

# CITY THEATRICAL

NEW YORK • LONDON

## The PDS-375 TRX™ Power/Data Supply User's Manual

Rev 3



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SHoW DMX® Transceivers are covered by U.S. Patent # 7,432,803 and other patents pending.

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**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 CTI PDS-375 TRX 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.

The CTI PDS-375 TRX is intended for indoor use only.

Keep the equipment dry. Do not operate the equipment if it gets wet.

Do not operate in excessive heat/direct sunlight.

Be sure installation provides adequate ventilation. Some system components can produce significant heat and must be properly installed to allow proper cooling and assure user safety. All sides of the equipment must be clear of obstruction and allow free airflow.

The socket-outlet shall be installed near the equipment and shall be easily accessible.

Output power of 24 V DC: 14 A max

Maximum operating temperature: +0 °C to +40 °C

With convection cooling:

Maximum current at 32 °C (operating temperature of PDS-375 TRX) = 100 % = 14 Ampere load

Maximum current at 40 °C (operating temperature of PDS-375 TRX) = 60 % of 14 A = 8.4

Ampere load

There are no user-serviceable parts inside. Refer to qualified service personnel.

Aucune maintenance ne doit être effectuée pour les pièces situées dans l'appareil. Les réparations et la maintenance doivent être exécutées uniquement par une personne qualifiée.

**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

Thank you for selecting City Theatrical's PDS-375 TRX. Every effort has been made to anticipate your questions in this manual, but if you have any questions that are not answered here, or you want to discuss a special application, please feel free to contact us directly at City Theatrical.

The PDS-375 TRX is a Power/Data Supply (PDS) for CKDMX fixtures; it can be used with a controller or in stand-alone mode to power and control up to six 50W CKDMX fixtures, and offers control, configuration, and feedback options that have never been available before in a single unit.

- **Universal fixture support and flexible patching:** You can use 2 color (iW Blast 12 TR), 3 color (ColorBlast 12 TR), and 5 color (ColorBlast 12 TRX) fixtures, you can use them in either 8 bit or 16 bit versions, and you can use them in any combination you choose. You can configure each of the 12 output ports differently, and you can address each port to a unique starting DMX address, or assign all the ports to a common starting DMX address. Use the PDS-375 TRX with any combination of 2, 3, or 5 color fixtures in either 8 or 16 bit mode and patch them without any wasted DMX slots.
- **Accepts all Industry Standard Control Protocols:** You can control your PDS-375 TRX system (PDS and fixtures) with conventional wired DMX and RDM, Wireless DMX and RDM using the built-in SHoW DMX® receiver, Streaming ACN, Art-Net, or Ki Net, or with the built in MasterBlast™ Stand Alone routines. Whatever control data you use is output from the unit's DMX512 output
- **Built-In 3 Port Managed Ethernet Switch:** When using one of the Ethernet control protocols, you can assign the PDS-375 TRX system (PDS and fixtures) to one or two of the virtual DMX512 universes and assign a different virtual DMX512 universe to the DMX output.
- **Built-In SHoW DMX Receiver:** When controlling the PDS-375 TRX with SHoW DMX wireless DMX, the DMX data is output from the unit's DMX DMX512 Output.
- **Powerful new miniZapi features:** You can use the enhanced built-in miniZapi to configure each of the connected CKDMX fixtures.
- **Quiet Convection Cooling:** When operated in the normal upright position the PDS-375 TRX does not need a fan for cooling, it is convection cooled.
- **Universal Compliance:** Each PDS-375 TRX is ETL and cETL Listed, CE certified and FCC part 15B compliant.

## PDS-375 TRX Features and Connections

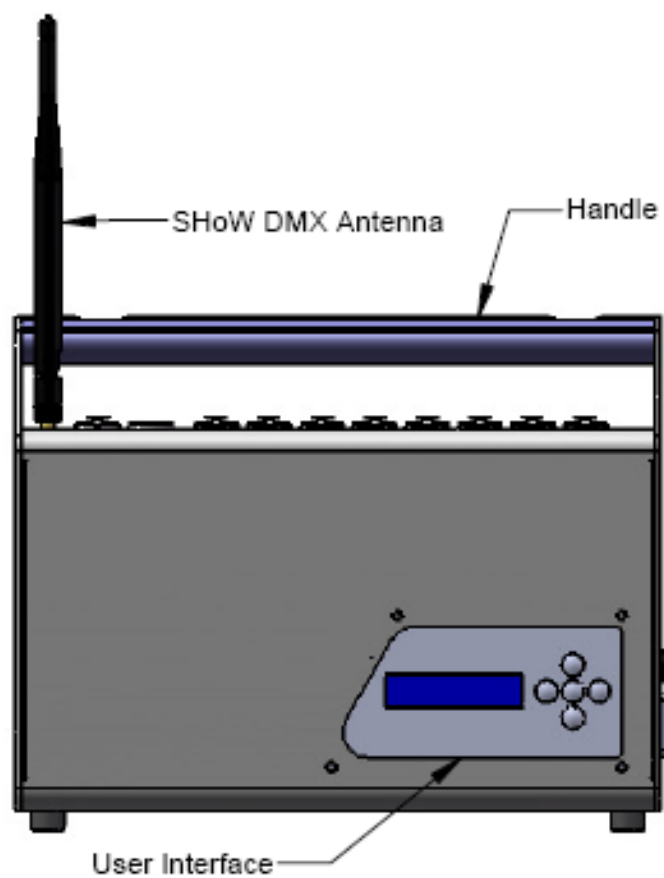


Figure 1, PDS-375 TRX, Front View

### Front View

On the front of the PDS-375 TRX you will find the User Interface. The User Interface incorporates 5 pushbuttons and a 2x16 Character LCD Screen.

