ECU is now available with control of 2 Bosch HDP-5 fuel pumps and multi bank, independent drive by wire functions with 4 full bridges.



| Product | Part Number |
|----------------------|-------------|
| F90RX | ECU-B01 |
| F90A | ECU-B02 |
| F90F | ECU-B03 |
| 121Way Connector Kit | CON-B02 |
| F90A Connector Kit | CON-A01 |
| F90F Connector Kit | CON-A02 |

GDI Series

F88GDi4

The F88GDi4 has been specifically designed for gasoline or diesel* direct injection engines with up to 4 cylinders and can generate the complex waveforms required to activate the injectors. Capable of direct injection, port injection or a combination of both, this ECU eliminates the need for an external injector driver unit. The direct injection control and direct motor control features are included as standard.



V8 GDi Package

The V8 DI package consists of an F90RX with 2 external DI drivers with the direct injection control and direct motor control features included as standard. This package caters for gasoline or diesel* direct injection engines with up to 8 cylinders.

V10 GDi Package

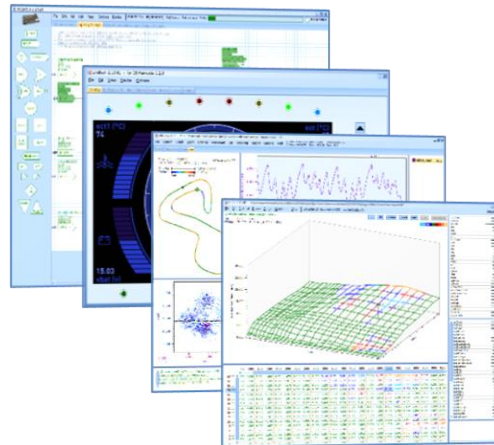
The V10 DI package consists of an F90RX with 3 external DI drivers with the direct injection control and direct motor control features included as standard. This package caters for gasoline or diesel* direct injection engines with up to 10 cylinders.



**Diesel control requires the Diesel feature. Solenoid injectors only.*

| Product | Part Number |
|---------------------------------|-------------|
| F88GDi4 | ECU-C01 |
| F90 V8 DI Package | ECU-C04 |
| F90 V10 DI Package | ECU-C05 |
| 88Way Connector Kit | CON-B01 |
| 121Way Connector Kit | CON-B02 |
| GDi Driver Connector Kit | CON-A07 |

Upgrade Features



As standard all our ECUs include control of: Twin Injection, Closed Loop Lambda, Boost, Gear Cut, Gear Blip, Idle, Limp Mode, Cruise Control, Anti Lag, Nitrous, Launch, Variable Valve Timing, Variable Intake, Differential, Data Logging, Custom CAN and Water Injection. An example calibration showing all options is obtainable from the Life Racing website.

Listed below are feature upgrades available whereby we charge an additional fee. Once a feature is added, it is permanently active on the upgraded ECU.

Adaptive Knock Control:

The adaptive knock control feature allows an engine to be pushed to the edge ensuring maximum performance without compromising safety.

Direct Injection:

This function enables the ECU to directly control DI high-pressure fuel pumps and perform the fuel quantity calculations required for injection.

Diesel Control:

The diesel feature allows any DI series ECU to control a diesel engine, such as direct control of the high-pressure pump and multi-stage injection including smoke limitation.

Direct Motor Control:

Allows the ECU to directly control high current motors e.g., dbw using the fast internal H-Bridge circuitry in full bridge mode (F88 & F90 ECU's H-Bridges can be used as low side PWMs without this feature, F88L/R/RS/RX ECUs require this feature to use the H-Bridges as low side PWMs and/or full bridge configuration).

Gearbox Control:

This allows the use of paddle shift gearbox control, including electric solenoid, electric motor (Megaline E-shift, Marelli GCC), hydraulic and pneumatic shifting. Extensive strategies have been developed at a high level of motorsport to include gear ratio learning, gear cut, gear blip, over rev protection, and clutch control.

Traction Control:

Allows the use of up to 4 conditioned wheel speeds for traction control. Strategies include steering angle, lateral G or Yaw based for torque reduction.

Upgrade Features

Wastegate Position Control:

Integrates closed loop wastegate position control into the wastegate strategy.

Second Lambda Input:

Allows the use of a second lambda sensor for F88 R or L series ECUs.

Thermocouple 1 Input

Allows the use of a single K-Type thermocouple on F88R or L series ECUs .

8 Frequency Inputs:

Allows the use of an additional four frequency sensor inputs for the F88 R series ECUs, ideal for low cost VVT and traction control applications.

6 Ignition Outputs:

Allows the use of an additional two ignition outputs for F88 R or L series ECUs, ideal for low-cost coil on plug (COP) 5 or 6 cylinder engines.

12 Ignition Outputs:

This modification is an optional upgrade for the F88 ECU only and allows the use of 12 ignition drivers in exchange for 4 fuel drivers in order to control a COP V10 or V12 engine. This feature must be requested at the time of ordering and TTL spark configurations are not support with this function.

