

# **CITY THEATRICAL**

**NEW YORK • LONDON**

## **Multiverse<sup>®</sup> Studio Add On Kit 900MHz / 2.4GHz P/N 5940**

### **User's Manual Rev 1.0**

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Multiverse Transmitters are covered by U.S. Patents #7,432,803 B2, #10,129,964 B1, and other patents pending.

The 900MHz band is licensed for use in North America only.

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## Compliance

### FCC Compliance Statement (United States)

This device complies with Part 15 of the Federal Communications Commission (FCC) Rules.

Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

**CAUTION:** Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

### IC Statement

This device complies with Industry Canada's license-exempt RSSs. Operation is subject to the following two conditions:

1. This device may not cause interference; and
2. This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

1. l'appareil ne doit pas produire de brouillage, et
2. l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Conforms to UL STD. 508A Industrial Control Panel  
Cert. to CAN STD C22.2 No.286-17

### Safety Notices

Please read this entire manual before using your new equipment. Please keep the manual in a safe place so you can refer to it in the future as required.

The Multiverse wireless DMX/RDM System is intended for use only by qualified professionals. Connection, installation, and hanging of this equipment must be performed in accordance with all pertinent local, regional, and national safety codes and regulations.

Do not operate in excessive heat/direct sunlight. Be sure installation provides adequate ventilation. There are no user-serviceable parts inside! Refer to qualified service personnel!

**RF Exposure:** The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20cm from all persons and must not be collocated or operating in conjunction with any other antenna or transmitter.

## Introduction

The 5940 Multiverse® Studio Add On Kit 900MHz/2.4GHz brings the advanced technology of the dual band Multiverse wireless DMX/RDM system to the film and video world, featuring Receivers with 20 hour battery life and contactless charging in an easy to use kit.

Just drop the Multiverse Studio Receiver onto its slot in the case, and it will begin charging. Individual chargers and USB cables are also included to enable charging or powering individual units outside the case.

The 5940 Multiverse Studio Add On Kit provides six additional Multiverse Studio Receivers for users to expand upon their full 5938 Multiverse Studio Kits.

## Getting Started

The USB flash drive included with each kit contains the user manual for each product in the kit, software downloads, and other useful information.

Here are basic steps in setting up a system:

1. Use the RadioScan Spectrum Analyzer to view the radio activity in the spectrum around you, and choose the area of the spectrum in which you want to broadcast. Use the Multiverse SHoW IDs tab on RadioScan to help choose a SHoW ID.
2. Enter the SHoW ID you chose into the Multiverse Transmitter or Multiverse Node you are using, and into each Multiverse Studio Receiver.
3. Enter the universe you are broadcasting, and an optional SHoW Key into the Multiverse Transmitter or Multiverse Node you are using, and into each Multiverse Studio Receiver.

**Note: SHoW ID, Universe, and SHoW Key (if used) must match on transmitter and all receivers.**

For additional information, consult the product manuals of the individual products. They can be found on the USB flash drive in the 5938 Multiverse Studio Kit, or on the City Theatrical website on each individual product page.

## Charging in The Charging Case

Multiverse Studio Add On Kit 900MHz/2.4GHz utilizes a contactless charging system. Individual chargers and USB cables are also included to enable charging individual units outside the case.

Multiverse Studio Receivers have a run time of 20 hours using the default settings. The setting which most influences run time is the backlight brightness. The default setting is 70%, and run time can be extended by decreasing backlight brightness, or by setting a backlight timeout period which will turn the backlight off after a time period you set. Touching any key will turn the backlight on again for the period you chose. Setting the backlight to 100% will reduce run time to approximately 16 hours.

**Always charge with the lid of the case open for ventilation.** Charge time from fully discharged to fully charged is 3.5 hours.

Charging may be done with Multiverse Studio Receivers either turned on or off.

To charge Multiverse Studio Receivers, plug the charging case into 100-240VAC power using the included power cord with PowerCON True 1 connector. Simply lay the Multiverse Studio Receivers onto the charging tray in their individual slots, making sure they are touching the bottom of the tray. The charging indicator light will be red to indicate that charging is in progress.

If the Multiverse Studio Receiver is on while charging, the battery icon on the user interface will show a lightning bolt when touching the contactless charger, and the percentage of charge will be shown. When fully charged to 100%, the charging indicator light will be green.