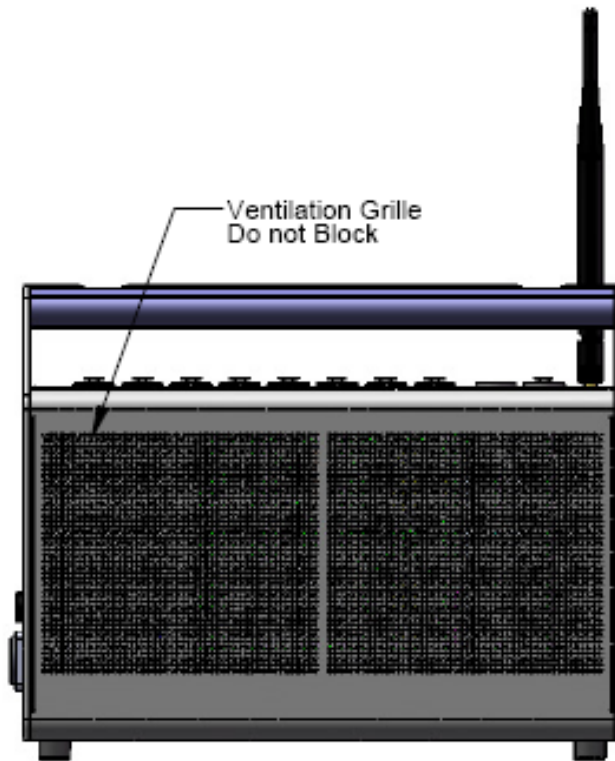


Figure 2, PDS-375 TRX Rear View

**Rear View**

The power supply area is on the back of the unit and is covered by the Ventilation Grille. The Grille is an active part of the cooling system and must not be obstructed.

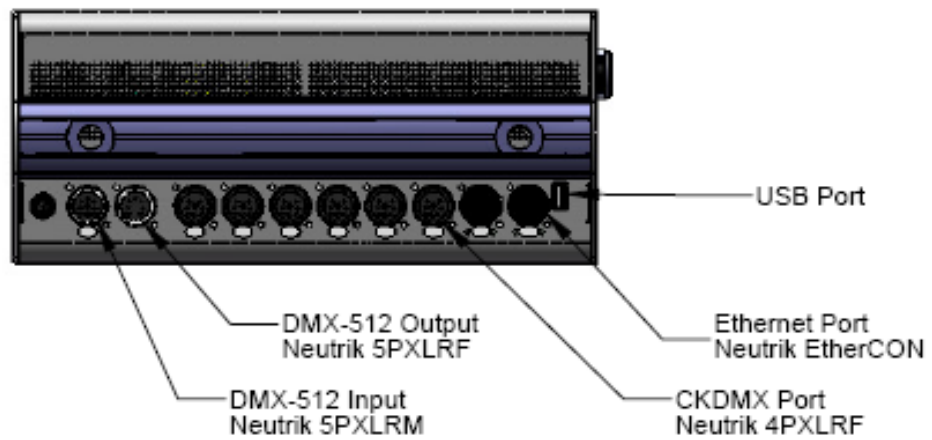


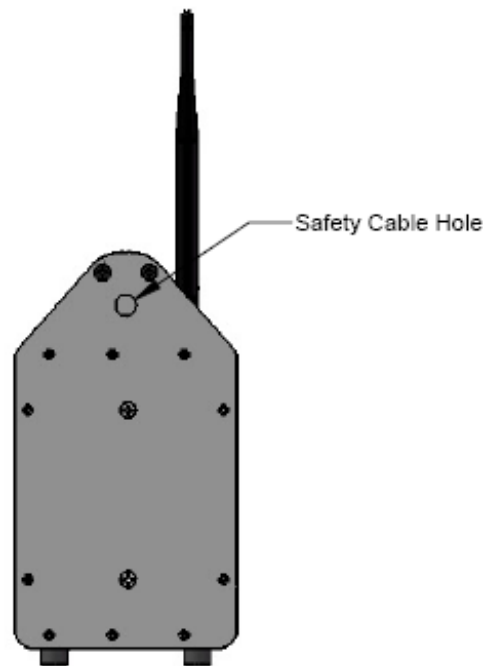
Figure 3, PDS-375 TRX Top View

## Top View, Connections

All of the input and output connections are located on the top of the PDS-375 TRX, including:

- DMX-512 Input, 5PXLRM
- DMX-512 Output, 5PXLRF
- USB A Port (for firmware changes and upgrades)
- 2 Ethernet Ports, RJ 45 compatible EtherCON
- 6 CKDMX Ports, 4PXLRF

In addition, the SHoW DMX antenna connection with the included (removable) 5 dBi omni-directional antenna is also located on the top of the unit.