Custom Security:

As standard all ECUs can be passworded however we provide many security layers to protect the intellectual rights of the manufacture, engine builder, teams and end user. The security levels are tailored to the application required ensuring extreme flexibility for all parties involved. We can provide dongles and software locks or a combination of both depending on requirements.

| Product | Part Number |
|-------------------------------|-------------|
| Adaptive Knock Control | ECU-FEAT-K |
| Direct Injection Pump Control | ECU-FEAT-I |
| Diesel Control | ECU-FEAT-D |
| Direct Motor Control | ECU-FEAT-E |
| Gearbox Control | ECU-FEAT-G |
| Traction Control | ECU-FEAT-T |
| Wastegate Control | ECU-FEAT-W |
| Second Lambda Input | ECU-BTC-2L |
| Thermocouple Input | ECU-BTC-KT1 |
| 8 Frequency Inputs | ECU-BTC-8F |
| 6 Ignition Outputs | ECU-BTC-6I |
| 12 Ignition Outputs | ECU-BTC-12I |
| Custom Security | ECU-ID-XXX |

ECU Comparison

| FEATURE/ECU | F88RL | F88RSL | F88RXL | F88R | F88RS |
|-------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| CONFIGURABLE INPUTS | 12 | 12 | 12 | 24 | 24 |
| Generic Input (5V/TH/BI/FREQ) | 4 | 4 | 4 | 4/8* | 4/8* |
| Analogue Only (5V/TH) | 8 | 8 | 8 | 12 | 12 |
| Voltage Only (5V) | 0 | 0 | 0 | 4 | 4 |
| Thermistor Only (TH) | 0 | 0 | 0 | 4 | 4 |
| DEDICATED INPUTS | 5⁺ | 5⁺ | 5⁺ | 5⁺ | 5⁺ |
| Dedicated Knock | 2* | 2* | 2* | 2* | 2* |
| Dedicated Lambda | 1/2 ⁺ | 1/2 ⁺ | 1/2 ⁺ | 1/2 ⁺ | 1/2 ⁺ |
| Dedicated Thermocouple | 1 ⁺ | 1 ⁺ | 1 ⁺ | 1 ⁺ | 1 ⁺ |
| OUTPUTS | 16 | 20 | 24 | 16 | 20 |
| Injectors (PORT/PWM) | 8 | 12 | 16 | 8 | 12 |
| Injectors (GDI) | 0 | 0 | 0 | 0 | 0 |
| Ignition (IGBT/TTL) | 4/6 ⁺ | 4/6 ⁺ | 4/6 ⁺ | 4/6 ⁺ | 4/6 ⁺ |
| General (PWM) | 0 | 0 | 0 | 0 | 0 |
| Half-Bridges | 4* | 4* | 4* | 4* | 4* |
| INTERFACES | 4 | 4 | 4 | 4 | 4 |
| CAN 2.0B | 2 | 2 | 2 | 2 | 2 |
| RS232 | 1 | 1 | 1 | 1 | 1 |
| RJ45 | 1 | 1 | 1 | 1 | 1 |
| MEMORY | 16MB | 16MB | 16MB | 32MB | 32MB |
| PHYSICAL | | | | | |
| Pins | 88 | 88 | 88 | 88 | 88 |
| Weight | 480g | 480g | 480g | 480g | 480g |
| UPGRADES | | | | | |
| Adaptive Knock | Y ⁺ | Y ⁺ | Y ⁺ | Y ⁺ | Y ⁺ |
| Direct Injection | N | N | N | N | N |
| Diesel Control | Y | Y | Y | Y | Y |
| Direct Motor Control | Y | Y | Y | Y | Y |
| Gearbox Control | Y | Y | Y | Y | Y |
| Traction Control | Y | Y | Y | Y | Y |
| Wastegate Position Control | Y | Y | Y | Y | Y |
| Custom Security | Y | Y | Y | Y | Y |
| BUILD TIME CHOICE | | | | | |
| Second Lambda | Y | Y | Y | Y | Y |
| Thermocouple 1 Input | Y | Y | Y | Y | Y |
| 8 Frequency Inputs | N | N | N | Y | Y |
| 6 Ignition Drivers | Y | Y | Y | Y | Y |
| 12 Ignition Drivers | N | N | N | N | N |
| CAN3 rather than Lambda #2 | Y | Y | Y | Y | Y |

