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## **ENTTEC RDM Kit**

**Complete RDM Toolkit** 

includes USB PRO Mk2 RDM License Key Controller & Sniffer Zip case DMX Terminator

#### **Box Contents**

- DMX USB PRO Mk2 (70314)
- USB Cable (50282)
- 5pin DMX Breakout cable (79146)
- 5pin DMX Terminator (79122)
- RDM License Dongle (70511)
- ENTTEC Zip Case (70317)
- This user manual (50798)

#### Features

- Two universes (512 channel each) of input or output (one per DMX port) DMX.
- RDM enabled (ANSI E1.20 compliant)
- Fully compatible with ENTTEC RDM Controller and RDM Sniffer applications. (Windows only)
- Standalone mode: playback a single recorded DMX show on power-up
- Midi input & output ports (DMX + MIDI cable sold separately) – MIDI needs software support
- Fully compliant with USITT DMX512-A
- Adjustable Frame Rates and empty frames to accommodate non-standard equipment
- USB 2.0 Support on Windows PC and Mac OSX

- 1500 V full isolation (data & power lines to protect your computer from surges)
- Drivers for Windows, OSX and Linux (drivers released and maintained by FTDI)
- Output refresh rate configurable from 1 to 40 Fps
- Compatible with various open-source and professional lighting control programs (DMX)

#### Safety

- Do not expose the ENTTEC RDM Kit to rain or moisture, doing this will void the warranty
- Do not remove the cover, there are no serviceable parts inside
- This unit is intended for indoor use only
- Office lighting

#### **Basic Setup**

- Install and configure the Driver software on your Windows<sup>™</sup>, Linux<sup>™</sup> or Mac<sup>™</sup> computer.
- Methods can vary between Operating systems, but the end result is the same: once installed correctly, the drivers will allow software to communicate with the PRO Mk2.
- Connect the PRO Mk2 to your computer (usb) and the DMX512 control network (DMX cable).

- Connect the RDM License Dongle to your computer (usb).
- Load the RDM software of your choice onto the computer. RDM Controller and/or Sniffer.
- For updating firmware on the PRO Mk2, install and run PRO-Manager.
- Latest versions of RDM Controller and Sniffer are always available on www.enttec.com/rdm.

#### **RDM** Controller

ENTTEC RDM Controller makes it easy and fast to communicate with compatible (ANSI E1.20) devices which act as responders over the line. The responders are connected via DMX to the PRO Mk2. RDM Controller connects to this PRO Mk2 and performs RDM functions.

Once started, please select your PRO Mk2 from the Devices menu to activate the Controller. If the RDM License key is not plugged in, only Device Summary window will be available. The RDM functions are currently limited to DMX1 only on the PRO Mk2.

The Controller interface is divided into four tabs:

- Device Summary. Useful information reported by the device
- *DMX Patch Grid*. DMX Patching via drag & drop
- **Device Monitor:** Sensor information & Status Messages
- Advanced RDM Settings. RDM Get & Set for all supported Parameters (incl. Manufacturer PIDs)

### **RDM Controller: Device Summary**

Once connected, you can click **RDM Discovery** to find all connected RDM Responders on-line. On activating "Discovery", the status changes to "Discovery in Progress". Since RDM discovery could take up to a few seconds depending upon the number of RDM responders on the network, it can be cancelled by the "Cancel" button if needed.

The Summary screen, shows all found RDM devices, and available options that can be changed. For example, changing the DMX Start address or DMX Personality can be made from this screen. Select the device on the left, and make the changes as needed.