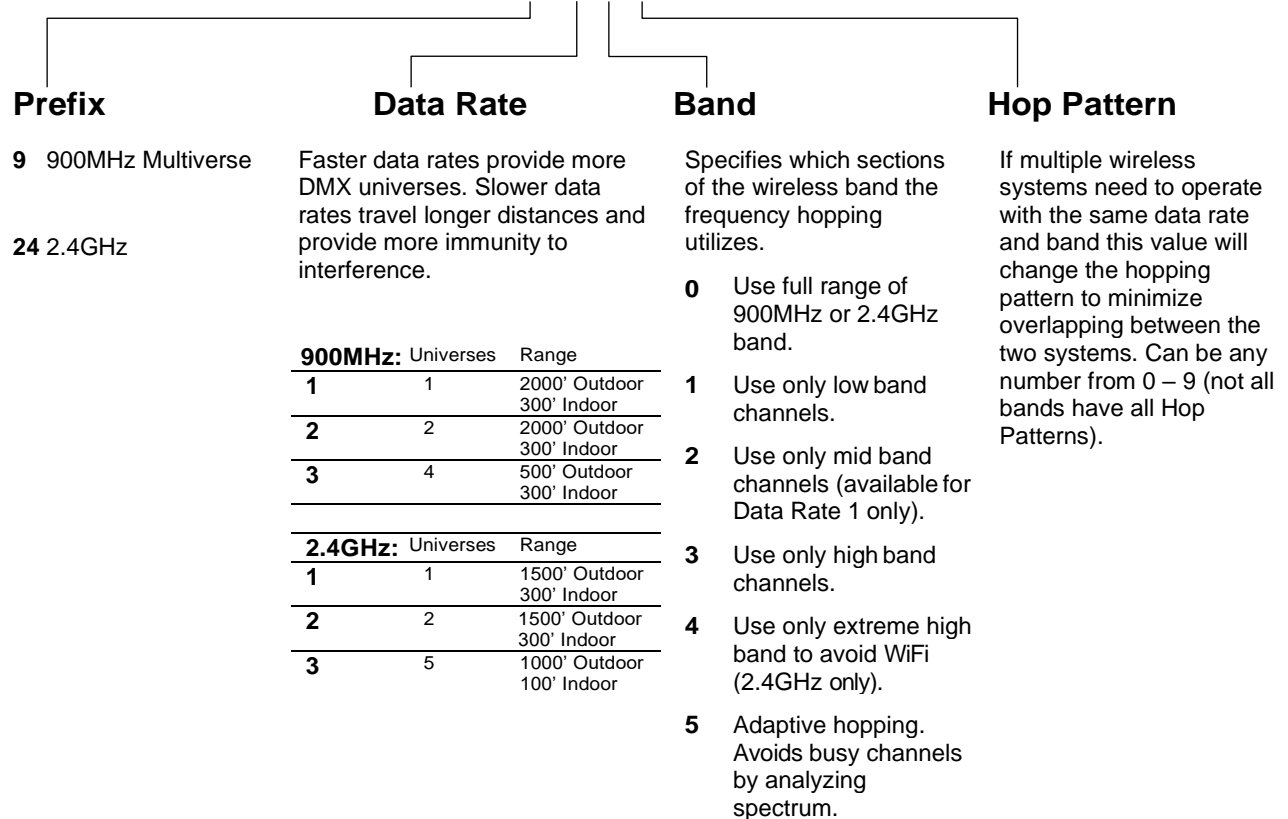
### Charging Outside the Charging Case

Individual Multiverse Studio Receivers can be charged outside the charging case by using the power supplies and USB-A to USB-C cables included in the kit. Plug the power supply into 100-240VAC and plug the USB-A to USB-C cable into the power supply and the Multiverse Studio Receiver. Using this method, charge time from fully discharged to fully charged is 2.5 hours.

Here is a closer look at the SHoW ID numbering system:

**Table 1: Selecting Your Multiverse SHoW ID**

### Multiverse SHoW ID Example: **24302**



Note: Not all combinations of digits are possible and unused numbers are reserved for future use.

## Specifications

**Table 2: Physical Characteristics**

<b>Product Information</b>	
Product Name	Multiverse Studio Add On Kit (900MHz/2.4GHz)
Part Number	5940
Maximum Concurrent Universes	1 – 9
Frequency Range:	2400 – 2480 MHz
	902 – 928 MHz

<b>Included in the Kit</b>	
P/N 5904	Six Multiverse Studio Receivers, 900MHz/2.4GHz
P/N 5987	Six USB-A to USB-C cable, 1m
P/N 5969	Six Power Supplies, 100-240VAC input, 5VDC output
P/N 5840	One Power Cord, PowerCON True 1, 8' long
P/N 5976	Pelican case with contactless charging

<b>Power – (Kit)</b>	
Input Power	100-240VAC 50-60Hz
Max Draw	0.95A

<b>Radio Technology</b>	
Latency	4 ms average
RF Sensitivity	-95dBm
Loss of Data Behavior	Output stops
Broadcast Power	3.2mW, 10mW, 32mW, 100mW EIRP
Broadcast Modes	Adaptive, Full, Low, Mid, High, Max
Show IDs	Multiverse: 307; Neo: 70
RDM Features	RDM Proxy, RDM Responder

<b>Product Information</b>	
IP Rating	IP20
Compliance	Kit: UL 508A
Operating Temperature	0° to 40°C when charging
Warranty	One year

## What's Included



**Figure 1: What's Included**

**Table 3: Included Item Descriptions and Part Numbers**

Label in Figure	P/N	Item Description	Quantity
1	5904	Multiverse Studio Receivers, 900MHz/2.4GHz	6
2	5987	USB-A to USB-C cable, 1m	6
3	5969	Power Supplies, 100-240VAC input, 5VDC output	6
4	5840	Power Cord, PowerCON True 1, 8' long	1
5	5977	Pelican case with contactless charging	1

## Charging



**Figure 2: In-Case Charging**

**Table 4: SHoW DMX Neo SHoW IDs for Use with the 2.4GHz Radio in Single Universe Systems**

<b>SHoW DMX Neo SHoW ID</b>	<b>Broadcast Location</b>
201	Adaptive hopping
102	Full bandwidth hopping
117	Low band hopping
133	Mid band hopping
149	High band hopping
165	Max band hopping