| F88RX | F88 | F90RX | F90A | F90F | F88GDi4 | V8 DI Pac | V10 DI Pac |
|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 24 | 24 | 36 | 36 | 64 | 24 | 36 | 36 |
| 4/8 ⁺ | 16 | 16 | 16 | 20 | 16 | 16 | 16 |
| 12 | 0 | 0 | 0 | 12 | 0 | 0 | 0 |
| 4 | 4 | 8+8 ⁻ | 8+8 ⁻ | 16+8 ⁻ | 4 | 8+8 ⁻ | 8+8 ⁻ |
| 4 | 4 | 4 | 4 | 8 | 4 | 4 | 4 |
| 5⁺ | 6⁺ | 8⁺ | 8⁺ | 8⁺ | 4⁺ | 8⁺ | 8⁺ |
| 2 [*] | 2 [*] | 4 [*] | 4 [*] | 4 [*] | 2 [*] | 4 [*] | 4 [*] |
| 1/2 ⁺ | 2/1 ⁺ | 2 | 2 | 2 | 1 | 2 | 2 |
| 1 ⁺ | 2 | 2 | 2 | 2 | 1 | 2 | 2 |
| 24 | 28 | 50 | 50 | 52 | 24 | 50 | 50 |
| 16 | 16 | 24 | 24 | 24 | 12 | 16 | 12 |
| 0 | 0 | 0 | 0 | 0 | 4 | 8 | 12 |
| 4/6 ⁺ | 8/12 ⁺ | 12 | 12 | 12 | 4 | 12 | 12 |
| 0 | 0 | 8 ⁻ | 8 ⁻ | 8 ⁻ | 0 | 8 ⁻ | 8 ⁻ |
| 4 [*] | 4 [*] | 6 [*] | 6 [*] | 8 [*] | 6 | 6 [*] | 6 [*] |
| 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 |
| 2 | 2/3 ⁺ | 3 | 3 | 2 | 3 | 3 | 3 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 64MB | 64MB | 128MB | 128MB | 128MB | 64MB | 128MB | 128MB |
| 88 | 88 | 121 | 136 | 191 | 88 | 121+38 | 121+57 |
| 480g | 485g | 670g | 950g | 1250g | 520g | 1160g | 1405g |
| Y [†] | Y | Y | Y | Y | Y | Y | Y |
| N | Y [^] | Y [^] | Y [^] | Y [^] | - | - | - |
| Y | Y | Y | Y | Y | Y | Y | Y |
| Y | Y | Y | Y | Y | - | - | - |
| Y | Y | Y | Y | Y | Y | Y | Y |
| Y | Y | Y | Y | Y | Y | Y | Y |
| Y | Y | Y | Y | Y | Y | Y | Y |
| Y | Y | Y | Y | Y | Y | Y | Y |
| Y | - | - | - | - | N | - | - |
| Y | - | - | - | - | - | - | - |
| Y | - | - | - | - | - | - | - |
| Y | - | - | - | - | N | - | - |
| N | Y | - | - | - | N | - | - |
| Y | Y | - | - | - | - | - | - |

* See relevant 'Upgrade Features' for explanation
 ^ GDI Driver required to drive GD injectors
 † Build Time Choice
 ~ Up to 8 outputs can be software configured as additional analogue inputs
 - Included as standard/irrelevant

Power Distribution

PDUXB Range

The PDUXB range of intelligent power controllers bring many new features to power distribution. The optional internal IMU feature offers a six-axis gyro and accelerometer which can be utilised within the programmed logic or transmitted over CAN.



Inputs - Flexible input channels capable of support 0-5v, thermistor, bi-polar and frequency type signals. Optional build-time-choice for two-wire wheel speed sensor interfaces.

Flexible outputs - 10x extremely flexible output drivers configurable to operate as High-side, Low-side, PWM or Half-bridge (can be paired into Full-bridges). These outputs are also capable of soft starting electrical loads with closed loop current limitation. The PDUX also includes a variable number of additional high-side drivers, a dedicated wiper output and 10 additional PWM signal outputs.

Slave Link - Enables Life Racing ECU units to directly claim access to the PDU's input and output channels in order to receive data from or else control those channels with ultra-low latency.

Powerful Networking - 3x fully flexible CAN 2.0b, 1x LIN (Bosch wiper and custom projects) as well as a two port Ethernet switch, 1x RS232 (custom projects) .

Advanced Power Management - The PDUXB is capable of automatic wake/sleep operation which can be triggered by a dedicated "wake" pin, activity on specific inputs or on CAN. Sleep state helps increase vehicle battery life when the engine is not running.

All PDUXB devices are capable of 12 or 24V operation. Specialist variants of the PDUXB range include the PDUX4B-48V and marine spec versions of all devices.

Power Distribution

PDUX2B

The PDUX2B joins the PDUXB range to cater for less complex installations. It includes all the powerful features and slaving capabilities of the larger devices with a respectable 12 inputs and 16 high-side outputs for a total output capacity of 160A. Its size and versatility make it a great expansion when combined with an LR ECU.



PDUX3B

The PDUX3B includes all features in the PDUXB range to cater for more complex installations with a cost-effective application. It includes slaving capabilities with 16 inputs and 34 outputs for a total output capacity of 200A or 350A. The PDUX3B is available in 12 and 24 operating voltages.

PDUX4B

The PDUX4B includes all features in the PDUXB range to cater for more complex installations with more outputs available. It includes slaving capabilities with 16 inputs and 48 outputs for a total output capacity of 200A or 350A. The PDUX4B is available in 12 and 24 operating voltages.



PDUX6B

The PDUX6B is our top of the range power distribution device. Its additional outputs enable design and application of more advanced projects and prototypes using one device. It includes slaving capabilities with 16 inputs and 64 outputs for a total output capacity of 200A or 350A. The PDUX6B is available in 12 and 24 operating voltages.



