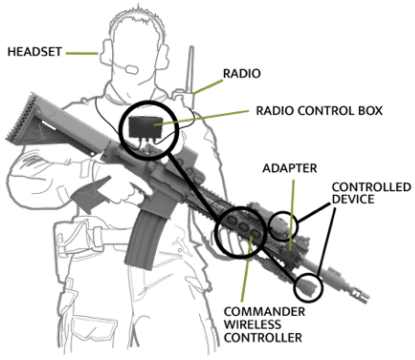
RACU COMMANDER
RIFLE ACCESSORY CONTROL UNIT (RACU) SYSTEM



The RACU Commander System consists of a finger/thumb operated Controller (the Commander) designed and optimised for mounting on a quad accessory rail (or similar) system on the weapon, and a Radio Control Box (RCB) and cable assembly worn on the body. The Commander can be provided in 1, 2 or 3 button configurations: they can be used singly, or as linked pairs connected by either cable or wireless. The Commander sends commands by cable or wirelessly to weapon-mounted and body-worn electronic devices.

Wireless control on the weapon is enabled by the use of a Bluetooth Low Energy (BLE) Adapter. It provides operators with a fast (instinctive) and simple way of operating the key functions of their devices without the need to take either eyes off the target or hands off the weapon, thus maintaining situational awareness.

TECHNICAL SPECIFICATIONS

SIZE

Controller:	
Commander-3B:	118mm x 28mm x 15mm (length x width x height)
Commander-2B:	88mm x 28 mm x 15mm
Commander-1B:	40mm x 28mm x 15mm
Radio Control Box: (RCB)	100mm x 60mm x 35mm
BLE Adapter:	50mm x 35mm x 20mm

WEIGHT

Controller:	3B - 50g; 2B – 41g; 1B – 23g. All including battery (on the weapon)
RCB:	265g – including battery and body worn cable assembly
BLE adapter:	35g – including battery, cable and connector
SYSTEM:	Total: ca. 350g (3B) **Net: ca. 88.4g**

POWER

Controller:	1 x CR2032
RCB:	1 x CR123A (lithium) (field replaceable)
BLE adapter:	1 x CR2032

BATTERY LIFE (all figures assume above 0˚c operating conditions and for a 'typical cycle'*)

Controller:	›6 weeks
RCB:	›2 weeks
BLE adapter:	›6 months

MATERIAL / FINISH

External casing:	glass filled nylon 66
Switches:	silicon over-moulded
Rail clamps:	glass filled nylon 66
Colour:	matt black, non-reflective

ERGONOMICS

- Designed to fit MIL-STD-1913 picatinny rails: 1, 2 and 3 button switches operating singly or as linked pairs
- Operated with standard issue gloves
- Over-moulded switches with tactile feedback

OPERATION

- Wired (cabled) or wireless system
- Single or multiple presses (chords)
- Programmable/configurable via PC User Interface
- Eyes-free operation
- Normal device controls can still be used
- Training conducted using Smartphone or PC-based software

EXTERNAL INTERFACES

Weapon-mounted:	2x switched loads; RS232
Body-worn:	SPI Two wire Bus (I^2C compatible) USB

ENVIRONMENTAL

Internal Protection:	IP68

TEMPERATURE	
Operating:	-30ºC to +52ºC
Storage:	-40ºC to +70ºC
Humidity:	95% non-condensing
Thermal:	MIL-STD-810G Method 505.5
Shock:	1.5m onto hard packed earth
Vibration:	MIL-STD-810G Method 514.6
Altitude:	-400m to +4,570m
Immersion:	Operable – 1m (3.2ft) for 2hrs

Chemical and fluid resistant

*A 'typical cycle' is defined as 1x command/minute/slave for 12 hrs/day with a system comprising an Adapter and RCB (two slaves).

CIRCUITRY

Low power re-programmable micro-controller
Built-in self-test and diagnostics
Boot time: 3s

TRANSMISSION CHARACTERISTICS

Radiated power:	200µW
Connection rate:	10Hz
Tx time:	1-3ms
Data transfer latency:	1-100ms
Data throughput:	2kb/s
Range (freespace):	20m

Australia/NZ:	AS/NZS CISPR22:2009 (B) AS/NZS 61000.6.3:2007 (B)
North America:	FCC Part 15
Europe:	CISPR22:2009

OPERATING VOLTAGE

Vcc:	1.8 – 3.3V

ELECTROSTATIC DISCHARGE

Operable:	50V/m from 2 MHz to 18 GHz

CONNECTION TO DEVICES

Weapon mounted:	BLE to adapter (cabled from adapter) or fully cabled (no adapter)
Body worn:	BLE to RCB or cabled via an Intelligent Sling

ATTACHMENT

Design:	Screw clamp for controller/ adapters Velcro/ MOLLE Strap for RCB
Compatibility:	MIL-STD-1913 picatinny rail or STANAG 4694 NATO rail

CONNECTORS

Fischer Mini-max series

ACCESSORIES

Data Logging Module
User Configuration Package
Computer Training and Competency Testing Software

eyes on, hands on®

head up, eyes on target, hands on weapon®

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