Devices(i ito)				
	[Full Discovery]	[ Additive Discovery ]	Status: Idle	
Device List				-
		E Device Summary	MX Patch Grid ( Monitor Devices )	Advanced RDM Settings
🧑 788-LD+ Qua	d Dimmer Pack v2	Device Info		· · · · · · · · · · · · · · · · · · ·
🗍 🗤 UID: 6364	42634113			2.6.4
🕂 🥡 Desc: DIN	MMER_AC_INCANDES	788-LD+ Quad Di	mmer Pack v2	Kerresn
DMX Star	rt: 120	RDM Protocol Version:	0100	
DMX Foo	itprint: 8	Device Model ID:	799J D.+ Quad Dimmer Pack v2	
	re 2			
E SubDevic	3	Product Category:	DIMMER_AC_INCANDESCENT	
🗄 🚺 SubDevic	:e_4	Software Version ID:	788-LD+ v5	
🚺 Hell RDM LED	) Effect	DMX512 FootPrint:	8	
UID: 4845	00000018	Course DW/542 Documentation		
DMX Star	t Equipment	Current DMX512 Personality:	2 - 16-bit	Change
DMX Foo	tprint: 3	DMX512 Start Address:	120 Change	
🚺 Hell RDM LED	) Effect	Sub Device Count:	4	
Enttec Response	nder 2.12		,	
	02051859	Sensor Count:	0	
Desc: Tes	t Equipment	Device Label:		
DMX Star	tprint: 1	Manufacturer Label:	CDS advanced technology by N	
🔘 Hell RDM LED	) Effect	Supported Parameter County		
		Supported Parameter Count:	10	
		Supported Parameters:	DEVICE_INFO , IDENTIFY_DEVICE , DMX	_START_ADDRESS ,

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## RDM Controller: DMX Patch

The DMX Patch Grid panel contains a grid displaying all possible output addresses (also referred to commonly as "DMX Channels"). This allows user to patch devices and see the results graphically. There are also several buttons assist in the patching operation and to allow on-the-fly control of the dimmers or attributes of a multi-channel fixture.

levices(PRO)																						
[ Full Discovery ]			[ Ad	ditive	Disco	very	]	St	atus:	Idle									) PF	00	ON	N
Device List		_																-	<u> </u>			
		De	vice S	Summa	ary	<u>r</u>	DM	IX Pat	ch Gr	id (	$\odot$	Mon	itor D	evice	s   -(	}	Adva	nced	RDM	Settir	ngs	
788-LD+ Quad Dimmer Pack v2								-				1			1			-				
UID: 636442634113			Expo	ort list		Imp	port,,		Devic	e Con	trol		[Iden	tify]		Auto	Patc	h	Statu	s: IDI	E	
Desc: DIMMER_AC_INCANDES	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	ŀ
DMX Start: 120	Ŀ	~	-	24	22	22	24	-	-						40	42		45				
DMX Footprint: 8	28	29	30	31	32	33	34	35	30	37	38	39	40	41	42	43	44	45	40	4/	48	ľ
E SubDevice_1	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	1
+ SubDevice_2	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	
H SubDevice_3	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	
+ SubDevice_4	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	
100 A8450000018	163	164	165	166	167	168	160	170	171	172	173	174	175	176	177	178	170	180	181	187	183	
Desc: Test Equinment	100	101	100	100	107	100	105	1/0	1/1	1/2	1/0		1/0			1/0		100	101	102	100	
DMX Start: 56	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	ľ
DMX Footprint: 3	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	1
Hell RDM LED Effect	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	1
Enttec Responder 2.12	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	1
UID: 454E02051859	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	
🗤 🗓 Desc: Test Equipment	225	226	227	220	220	220	221	222	222	224	225	226	227	220	220	240	241	242	242	244	245	
DMX Start: 256	525	320	527	520	329	330	331	332	333	554	333	330	337	330	559	340	341	342	343	344	545	
DMX Footprint: 1	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	1
Hell RDM LED Effect	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	ľ
	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	ŀ
	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	ŀ
	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	ŀ
	<u> </u>			-																		ł

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The Drag & Drop technique is available in this window, and is considered the easiest way to configure the selected device to output on the chosen DMX Channel (or to "address" it.) If you're already familiar with "drag and drop" just drop the selected device onto the Channel you want its DMX Start Address to be. Click on Save All once done, and all the patching changes will be saved (one by one).

The channels patched are shown in the following colors:

Patched to a device on the list. (**DARK GREEN**)

Vacant Cell / Not Patched yet (WHITE)

- Overlapped with 2 or more devices (**RED**)
- Patched to the Selected Device (**LIGHT GREEN**)

Overlapped And Patched to the currently Selected Device (**PINK**)

*Auto Patch* will patch all the devices shown on the list, to a series of channels starting with DMX 1. The devices will be patched consecutively based on the Sort order of their Manufacturer Label.