PDU Comparison

PDUX3B-AS & PDUX4B-AS

The new -AS range retains all of the existing features and configurability of the standard PDUXB devices whilst being packaged with Deutsch Autosport connectors for harsh motorsport environments. The -AS PDUX range output capabilities consist of both 15A and 25A rated pins.



PDU34A

The PDU34A includes many of the features of the PDUXB range but in a smaller, lightweight package with Deutsch Autosport connectors for harsh environments where weight is paramount. The PDU34 has 16 inputs and 34 outputs. All inputs and 14 outputs can be slaved to an LR ECU. It is also sleep capable and includes 3x CAN 2.0b buses, 1x LIN (custom projects) and two port Ethernet.



| FEATURE/PDU | PDUX2B | PDUX3B | PDUX4B | PDUX6B | PDU34A |
|--|-----------|-----------|-----------|-----------|-----------|
| CONFIGURABLE INPUTS | 12 | 16 | 16 | 16 | 16 |
| Generic Input (5V/TH/BI/FREQ) | 4 | 4 | 4 | 4 | 4 |
| Analogue or frequency (5V/TH/FREQ) | 4 | 4 | 4 | 4 | 4 |
| Analogue Only (5V/TH) | 8 | 8 | 8 | 8 | 8 |
| OUTPUTS | 18 | 38 | 52 | 68 | 34 |
| Generic Output (HS, LS, PWM, H-Bridge, Soft start) | 4 | 10 | 10 | 10 | 10 |
| High-Side | 12 | 14 | 28 | 44 | 24 |
| High-Side/PWM | 0 | 10 | 10 | 10 | 0 |
| Low-Side/PWM | 2 | 4 | 4 | 4 | 0 |
| INTERFACES | 7 | 7 | 7 | 7 | 7 |
| CAN 2.0B | 3 | 3 | 3 | 3 | 3 |
| RS232 | 1 | 1 | 1 | 1 | 1 |
| RJ45 | 2 | 2 | 2 | 2 | 2 |
| LIN | 1 | 1 | 1 | 1 | 1 |
| PHYSICAL | | | | | |
| Pins | 62 | 113 | 113 | 113 | 87 |
| Weight | 750g | 850g | 850g | 1140g | 690g |

Power Distribution

| Product | Part Number |
|--|--------------|
| PDU34A | PDU-A03 |
| PDUX2B 200A 12V | PDU-C06 |
| PDUX3B 350A 12V | PDU-C01 |
| PDUX4B 350A 12V | PDU-C02 |
| PDUX6B 350A 12V | PDU-C03 |
| PDUX3B 200A 12V | PDU-C04 |
| PDUX4B 200A 12V | PDU-C05 |
| PDUX2B 200A 24V | PDU-E06 |
| PDUX3B 350A 24V | PDU-E01 |
| PDUX4B 350A 24V | PDU-E02 |
| PDUX6B 350A 24V | PDU-E03 |
| PDUX3B 200A 24V | PDU-E04 |
| PDUX4B 200A 24V | PDU-E05 |
| PDUX2B 48V | PDU-F06 |
| PDUX3B 48V | PDU-F04 |
| PDUX4B 48V | PDU-F05 |
| PDUX6B 48V | PDU-F03 |
| PDUX3B-AS 350A 12V | PDU-H01 |
| PDUX4B-AS 350A 12V | PDU-H02 |
| PDUX3B-AS 200A 12V | PDU-H04 |
| PDUX4B-AS 200A 12V | PDU-H05 |
| PDUX3B-AS 350A 24V | PDU-K01 |
| PDUX4B-AS 350A 24V | PDU-K02 |
| PDUX3B-AS 200A 24V | PDU-K04 |
| PDUX4B-AS 200A 24V | PDU-K05 |
| PDUX 350A Connector Kit | CON-B10 |
| PDUX 200A Connector Kit | CON-B11 |
| PDUX 120A Connector Kit | CON-B13 |
| PDUX2 Connector Kit | CON-B12 |
| PDU34A Connector Kit | CAN-A10 |
| PDUXB-AS 200A Connector Kit | CON-A17 |
| PDUXB-AS 350A Connector Kit | CON-A18 |
| 2-Pin wheel speed sensors | PDU-BTC-WS |
| Internal 3-axis accelerometer and 3-axis gyroscope | PDU-FEAT-IMU |

Displays



D5 Dash

The D5 is a 5" fully configurable WVGA display with x2 CAN2.0B ports, RS232 and twin Ethernet ports. It also has x8 high brightness 'shift' LEDs, x4 configurable LEDs as well as x6 general purpose analogue inputs for sensors and x4 switch inputs. The D5 can independently log data or record the streamed data from LR ECUs over Ethernet (F88, F90, etc) to a USB or internal flash memory.

D4 Dash

The D4 is a 4" fully configurable WVGA display with x2 CAN2.0B ports, RS232 and twin Ethernet ports. It is intended to be mounted into a custom dash panel or steering wheel. The D4 has x6 general purpose analogue inputs for sensors and x4 switch inputs. The D4 can independently log data or record the streamed data from LR ECUs over Ethernet (F88, F90, etc) to a USB or internal flash memory.



