



DARK FLAME

RGB PADS FOR NATIVE TRAKTOR EXPERIENCE MULTI LAYER CLASS COMPLIANT MIDI CONTROLLER

TECHNICAL SPECIFICATIONS

CHASSIS

- Full metal chassis, CNC made panels, brushed and double black anodized 3mm aluminium, polished bare metal side surfaces
- Engraved logo, product name (no painting, no laser cut)
- Dimension:: 107 x 65 x 38/52 mm
- Weight: 220 grams

PRINTED CIRCUIT BOARD

- CAD factory built multi layer PCB, black glossy surface, immersion gold contacts
- Industry assembled SMD QFN components soldered in SMT (surface-mount technology)
- Mounted CPU: Teensy 3.2 (72 MHz 32 bit ARM processor)

IN/OUTPUTS

- USB-B IN: Connects Dark Flame to MIDI host. USB bus powered (no power adapter needed)
- Low power consumption: 60-90 mA

CONTROL ELEMENTS

- RGB PADS: 4 translucent silicon rubber button PADS, RGB illuminated. Optimized for high force presses, conductive contacts without moving parts guarantees long-term durability
- RGB PAD LEDs: each pad LED supports 125 mixed colors via MIDI values (RGB 5x5x5 cube)
- ENCODER: Original Panasonic encoder, soft click (low pressure) push rotate encoder, 20 TPR. Full metal knobs with concave top shape
- BUTTONS: 6 original MEC tactile switches (US made), unicolor or bicolor illuminated LEDs
- INDICATOR LEDs: 2 unicolor LEDs next to encoder (orange and blue), MIDI receive on both LEDs (flashing supported)

FIRMWARE

- MIDI class compliant, no driver needed
- Multi-deck and multi-layer support. Built in 'Power-On Configuration Setup' to customize user's favourite settings and preferences
- Supporting: 1 to 4 decks/channels and multiple combinable layers (SHIFT + BANKS)

DARK FLAME FEATURES

ENHANCED MIDI MAPPING CONCEPT

- MIDI class compliant protocol, no drivers or software needed. Each control sends/receives unique and layer/bank specific MIDI messages
- Additional firmware features: 3 buttons are highly customizable: DECK SELECT, SHIFT and BANK. These buttons can be customized as 'normal buttons/LEDs' with MIDI In/Outbound OR as full automated controls (the firmware covers all logic, the mapping keeps lean)
- Examples: DECK can toggle between decks (A/B, A/C, ABCD...), SHIFT can add an additional layer, BANK can enable 2-4 bank layers
- Users can customize 'their' Dark Flame to their needs - from a single 1 deck controller with a few control to a multi-layer, multi-deck device
- This concept allows easy mappings with one mapping file, independent of the number of decks or connected Dark Flame controllers

DECK SELECT BUTTON

- Typically customized to toggle between 2 or 4 decks (MIDI channel). Customizable button (AB, AC, BD, CD, ABCD or OFF=button with MIDI I/O messages only)
- Dark Flame stores selected user mode and last used deck/channel on next Power-On

RGB PADS

- All 4 PADS can be separately mapped to different MIDI actions or LED colors. Unique layer notes allow multiple assignments
- PADS with user defined RGB colors complement perfectly, allowing DJ APP SPECIFIC COLORS as well as DISTINGUISHING ACTIONS in different layers
- DJ APP SPECIFIC COLORS - Example: Traktor hotcue type colors (e.g. CUE=blue, LOOP=green etc. or additional RED for deleting HC)
- DISTINGUISHING ACTIONS - Unique colors simplify multiple layer mappings considerably, allowing intuitive and easy to memorize
- RGB LEDs consist of 3 LED colors (R, G and B), each support 5 intensities, resulting in 125 mix colors in total (5x5x5 cube model), values: R=0,25,50,75,100 | G=0,5,10,15,20 | B=0,1,2,3,4. All PADS can be color triggered with MIDI note values (e.g. 52=red50+green0+blue2, results in mid intensive magenta, or e.g 124=full white)
- Dark Flame offers an inbuilt COLOR EXPLORER in the 'Power-On Configuration Setup'. This feature allows exploration of all supported colors and calculation of favourite mixed colors
- LED BOOSTER: PADS can be adjusted on-the-fly, allowing adapting between bright daylight or dark club night settings: Press & hold DECK SELECT and push ENCODER to toggle thru 3 intensities (dimmed/normal/boosted)

ENCODER

- Push/Rotate Encoder (20 TPR) with full metal top shaped knob. High quality characteristics (low pressure, short-stroke, silent click)

TOP LEFT & RIGHT BUTTONS

- Two mappable buttons, bicolor illuminated (GREEN/YELLOW) with layer-specific MIDI Inbound messages. LEDs support flashing

INDICATOR LEDs

- Two unicolor LEDs (orange, blue) next to encoder with layer-specific MIDI Inbound messages. LED support flashing

SHIFT BUTTON

- Bicolor illuminated button (red/green), MIDI I/O mappable or firmware triggered
- Users can customize SHIFT button behaviour as 'normal button/LED' with MIDI In/outbound or a button which activates a 2nd SHIFT layer
- Supporting momentary mode (activated during hold, default) or latching mode (this allows the usage of SHIFT as an additional BANK button)

MID BOTTOM BUTTON

- Unicolor illuminated button (LED blue), free for user MIDI mapping
- MID Button offers layer specific notes (same as on all buttons) and a global note to simplify mappings of DJ application SHIFT notes