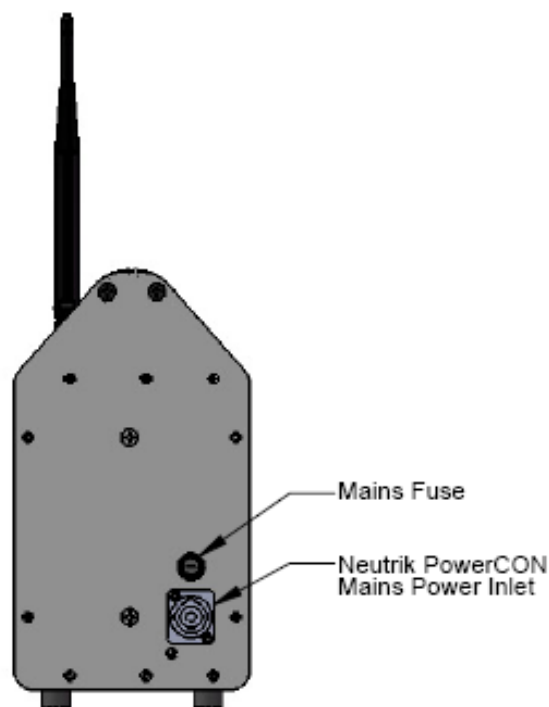


**Figure 4, Left Side View**

### Left Side View

The left side contains a ½" hole for use with a safety cable





**Figure 5, Right Side View**

### **Right Side View, Mains Power**

The PDS-375 TRX is provided with a universal input power supply and will operate on any mains power source 100-240 VAC 50/60 Hz.

Each PDS-375 TRX is provided with a PowerCON to NEMA 5-15P power cable. For use outside of North America, the NEMA 5-15P can be removed and replaced with the correct local connector. The power cord wire insulation color code is

Mains Hot	Brown
Mains Neutral	Blue
Safety Earth Ground	Green/Yellow

### **Color Kinetics CKDMX Output Pinout**

The PDS-375 TRX CKDMX XLR 4P Output pinout is as follows:

PIN #	Signal	CK Cable Wire Color
Pin 1	+24VDC	Red
Pin 2	(n/c)	
Pin 3	Data	White
Pin 4	DC Common	Black

This pinout matches all Philips Color Kinetics ColorBlast 12 TRX, ColorBlast 12 TR, and iW Blast 12 TR fixtures and all other CTI PDS units, and is the industry standard.

## Installation and Setup

### Proper installation for convection cooling

The PDS-375 TRX is designed to be convection cooled, so during normal operation the unit is cooled by airflow that occurs naturally due to convection through the Power Supply area. The unit should be operated in its normal upright position (handle up, feet down) with free and unrestricted airflow on all sides to assure proper convection cooling. The unit may either be placed on a flat surface on its feet or hung from appropriate user-provided hardware by its handle (see below) in the upright position. Note that the feet are part of the ventilation system and must be installed and in good condition if the unit is operated while standing on a flat surface.

The PDS-375 TRX is provided with a supplemental fan (located on the bottom of the unit) which will turn on automatically if the unit is operated in a position other than the normal upright position. Do not obstruct the fan or block airflow to the fan.

### Mounting the PDS-375 TRX with hanging hardware

The PDS-375 TRX may be hung with suitable hanging hardware using the two ½” holes provided in the Handle. Do not hang the unit from a single hanging device using only one of the two ½” holes, as excessive torque will be placed on the handle. A safety cable hole is provided in the Right Side of the unit for use with a user-provided safety cable when the unit is installed with hanging hardware.

## OPERATING THE PDS-375 TRX



Figure 6, PDS-375 TRX User Interface

### User Interface

The PDS-375 TRX is provided with a button pad for user control and an LCD screen that displays menu settings, configuration options, performance data, and any other text or graphics that relate to unit function.

Press the Enter (center) button to access the menus, and press the Up or Down buttons to move through the menus. When you reach a menu that you want to work in, simply press Enter

to begin editing. Press Enter again to save your changes. To cancel an edit, press and hold the Left button.

## **Configuring the PDS-375 TRX**

Before you can use the PDS-375 TRX, you will need to configure it by selecting the input options and output options you wish to use. You can perform a basic configuration quickly using the Setup Wizard, or fine tune any input or output configuration settings by going directly to the menu for that option.

## **Making Input and Output Connections**

### **Power**

The unit will work with 100-240VAC 50-60Hz mains power sources, and is provided with a PowerCON to NEMA 5-15P plug for connection to US household style outlets. For use with other types of outlets, replace the plug with a suitable connector.

### **CKDMX Ports**

Connect CKDMX fixtures in any desired arrangement; you can connect all of one type of fixture, or mix fixtures in any combination. If you combine different types of CKDMX fixtures, you will be able to configure each output port to match the fixture using the Port Setup Menu described below.

### **DMX512 Connections**

Connect a standard 5P XLR DMX Cable to the 5P XLRM DMX input. The 5P XLRF Output will function as a standard hard-wired DMX pass-thru and is auto-terminated when no pass-thru cable is connected.

### **Ethernet Connections**

Connect the Ethernet source to either EtherCON RJ45 Compatible Ethernet port connector. The other EtherCON will function as a pass-thru port as long as the PDS-375 TRX is operating in Ethernet Input mode. If power to the unit is lost this Ethernet pass-thru will not function.