D7 Dash

The D7 is our upcoming, next-generation dash display unit. Innovative new features include onboard IMU and GPS functionality. The D7 will retain all of the previous functionality and customising options from our previous display range allowing for advanced custom CAN configurations, complex and flexible maths operations and user definable data logging.

Dash features included as standard

| | Complex Maths | CANtx | USB Logging |
|-------|---------------|-------|-------------|
| Basic | No | No | No |
| Club | Yes | Yes | No |
| PRO | Yes | Yes | Yes |

Displays

SD4 Racing Wheel

The SD4 is an FIA compliant racing wheel with an integrated 4.3" configurable display and customisable switches. Up to 10 buttons (including isolated radio button) and 5 rotary switches are available as well as 2 digital paddle levers and 2 analogue progressive levers. 2 CAN2.0B buses, RS232 and twin Ethernet connections mean the SD4 has the capability and flexibility to act as a central hub and logger. Available with various customisation options.



| Product | Part Number |
|---------------------|-------------|
| D4 Basic | DIS-A10 |
| D4 Club | DIS-A02 |
| D4 Pro | DIS-A11 |
| D5 Basic | DIS-A08 |
| D5 Club | DIS-A01 |
| D5 Pro | DIS-A03 |
| Complex Maths | DIS-FEAT-M |
| CANtx | DIS-FEAT-T |
| USB Logging | DIS-FEAT-P |
| SD4 Pro | DIS-B02 |
| 50way Connector Kit | CON-B04 |
| SD4 Curly Lead | CON-B09 |

Ancillaries

CAN Keypad

The CAN Keypad is an intelligent and slim membrane panel designed to replace traditional switch panels in a vehicle's cockpit simplifying wiring and packaging. The CAN Keypad features 20 snap action trans-illuminated buttons in conjunction with 24 programmable LEDs with adjustable brightness control. The input and output states of the keypad are transmitted and received via CAN 2.0B allowing the system full flexibility with many ECUs & controllers. Primarily used in conjunction with a Life Racing PDU the keypad integrates easily with 'PDU Setup' schematic software allowing for quick and easy system integration.



Dash Keypad

The Dash Keypad is designed to work with any Life Racing display unit to navigate and edit pages without having to connect to a PC. Using only one analogue input, the keypad is also able to act as a hub for additional physical switches for the left, right and OK keys or 'drivers controls' that can then be mounted in the steering wheel.

Blink Marine PKP and Grayhill 3K Keypads

The Blink Marine PowerKey PRO series are compact CAN based keypads with interchangeable laser etched inserts and RGB LED status lights. The Grayhill 3K keypads feature a rugged design that boasts high vibration and impact resistance.

Available in multiple button configurations, these IP67 rated units allow easy customisation of the cockpit environment. Predefined templates are available for LR devices to directly communicate with these in CANopen or J1939 standards.



Ancillaries

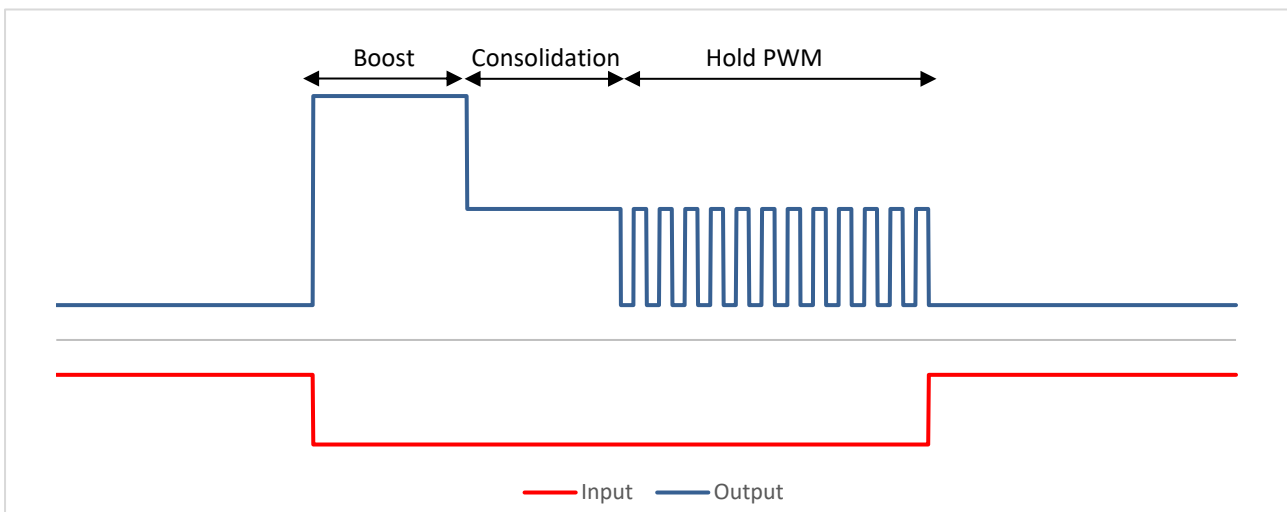
GDI Driver

Life Racing's direct injector driver is a compact unit capable of driving four fuel injectors at a high voltage, thus catering for the requirements of high-pressure solenoid injectors. The unit generates the complex waveforms required to activate the injectors. The injectors are switched on via pulses from the host ECU.