BANK LAYER BUTTON

- Bicolor illuminated button (red/green), MIDI I/O mappable or firmware triggered
- Users can customize BANK button behaviour as 'normal button/LED' with MIDI In/outbound or a button which activates 2 or 4 banks
- BANK supports latching mode (default) and momentary mode (kind of an additional SHIFT)
- Any combination with SHIFT supported, results in max. 2x4=8 layer in total (32 in 4 deck mode)

POWER-ON CONFIGURATION SETUP

Holding a BUTTON during power on activates the 'Power-On Configuration Setup', allowing customizing user settings/preferences

- 4 DECK MODES: OFF - 2nd DECK Momentary - 2nd DECK Latching - 4 DECKS toggling
- 4 ABCD MODES (2 DECKS): A/B - A/C - B/D - C/D
- 3 SHIFT MODES: OFF - Momentary - Latching
- 4 BANK MODES: OFF - BANK 2 Momentary - BANK 2 latching - 4 BANKS
- PUSH SHIFT + BANK ⇨ RESET
- PUSH ENCODER ⇨ COLOR EXPLORER

DARK FLAME MIDI CHART

MIDI SEND									
CONTROL ELEMENT		NORMAL MODE				SHIFT MODE			
		BANK 1	BANK 2	BANK 3	BANK 4	BANK 1	BANK 2	BANK 3	BANK 4
MIDI Channel (top button)		01	02	03	04	61	62	63	64
TOP Left		41	42	43	44	101	102	103	104
TOP Right		45	46	47	48	105	106	107	108
Encoder	Push	CC 18	CC 19	CC 20	CC 21	CC 78	CC 79	CC 80	CC 81
	Rotate	CC 22	CC 23	CC 24	CC 25	CC 82	CC 83	CC 84	CC 85
PAD 1 (upper left)		05	06	07	08	65	66	67	68
PAD 2 (upper right)		09	10	11	12	69	70	71	72
PAD 3 (lower left)		13	14	15	16	73	74	75	76
PAD 4 (lower right)		17	18	19	20	77	78	79	80
SHIFT (bottom left button)		49	50	51	52	49	50	51	52
Mid (bottom mid)		53	54	55	56	113	114	115	116
BANK (bottom right button)		57				117			

- Buttons and PADS send Notes (NoteOn 0x9 message, value 127/0), Encoder send CC (Control Change 0xB)
- 3 buttons (MIDI Channel, SHIFT, BANK) are highly customizable (via Power-On Configuration Setup), MIDI Channel, SHIFT and BANK 2-4 are optional, can be enabled or disabled in Setup (defaults: **bold**)
- Supporting DJ app features (SHIFT): Mid (bottom) control sends Note 123 in ALL layers
- Supporting DJ app features (PADs): BANK or MIDI CH change send Note 124 (BANK1), Note 125 (BANK2)

MIDI RECEIVE (LED)										
CONTROL ELEMENT		LED	NORMAL MODE				SHIFT MODE			
			BANK 1	BANK 2	BANK 3	BANK 4	BANK 1	BANK 2	BANK 3	BANK 4
MIDI Channel	green/red	01	02	03	04	61	62	63	64	
TOP Left	green/yellow	41	42	43	44	101	102	103	104	
TOP Right	green/yellow	45	46	47	48	105	106	107	108	
Encoder (left LED)	orange	CC 10	CC 11	CC 12	CC 13	CC 70	CC 71	CC 72	CC 73	
Encoder (right LED)	blue	CC 18	CC 19	CC 20	CC 21	CC 78	CC 79	CC 80	CC 81	
PAD 1 (upper left)	RGB	05	06	07	08	65	66	67	68	
PAD 2 (upper right)	RGB	09	10	11	12	69	70	71	72	
PAD 3 (lower left)	RGB	13	14	15	16	73	74	75	76	
PAD 4 (lower right)	RGB	17	18	19	20	77	78	79	80	
SHIFT	green/red	49	50	51	52	N/A				
Mid (bottom mid)	blue	53	54	55	56	113	114	115	116	
BANK	green/red	57	N/A			117	N/A			

- Buttons and PADS LED receive Notes (NoteOn 0x9), Encoder LED receive CC (CC 0xB), value=COLOR
- COLOR - Unicolor LED (encoder and bottom mid LEDs): 0=OFF, 1(or 127)=ON, 2=Color flash
- COLOR - Bicolor LED: 0=OFF, 1/127=1st Color, 2=2nd Color, 3=1st Color flash, 4=2nd flash, 5=1st<->2nd flash
- COLOR - RGB PAD values: each PAD has 3 LEDs (RGB), each LED supports 5 intensities, results in 125 mix colors in total (5x5x5 cube model): **RED**=0,25,50,75,100 | **GREEN**=0,5,10,15,20 | **BLUE**=0,1,2,3,4. Mixing colors by adding values, examples: 0=OFF, 31=dark white(25+5+1), 4=bright blue, 52=mid intensive magenta (red50+blue2), 30/60/90/120= yellow's (red+green in same ratio, add more red for orange), 124=full white
- 3 LEDs (MIDI Channel, SHIFT, BANK) receive MIDI messages only if related firmware triggering is disabled (mode 1), SHIFT and BANK 2-4 LED only available if related layer is enabled, default notes/CC: **bold**
- Supporting DJ app features (SHIFT): Mid (bottom) LED receives Note 123 (127/0) in ALL layers
- Supporting DJ app features (PADs Auto Color): Note Value '125' on PADS 1-4 are converted to BLUE (3) or to RED (75) if Mid bottom knob is pressed (ALL layers)