### **SHoW DMX Operation**

Confirm the Antenna is installed and extended. Configure the SHoW ID to match the SHoW ID setting of the SHoW DMX Transmitter (sold separately) being used. See *Appendix A: SHoW DMX Configuration Options* page 20, and the *SHoW DMX Users Manual* for details.

### **USB A Port**

This port is used for firmware installation and upgrades only. Firmware updates are posted on the City Theatrical, Inc. website [www.citytheatrical.com](http://www.citytheatrical.com)

To install a firmware update:

- Download the new firmware file from the CTI Website
- Place file in root directory of a FAT (16 or 32) formatted USB memory stick.
- Plug stick into USB jack
- Browse to “Misc->Firmware->Update”
- Wait for unit to reboot with new firmware
- Once complete, remove USB stick

Some USB memory devices do not meet the USB Standard, and may not work reliably with the PDS-375 TRX. If you have a problem, please contact City Theatrical for help.

## **The Menus**

The PDS-375 TRX will power up in the configuration it was last set to. On power up, the unit will be in the Main Menu and the display will show:

### **PDS-375 TRX I→ (main menu)**

[status] (status messages will vary with the input control method selected)

(→) or (P>) indicates that there is more information available by pressing the Right button.

### **The Setup Wizard**

The Setup Wizard will guide you to configure basic setups for Wired DMX control, Wireless DMX control, or Ethernet control. To use the Setup Wizard, navigate to the Setup Wizard menu and press ENTER to Start. Continue to press ENTER to select choices and to move through the Wizard.

Input Setup> Sets the input and control protocol to be used. Select DMX512-A, Art-Net, Streaming ACN or SHoW DMX.

Personality> Sets a fixture personality for all 12 of the CKDMX ports. Select RGB3 16-bit, RGB3 8-bit, iW 8-bit, RGBAW 16-bit, RGBAW 8-bit RGB5 16-bit, or RGB5 8-bit. Note, fixtures are automatically zapi-ed when PERSONALITY is selected to assure correct configuration

Base Address> Sets the unit's base DMX address and addresses the CKDMX ports sequentially. Select any DMX address from 1 -512

- Universe (when Ethernet is selected)
- SHoW ID (When SHoW DMX is selected) Sets the SHoW ID (hopping pattern and bandwidth setting) for use in a SHoW DMX wireless DMX system.

For more advanced and detailed configuration, proceed to the menu for the feature you wish to configure.

### **Input Setup**

Use this menu to configure the PDS-375 TRX to accept control data from any one of the many supported control protocol options, and to set the various configuration options for each of the different protocols supported. This is a dynamic menu range; the options vary with the protocol selected, so options are only presented when they are pertinent to the selected protocol.

When using one of the Ethernet protocols, the PDS-375 TRX's outputs can be assigned to any supported Universe while the DMX output is assigned to a different supported Universe.

#### **Control Method**

- E1.11 DMX-512 (selects DMX)
- Internal Scenes (selects Internal Scenes)
- ArtNet (selects Art-Net and enables the Art-Net configuration options below)

- Universe
    - 0-0 thru f-f (*select from 256 Universes as 16 subnets, each with 16 Universes*)
  - Network Settings (*configure Art-Net network settings*)
    - IP Address Mode
      - Manual
      - Auto
    - IP Address
    - Subnet Address
    - Gateway Address
    - MAC Address
  - Universe Format
    - Hexadecimal (*displays Universes according to standard Art-Net convention*)
    - PRG Alpha (*displays universes according to PRG's Alpha-numeric convention*)
    - Decimal (*displays Universes with decimal labels 1-256*)
  - PRG Merge (*by default, multiple sources for the same Universe are HTP merged*)
    - Auto (Art-Net Default)
    - LTP
    - 1 Way
    - 2 Way
    - 3 Way
    - 4 Way
- E1.31 sACN (*selects streaming DMX over ACN and enables the sACN configuration options below*)
    - Universe
      - 1-63999 (*select from 64,000 Universes*)
    - Network Settings (*configure sACN network settings*)
      - IP Address Mode
        - Manual
        - Auto
      - IP Address
      - Subnet Address
      - Gateway Address
      - MAC Address

*(by default, multiple sources for the same Universe are HTP merged, max number of sources is two)*
- SHoW DMX (*selects SHoW DMX wireless DMX and enables the SHoW DMX configuration options, see SHoW DMX Configuration Options, page 20*)
    - SHoW ID (*select SHoW ID*)
      - 1-64
    - SHoW Power (*select SHoW DMX broadcast power for RDM responses*)
      - 5mW-100mW (ETSI)

## **Port Setup**

This menu is used to configure the CKDMX Ports for the various fixture types supported. Each CKDMX Port can be individually configured, or all 6 Ports can be set to the same configuration.