GDI Driver 8

Life Racing's latest direct injector driver is a compact unit capable of driving eight fuel injectors at a high voltage, thus catering for the requirements of high-pressure solenoid injectors. The unit generates the complex waveforms required to activate the injectors. The injectors are switched on via pulses from the host ECU.



| Power Level | Low | Standard | High | Very High |
|-------------------------------|-------|----------|-------|-----------|
| Boost time (63V) | 300µs | 400µs | 450µs | 550µs |
| Consolidation time (supply V) | 300µs | 400µs | 400µs | 500µs |
| Hold PWM duty | 30% | 40% | 45% | 50% |



Mini Comms Hub Lite

The new MCHL is a central hub purposed with translating between CAN devices, applying real-time maths operations and logging data to internal flash memory or USB for quick data grabs either independently or by streaming an LR ECU log. It also includes an Ethernet hub and 10 physical inputs.

Mini Comms Hub

The MCH is a central hub purposed with translating between CAN devices, applying real-time maths operations and logging data to internal flash memory or USB for quick data grabs either independently or by streaming an LR ECU log. It also includes an Ethernet hub and 10 physical inputs.



NTK Wideband UEGO

NTK Oxygen Sensors combine expertise with innovation and delivers Oxygen Sensors with superior fit, form and function. When you require the best, count on NTK Oxygen Sensors to deliver.

Lab grade option also available; these sensors are rigorously tested and robust. They are long lasting in the harshest of applications, providing precise and consistent readings.

F88 Logger

The new F88 based logger unit offers all of the advanced monitoring, comms and I/O capabilities typically found on ECUs despite lacking discrete engine control. Ideal for situations in which modern electronic engine control may not be permissible or desired such as historic racing



GPS-A10b

The GPSA10b is a compact low mass CAN 2.0B unit capable of tracking vehicle speed by GPS position at 10Hz. The unit features a built-in 3-axis acceleration sensor for measuring Lateral, Longitudinal and Vertical g forces. The module connects to any ECU or logger via the CAN network. Using LifeView PC software, track maps can be created and sessions analysed quickly and easily. This unit utilises an external aerial to increase mounting options and provide a strong GPS signal, accurate to within 2.5m.



GPS-AG50

The GPS-AG50 is a compact low mass CAN 2.0B unit capable of tracking vehicle speed by GPS position at 50Hz. The unit features a built-in 6-axis motion pack for measuring lateral, longitudinal and vertical acceleration as well as pitch, roll and yaw. The module connects to any ECU or logger via the CAN network. Using LifeView PC software, track maps can be created and sessions analysed quickly and easily. This unit utilises an external aerial to increase mounting options and provide a strong GPS signal, accurate to within 2.5m.



Sensors

We offer an expanding range of vital sensors consisting of fluid temperature, air temperature, low (0-10bar) pressure, high (0~350bar) pressure and combined pressure temperature. All sensors are wired, potted and booted in a motorsport standard to provide reliability and a long-life cycle.



Ancillaries

| Product | Part Number |
|---|------------------|
| PDU Keypad | ANC-C01 |
| Dash Keypad | ANC-C02 |
| GDI Driver (12V) | ANC-A02 |
| GDI Driver (12V) – 1x DI pump output | ANC-A09 |
| GDI Driver (24V) | ANC-A06 |
| GDI Driver 8 | ANC-A07 |
| Mini Comms Hub | ANC-A03 |
| Mini Comms Hub Lite – Top Side Connector | ANC-A08 |
| Mini Comms Hub Lite – End Side Connector | ANC-A10 |
| 4GB Datakey | UFX4GB |
| Datakey USB adapter | UR4410IM |
| Wideband NTK UEGO (Lab Grade) | LA0-0001-1B |
| Wideband NTK UEGO (Automotive Grade) | LA0-0006-1A |
| Pressure/Temperature Sensor Combined | PST-F 1 |
| Bosch 10 bar fluid | PA0-2401-1A |
| Miniature Air Temperature | TPO-2216-2B |
| Miniature Fluid Temp | TPO-1114-2B |
| GPS-A10b | ANC-B01 |
| GPS-AG50 | ANC-B02 |
| GPS Aerial | ANC-B03 |
| 9Way Connector Kit | CON-B08 |
| 35Way Connector Kit (Black) | CON-B07 |
| GDI Driver Connector Kit | CON-A07 |
| GDI Driver 8 Connector Kit | CON-A20 |
| MCH Connector Kit | CON-A11 |
| MCHL Connector Kit | CON-A19 |
| GPS-AG50 Connector Kit | CON-A08 |
| Master Relay | MSTR |
| Master Relay Club | MSTR-CLUB |
| Blink Marine PKP Series | |
| PowerKey PRO 2300 (6pos) | PKP-2300-SI |
| PowerKey PRO 2400 (8pos) | PKP-2400-SI |
| PowerKey PRO 2600 (12pos) | PKP-2600-SI |
| PowerKey PRO 3500 (15pos) | PKP-3500-SI |
| PowerKey PRO 3500 (15pos – inc 2 rotary encoders) | PKP-3500-MTP/MTR |
| Grayhill 3K Series | |
| Grayhill 8pos H | 3K208-2RN3AG |
| Grayhill 8pos V | 3K208-4RN3AG |
| Grayhill 12pos V | 3K012-4RN3AG |
| Grayhill 15pos H | 3K015-3RN3AG |