## **RDM Controller: Monitor Devices**

This window displays all sensors reported by the device selected in Device List to the left. The Sensor display area is scrollable if there are multiple values to scan. The following information for each sensor displayed (if available):

- Sensor No.
- Sensor Name
- Min. Defined Value (with units)
- Max. Define Value (with units)
- Lowest reported Value (with units)
- Current reported Value (with units)
- Highest reported Value (with units)

Any Warning, Error or Advisory Status Messages reported by the device are listed under "Status Messages". Critical messages are displayed in red. These messages are updated by manual refreshing only.

evices(PRO)		
[Full Discovery]	[ Additive Discovery ] Status: Idle	
evice List		
		1
	Device Summary DMX Patch Grid 😲 Monitor Devices 🚽	Advanced RDM Settings
788-LD+ Quad Dimmer Pack v2	Device Sensors	
UID: 636442634113	Sub. 1 - 799-I D+ Quad Dimmor Back v2	
Desc: DIMMER_AC_INCANDES	Sub_1 - 788-LD+ Quad Dimmer Pack V2	[Identify] DEVIC
DMX Start: 120	SENSORS:	
DMX Footprint: 8		Refresh
SubDevice_1	- Sensor 1: TEMPERATURE Filter/Triac temp	
SubDevice_2	Min: 0 °C	Max: 100 °C
SubDevice_3		
Hall PDM LED Effort	Lowest: 25 °C Current: 25 °C Hig	jhest: 26 °C
Desc: Test Equipment		
DMX Start: 56	Messages/Info	
DMX Footprint: 3	No Error Marring Messager	
Hell RDM LED Effect	The chory warning ressages	
Enttec Responder 2.12		
— 🎲 Desc: Test Equipment		
DMX Start: 256		
DMX Footprint: 1		
Hell RDM LED Effect		

The following information might be displayed, if supported by the device:

- DEVICE\_HOURS
- LAMP\_HOURS
- LAMP\_STRIKES
- LAMP\_STATE
- DEVICE\_POWER\_CYCLE

### RDM Controller: Advanced RDM

This panel allows GET/SET functions for all supported Parameters as reported by the device. Since not all PIDs allow both GET and SET, and since they may or may not have data to send, the relevant controls for each device are pre-selected based on the ANSI E1.20 specification.

Once a different device is selected, the list of PIDs that can be GET or SET will change accordingly. This window can be used to test and set any manufacturer specific PIDs. HEX values can be sent too (hover on the text field to see what format to use for HEX values).

There is also a log window which logs all relevant RDM messages that are sent or received by the RDM Controller. The log can be used to check for appropriately formed response by the responder.



### **RDM Sniffer**

ENTTEC RDM Sniffer captures packets and displays them with an extensive layout to easily decode RDM Layout of the captured packet. A detailed view lists each byte captured along-with individual time-stamp. With Timing checks enabled it can allow the user to determine whether a certain device complies with ANSI E1.20.

ENTTEC Sniffer is designed to be used primarily for the capture and analysis of RDM/DMX packets. The entire process is divided into two stages:-

- a) Capture of Data, and
- b) Analysis of capture data into meaningful form.



Press **Start Capture** button while **Enable Real Time Update** is selected, to perform both the tasks at the same time. The packet list screen will be updated as and when new packets are captured. If Real Time Update consumes too much resources, it is recommended to not use it. Alternatively a progress bar shows the packets being captured, and Stop Capture button allows analysis.

Any packet that does not conform to the Timing as per ANSI E1.20 (RDM) and DMX 512/1990 is highlighted in Yellow. Double Clicking the packet displays the error message with reference to ANSI E1.20 (Pg & table) to lookup for RDM Timing.

### PRO Mk2 Specifications

Due to continuous improvements and innovations of all ENTTEC products, specifications and features are subject to change without notice.

Item	Value
Power Requirements	500mA supplied by USB
Weight	0.42 lbs. / 0.19 Kg
Shipped weight	0.77 lbs. / 0.35 Kg
Length	4.1" / 105mm
Width	2.6" / 66mm
Height	0.9″ / 22mm
Op Environment	0°-50°C
Connectors	1x 15-Pin breakout connector 1x micro USB B Male connector

#### **Ordering Information**

The ENTTEC RDM Kit and compatible products can be ordered from our website or through your ENTTEC dealer.

PN	Description
70531	ENTTEC RDM KIT
70511	RDM License Dongle
70029	5-pin to 3-pin DMX Adapter
79122	5-pin DMX Terminator
79126	0.5m 5-pin DMX Cable
79133	2m 5-pin DMX Cable

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