### **Start Addressing**

*(select a starting address for the whole unit with Base Address, or set individual starting addresses for each Port with Port 1 Address through Port 6 Address)*

- Base Address
  - 1-512
- Port 1 Address
  - 1-512
- Port 2 Address
  - 1-512
  - 
  - 
  -
- Port 6 Address
  - 1-512

### **Source Selection**

*(Select Universe in Ethernet control methods; select a source for the whole unit with All Sources, or set individual Sources for each Port with Port 1 Source through Port 6 Source)*

- All Sources
- Port 1 Source
- Port 2 Source,
  - 
  -
- Port 6 Source

### **Personality**

*(select a common fixture personality for the whole unit with All Personality, or set individual personalities for each Port with Port 1 Personality through Port 6 Personality)*

- All Personality
- Port 1 Personality
- Port 2 Personality
  - 
  - 
  -
- Port 6 Personality

#### *Fixture Personalities:*

- PASS-THRU
- iW 8-bit
- RGBAW 16-bit
- RGBAW 8-bit
- RGB5 16-bit
- RGB5 8-bit
- RGB3 16-bit
- RGB3 8-bit

### miniZapi

The min-zapi menu allows individual configuration of connected CKDMX fixtures, including resetting the fixture to the default CKDMX “Light 1” (starting DMX address 001) and selection of 8 or 16 bit operation. Connected fixtures may be zapi-ed together using **All mZapi** (all miniZapi) or may be zapi-ed individually using individual **Port mZapi** (Port miniZapi). The zapi configuration options for **All mZapi** and individual **Port mZapi** are the same and are listed below:

- **All mZapi**  
*or*
- **Port 1-6 mZapi**
  - Set Address to 1
  - Set DMX Mode
  - Set LED D4 – D1
  - Set LED Fast
  - Set Contrl RGB5
  - Set Contrl RGB3
  - Set Contrl RGBAW
  - Set Tung. Curve
  - Set Normal Curve
  - Set Linear Curve
  - Set 8 bit mode
  - Set 16 bit mode

### Scene Setup

In the Scene Setup menu you can assign any one of the stand-alone routines to each of 6 Scenes and then configure the unit to play those Scenes in the order and times you select using the Fade Time and Follow Time settings. Fade Time sets the fade time within the routine assigned to the Scene, e.g. the time for a cross fade between colors in Color Wash. Follow Time sets the time the Scene will play before the unit moves to the next assigned Scene. An internal Grand Master setting is also applied when running the PDS-375 TRX in this mode. Up to 6 Scenes can be configured and any unused Scenes can be disabled. Use the P> Menu settings to set the Grandmaster level, fade time and follow time for each Scene. Select **Internal Scenes** in the Input Menu to edit Scenes live and enable playback.

#### Scene1: P>

- Disabled
- Fixed Color
- Random Fade
- Random Color
- Colorwave 18Lgt
- Colorwave 12Lgt
- Colorwave 16Lgt
- Cross Fade
- Color Wash

P> menu settings:

Grandmaster:

- 000 – 100%

Fade Time:

- .2 Sec. – 2 Hours

Follow Time:

- .1 Sec – 2 Hours or 0 (infinite)

Color 1/Fixed:

- R:00-FF G:00-FF B:00-FF A:00-FF W:00-FF (*editing either Fixed or Color sets RGB levels for both routines*)

Color 2:

- R:00-FF G:00-FF B:00-FF

Scene 2: P> (as above)

Scene 3: P> (as above)

Scene 4: P> (as above)

Scene 5: P> (as above)

Scene 6: P> (as above)

**RDM Setup**

Proxy Enable

- Enabled
- Disabled

Device Label: ><

- [user entered 32 characters]

Unique ID: [factory set]

**Misc. Setup**

Panel Lockout:

- 5-240 seconds
- Disabled

*To clear Panel Lockout, press and hold the Right and Left Buttons at the same time*

Backlight T-out:

- Always on
- Always off
- 1-240 Seconds

Firmware [firmware version]

Restore Default?

- Are you sure? [working]



#### Data Hold T-Out:

- 0-Infinite

#### CK Quiet Mode:

- On
- Off

When CK Quiet Mode is ON, the CKDMX outputs are turned off unless level changes occur, so static DMX levels are not constantly refreshed. This feature is provided for use in installations where data traffic on the fixture cables must be minimized.

### **Stand-Alone Routines**

The PDS-375 TRX contains eight stand-alone routines, which can be assigned to the six preset Scenes.<sup>1</sup> In the stand-alone routines, the PDS-375 TRX outputs the selected routine as a DMX signal from its 5PXLR wired DMX output port.

Stand-Alone operation cannot be selected from the **Setup Wizard**; it must be accessed from the **Advanced Setup** menu.

Hint: You may want to run the Setup Wizard for DMX512-A (defaults) first to put all of your connected fixtures in to a known state.

To select Stand-Alone Routines:

From the Top Menu, push the Enter Button to access the various Setup Menu choices, use the Down Button to scroll to **Advanced Setup** and select (Enter Button)

Under Control Method: select **Internal Scenes**

Back up to the Setup Menu and scroll to **Scene Setup** to assign Stand-Alone Routines to Scenes (1-6) and configure the Routines selected. Set unused Scenes to Disabled.

### **Fixed Color**

This show routine holds a single user selectable color. The Color setting is displayed as Red, Green, Blue, Amber and White (RGBAW) levels in hexadecimal. Press the Enter button to edit the colors. A blinking cursor will appear under the first character in the R level. Use the Up and Down button to adjust. Use the Left and Right buttons to move to the other character fields. You can monitor the level by watching a connected ColorBlast as the output is updated while you adjust these levels. When you have completed setting the color push Enter to record your setting. Editing this setting also edits the RGB component of Color 1 in the Cross Fade routine.