Paddle Shift

Club Spec

Life Racing's club spec pneumatic gearshift system allows fast and reliable gear changes without the need for lifting off the throttle or using the clutch whilst racing. Available as a complete set or as individual parts. All Life Racing ECUs are able to control both the engine and gearbox in most applications or can operate as a standalone gearshift controller (GCU), with appropriate interfaces to an existing engine ECU.



Le Mans Spec

The Le Mans Spec pneumatic gearshift system has been specifically designed in house to cater for the needs of different model gearboxes with the high speed, precision and reliability required for high performance endurance racing. Available as a complete set or as individual parts. All Life Racing ECUs are able to control both the engine and gearbox in most applications or can operate as a standalone gearshift controller (GCU), with appropriate interfaces to an existing engine ECU.



| Product | Part Number |
|--|-------------|
| Club spec Gearbox Actuator 30mm | TP0128a |
| Club spec Gearbox Actuator 50mm | TP0128b |
| Club spec Paddle shift Compressor Assembly | TP0100 |
| Club spec Valve Block | TP0138 |
| Club spec Throttle Blipper | FA0038 |
| Paddle Switch Assembly | LFR-295-01 |
| Le Mans spec Actuator Assembly | LFR-162-01A |
| Le Mans spec Compressor | GRA-1021-1A |
| Le Mans spec Accumulator | GRA-1023-3C |
| Le Mans spec Blipper | LFR-209-01A |
| F88 GCU | ANC-A05 |

Services

Wiring

Life Racing's sister company, GTEC Electronics, design and manufacture complete wiring harness solutions for race and prototype car applications, using industry standard Raychem Type 55 wire and Deutsch connectors. Our looms are built to last in extremely harsh and noisy environments; therefore, we hand build and test each loom before sealing to IP67.



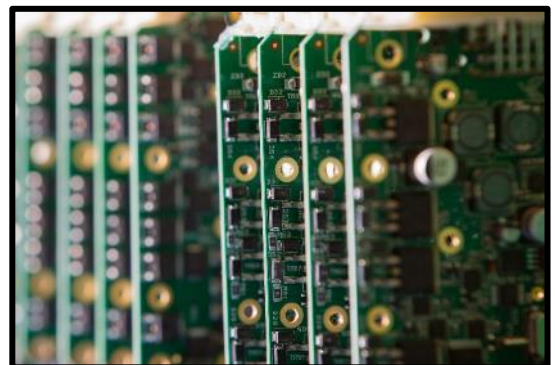
Technical Support

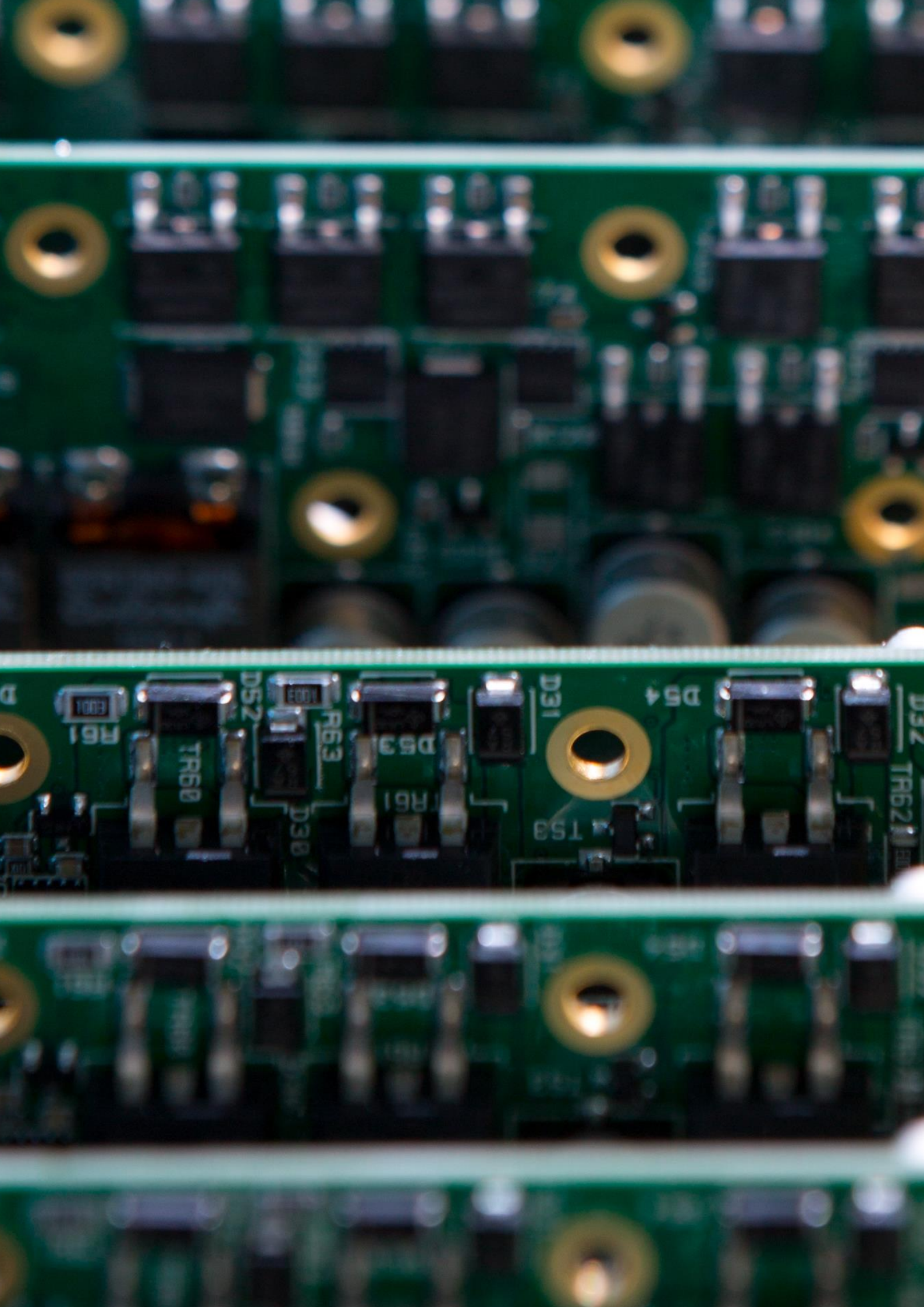
Life Racing can provide a team of highly skilled technical support personnel to assist and support customers for a range of activities including electronic installation and systems checks. The technical support team has factory back up when required, which ensures smooth installation and commissioning of the electronic package. High quality support ensures that customers and partners get the best out of their products. Engineers are on hand to commission the engine electronics in order to obtain optimum performance for the prevailing boundary conditions.



Electronics Design

Life Racing offer complete electrical system design, from embedded software to PCB board layout and production. We are able to cater for the needs of any product not just motorsport based. Call us for further information.





D32 TR62

D54

D31

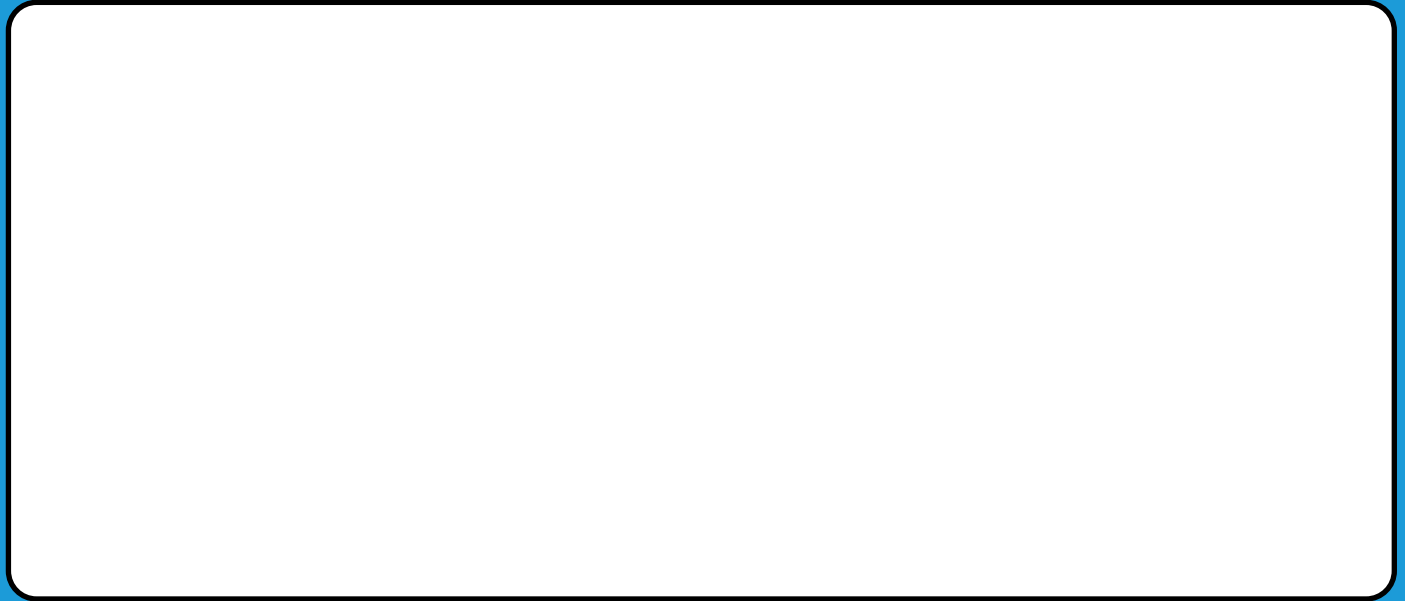
TS3

D53
R61

R63
D30

D52
TR60

R61
E001



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