### **Cross Fade**

This show routine executes a continuous cross fade between two RGB colors. The adjustable parameters are the fade rate and color selection. To adjust the fade rate, go to the Color Fade routine and press Enter. A blinking cursor will appear under the fade time. Adjust the fade time by pressing the Up and Down buttons. Fade time is adjustable between .25 Seconds and 2 hours. To select the Colors for the cross fade, go to the Color Fade routine and press the Right button. The display will change to show the current Color 1 or Color 2 setting. The Color setting is displayed as Red Green and Blue (RGB) levels in hexadecimal. Press the Enter button to edit the colors. A blinking cursor will appear under the first character in the R level. Use the Up

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<sup>1</sup> These Stand-Alone routines match the built-in Routines provided in the CTI MasterBlast Controller.

and Down button to adjust. Use the Left and Right buttons to move to the other character fields. You can monitor the level by watching a connected ColorBlast, as the output is updated while you adjust these levels. When you have completed setting one color push Enter to record your setting and use the Up and Down buttons to go to the other color.

PDS-375 TRX will continually broadcast this routine via its DMX512 Output configured for RGB 3 color 8-bit personality.

### **Color Wash**

This show routine executes a continuous cross fade between colors. The adjustable parameter is the fade rate. To adjust the fade rate, go to the Color Wash routine and press Enter. A blinking cursor will appear under the fade time. Adjust the fade time by pressing the Up and Down buttons. Fade time is adjustable between .2 Seconds and 2 hours. PDS-375 TRX will continually broadcast this routine via its DMX512 Output configured for RGB 3 color 8-bit personality.

### **Color Wave 6 Light**

This show routine executes as a sequential color spectrum cross fade between six lights, where the six lights are sequentially addressed (DMX1,2,3; 4,5,6; 7,8,9; etc.). The effect is of a color spectrum or rainbow moving around the sequentially addressed fixtures. The adjustable parameter is the fade rate. To adjust the fade rate, go to the Color Wave 6 Lgt routine and press Enter. A blinking cursor will appear under the fade time. Adjust the fade time by pressing the Up and Down buttons. Fade time is adjustable between .2 Seconds and 2 hours. PDS-375 TRX will continually broadcast this routine via its DMX512 Output configured for RGB 3 color 8-bit personality.

### **Color Wave 12 Light**

This show routine executes as a sequential color spectrum cross fade between 12 lights, where the 12 lights are sequentially addressed (DMX1,2,3; 4,5,6; 7,8,9; etc.). The effect is the same as Color Wave 6 Light except the Color Wave effect is smoother as it moves across more fixtures. The adjustable parameter is the fade rate. To adjust the fade rate, go to the Color Wave 12 Lgt routine and press Enter. A blinking cursor will appear under the fade time. Adjust the fade time by pressing the Up and Down buttons. Fade time is adjustable between .2 Seconds and 2 hours. PDS-375 TRX will continually broadcast this routine via its DMX512 Output configured for RGB 3 color 8-bit personality.

### **Color Wave 18 Light**

This show routine executes as a sequential color spectrum cross fade between 18 lights, where the 18 lights are sequentially addressed (DMX1,2,3; 4,5,6; 7,8,9; etc.). The effect is the same as Color Wave 6 Light and 12 Light except the Color Wave effect is even smoother than in the 6 or 12 Light versions. The adjustable parameter is the fade rate. To adjust the fade rate, go to the Color Wave 18 Lgt routine and press Enter. A blinking cursor will appear under the fade time. Adjust the fade time by pressing the Up and Down buttons. Fade time is adjustable between .2 Seconds and 2 hours. PDS-375 TRX will continually broadcast this routine via its DMX512 Output configured for RGB 3 color 8-bit personality.

### **Random Color**

This show routine executes changes ("bumps") between randomly selected colors. The adjustable parameter is the change rate. To adjust the change rate, go to the Random Color routine and press Enter. A blinking cursor will appear under the change time. Adjust the time by pressing the Up and Down buttons. Change time is adjustable between .2 Seconds and 2

hours. PDS-375 TRX will continually broadcast this routine via its DMX512 Output configured for RGB 3 color 8-bit personality.

### **Random Fade**

This show routine is similar to the color wash routine except that color selection is random. The adjustable parameter is the fade rate. To adjust the fade rate, go to the Random Color routine and press Enter. A blinking cursor will appear under the fade time. Adjust the fade time by pressing the Up and Down buttons. Fade time is adjustable between .2 Seconds and 2 hours. PDS-375 TRX will continually broadcast this routine via its DMX512 Output configured for RGB 3 color 8-bit personality.

When playing Scenes from the Top Menu, press Up/Down to change scenes. If a follow time for a Scene is set to other than 0 sec., the Scene will automatically change to the next Scene at the end of the follow time. If the current Scene is # 6, the next Scene will be # 1.

## Appendix A: SHoW DMX Configuration Options

### SHoW ID

The SHoW ID Setting configures the SHoW DMX Radio parameters, including hopping pattern selection and full or limited bandwidth broadcast modes. All SHoW DMX equipment in a given system must share the same SHoW ID in order to communicate. SHoW ID 1 is the default setting for all SHoW DMX equipment.

There are 64 SHoW IDs. Each corresponds to a different combination of Hopping Pattern and Broadcast Bandwidth settings. The SHoW IDs are defined in the table below:

Show ID	Hopping Pattern	Bandwidth	Show ID	Hopping Pattern	Bandwidth
1	1	Full	33	1	WiFi 4-9
2	2	Full	34	2	WiFi 4-9
3	3	Full	35	3	WiFi 4-9
4	4	Full	36	4	WiFi 4-9
5	5	Full	37	5	WiFi 4-9
6	6	Full	38	6	WiFi 4-9
7	7	Full	39	7	WiFi 4-9
8	8	Full	40	8	WiFi 4-9
9	9	Full	41	9	WiFi 4-9
10	10	Full	42	10	WiFi 4-9
11	11	Full	43	11	WiFi 4-9
12	12	Full	44	12	WiFi 4-9
13	13	Full	45	13	WiFi 4-9
14	14	Full	46	14	WiFi 4-9
15	15	Full	47	15	WiFi 4-9
16	16	Full	48	16	WiFi 4-9
17	1	WiFi 1-6	49	1	WiFi 7-11
18	2	WiFi 1-6	50	2	WiFi 7-11
19	3	WiFi 1-6	51	3	WiFi 7-11
20	4	WiFi 1-6	52	4	WiFi 7-11
21	5	WiFi 1-6	53	5	WiFi 7-11
22	6	WiFi 1-6	54	6	WiFi 7-11
23	7	WiFi 1-6	55	7	WiFi 7-11
24	8	WiFi 1-6	56	8	WiFi 7-11
25	9	WiFi 1-6	57	9	WiFi 7-11
26	10	WiFi 1-6	58	10	WiFi 7-11
27	11	WiFi 1-6	59	11	WiFi 7-11
28	12	WiFi 1-6	60	12	WiFi 7-11
29	13	WiFi 1-6	61	13	WiFi 7-11
30	14	WiFi 1-6	62	14	WiFi 7-11
31	15	WiFi 1-6	63	15	WiFi 7-11
32	16	WiFi 1-6	64	16	WiFi 7-11

**Table 1, SHoW IDs**  
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The SHoW DMX System supports 16 different Frequency Hopping Spread Spectrum (FHSS) hopping patterns, full bandwidth broadcasting mode, and three different limited bandwidth broadcasting modes. The SHoW IDs allow the user to quickly select the desired combination of Hopping Pattern and Full or Limited Broadcast option that is desired. Please see *The Advanced Wireless DMX Broadcast Features* of SHoW DMX in the [SHoW DMX System User's Manual](#)<sup>2</sup> for more about how these features can be used.

## **Power**

This menu allows adjustment of radio broadcast power which is used during wireless RDM responses. The power settings are 5mW, 10mW, 50mW or 100mW ETSI.

## **RDM**

**Device Label:** This label is user defined. You can edit the label by pushing the Enter button. A blinking cursor will appear under the first character in the label. Use the Up and Down Buttons to change characters and use the Right and Left buttons to move through the text string. Press Enter again to record your label. For example, if you had PDS-375 TRXs located in front of the DJ Booth, you could give them RDM Labels like "DJ Booth Left" and "DJ Booth Right"

**Unique ID:** The RDM unique ID is factory set and unique for each RDM responder.

PDS-375 TRX is a fully compliant RDM Receive Responder and can be monitored and configured via wireless RDM using the SHoW DMX RDM Monitor (embedded in the SHoW DMX Transmitter). The following device information is available via wireless RDM:

- Unique RDM ID (read)
- Device Label (set and read)
- Starting DMX Address (set and read)
- Output fault status (read)
- Port configuration
- SHoW ID (set and read)
- Broadcast Power (set and read)
- Receive signal strength (read)
- Internal PCBA temperature (read)
- Power supply voltage (read)

For more details, see [The SHoW DMX System User's Manual](#).

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<sup>2</sup> Available as a free download from the CTI website at [www.citytheatrical.com](http://www.citytheatrical.com)

## APPENDIX B: COMPLIANCE INFORMATION

### System Compliance Information

The City Theatrical 6500 PDS-375 TRX is CE Certified

Standards Applied:

EN 55103-1, EN55103-2  
EN 60950-1:2006

Product Conforms to CE Marking Directive 93/68/EEC

The City Theatrical 6500 PDS-375 TRX is RoHS compliant

The City Theatrical 6500 PDS-375 TRX is ETL and cETL Listed and conforms to UL STD 508A and is certified to CAN/CSA STD C22.2 NO. 14-95

### About the SHoW DMX Radios installed:

The City Theatrical 6500 PDS-375 TRX is equipped with a CE compliant City Theatrical 5692 SHoW DMX Radio which is FCC and IC Certified for use in the US and Canada and is CE Certified for use in Europe

### Radio Compliance Information

#### City Theatrical, Inc. # 5692 SHoW DMX Radio Transceiver

FCC ID: VU65692  
IC ID: 7480A5692  
CE mark: CE1177

#### FCC Part 15

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/ TV technician for help.

#### Radio Frequency Notifications

##### FCC Notifications

**RF Radiation** The Product is an intentional radiator of Radio Frequency (RF) energy. In order to limit RF exposure to personnel in the immediate area, the Product should be located and installed such that a separation of at least 20 centimeters is maintained between the Product's antenna and personnel in the vicinity of the device.

##### Modification Warning

Caution: changes or modifications to this equipment, not expressly approved by City Theatrical Inc. could void the user's authority to operate the equipment.

##### Industry Canada Notifications

This Class B digital apparatus complies with Canadian ICES-003. 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.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

### Approved Antennas

To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that permitted for successful communication. This device has been designed to operate with the antennas listed below, and having a maximum gain of 5 dB. Antennas not included in this list or having a gain greater than 5 dB are strictly prohibited for use with this device. The required antenna impedance is 50 ohms. Approved antennas are listed in the table below:

	Manufacturer	Model	Type	Connector	Gain
1	Nearson	S151AH-2450S	Omni whip	SMA plug reverse polarity	5dBi
2	Nearson	S141AH-2450	Omni whip	SMA plug reverse polarity	2dBi
3	Centurion	WCP2400-MMCX4	Omni whip	MMCX jack on 4" coax pigtail	2.5dBi
4	Maxrad	MP24008XFPT	Panel	SMA plug reverse polarity via provided Antenna Cable	8.5dBi
5	Maxrad	MP24012CPLXFPT	Panel	SMA plug reverse polarity via provided Antenna Cable	12dBic
6	Maxrad	MYP24010PT	Yagi	SMA plug reverse polarity via provided Antenna Cable	10dBi
7	Maxrad	MYP24014PT	Yagi	SMA plug reverse polarity via provided Antenna Cable	14dBi

Table 2, Approved Antennas

### CE Mark Conformity

City Theatrical Inc. declares that this product conforms to the specifications listed in this manual, following the provisions of the European R&TTE directive 1999/5/EC:

City Theatrical Inc. vakuuttaa täten että dieses produkt tyypinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien näiden direktiivien muiden ehtojen mukainen.

City Theatrical Inc. déclare que le produit est conforme aux conditions essentielles et aux dispositions relatives à la directive 1999/5/EC.

- EN 301 489-1, 301 489-17 General EMC requirements for Radio equipment.
- EN 60950 Safety
- EN 300 328 Technical requirements for Radio equipment.

*CAUTION—This equipment is intended to be used in all EU and EFTA countries.*

*Outdoor use may be restricted to certain frequencies and/or may require a license for operation. Contact local Authority for procedure to follow.*

**Note:** ESD precautions should be used when attaching or removing the antenna.

**Note:** Combinations of power levels and antennas resulting in a radiated power level of above 100 mW equivalent isotropic radiated power (EIRP) are considered as not compliant with the above mentioned directive and are not allowed for use within the European community and countries that have adopted the European R&TTE directive 1999/5/EC. For more details on legal combinations of power levels and antennas, contact City Theatrical Inc.

Do not use this product near water, for example, in a wet basement or near a swimming pool.

Avoid using this product during an electrical storm. There may be a remote risk of electric shock from lightning.

### Radio Frequency Notifications

**Belgique** Dans le cas d'une utilisation privée, à l'extérieur d'un bâtiment, au-dessus d'un espace public, aucun enregistrement n'est nécessaire pour une distance de moins de 300m. Pour une distance supérieure à 300m un enregistrement auprès de l'IBPT est requise. Pour une utilisation publique à l'extérieur de bâtiments, une licence de l'IBPT est requise. Pour les enregistrements et licences, veuillez contacter l'IBPT.

**France** 2.4 GHz Bande : les canaux 10, 11, 12, 13 (2457, 2462, 2467, et 2472 MHz respectivement) sont complètement libres d'utilisation en France (en utilisation intérieur). Pour ce qui est des autres canaux, ils peuvent être soumis à autorisation selon le département. L'utilisation en extérieur est soumise à autorisation préalable et très restreinte. Vous pouvez contacter l'Autorité de Régulation des Télécommunications (<http://www.art-telecom.fr>) pour de plus amples renseignements.



5692 SHoW DMX Radio CE Declaration of Conformity

**CITY**  
**THEATRICAL**  
**I N C**

**Declaration of Conformity**

We, City Theatrical, Inc., Manufacturer / Importer, 475 Barell Avenue, Carlstadt, NJ, 07072, USA

hereby declare that under sole responsibility the following equipment:

- City Theatrical Inc. # 5692 SHoW DMX Radio Transceiver, International Version Module

is in conformity with the provisions of the following EC Directives, including all amendments, and with the national legislation implementing these directives:

**European Council Directive 1999/5/EC**

and that the following harmonized standards have been applied:

**ETSI EN 300 328 v1.7.1**  
**ETSI EN 301 489-17 V.1.2.1 Section 7.1**

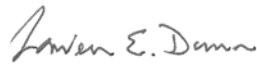
The City Theatrical Inc. # 5692 SHoW DMX Radio Transmitter International Version Device was tested for radiated emissions only.

According to ETSI EN 301 489-17 V1.2.1 the host unit that uses this product must be tested for full compliance.

**City Theatrical Inc. will attach a copy of the full Declaration of Conformity to each unit marketed and sold.**

Full name and identification of the person empowered to sign on behalf of the manufacturer:

Name	Title
Lauren E. Dunn	Head of Engineering

Signature	Date	Place
	March 20, 2008	Carlstadt, NJ, USA

**475 BARELL AVENUE, CARLSTADT, NJ 07072**  
**800/230/9497 201/549/1160 201/549/1161 FAX**  
**www.citytheatrical.com**

# Appendix C, Philips ColorBlast 12 TRX Control Flow Chart

