

MicroTech **DMX**™

User's Manual

Version 2.0



Interactive
Technologies

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Introduction

Thank you for purchasing the MicroTech DMX.

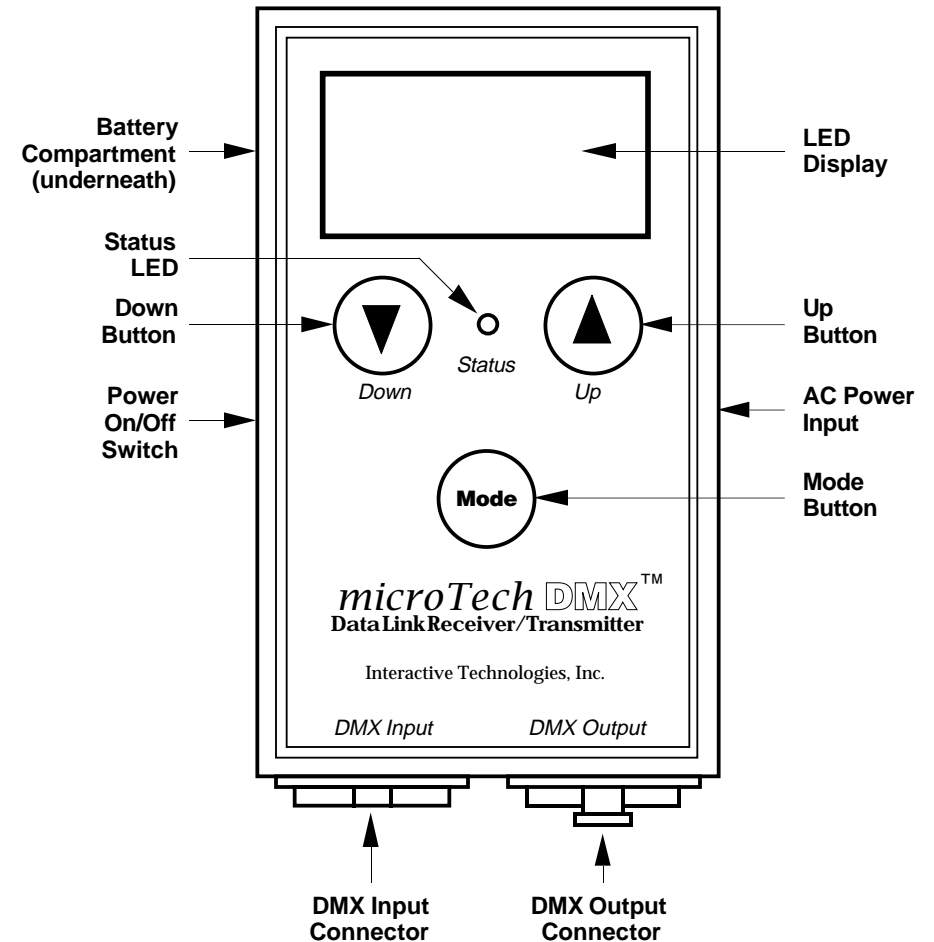
The MicroTech DMX is a powerful, yet simple to use multi-purpose handheld DMX receiver/transmitter. Its useful functions for debugging problems, testing equipment and controlling fixtures, combined with its small size, light weight and battery operation makes it a perfect addition to your toolbox.

The MicroTech DMX's features make it easy to:

- ❑ Debug console output by viewing the actual output levels of each dimmer channel
- ❑ Test dimmers and other fixtures without a console or controller
- ❑ Record and playback up to 30 scenes (snapshots) for automatic console backup and/or for testing fixtures
- ❑ Locate patched output channels of a console using the channel finder function
- ❑ Detect errors on the DMX data-link, caused by faulty cables or other interference
- ❑ View other console parameters, such as DMX packet length and update rate

Getting Started

The following figure shows the basic layout of the MicroTech DMX:



LED Display

The MicroTech DMX uses a three digit LED display to show the information provided by the MicroTech's different functions. This display is also used to choose a function through the function menu. While selecting a function from the function menu, the display shows both three letter abbreviations and a scrolling title for the selected function.

Status LED

The Status LED flickers when the MicroTech is receiving or transmitting DMX data. It remains off when no DMX data is present and while selecting functions through the function menu. The Status LED also warns of DMX errors while receiving DMX by flashing a long-short pattern each time an error is detected.

Up and Down Buttons

The ▼ and ▲ buttons are used to change the information on the LED display, such as the channel number, scene number or selected function. The exact use of ▼ and ▲ varies from function to function.

Mode Button

The **Mode** button is used to alternate between the function menu and the selected function. See section on "Selecting a Function" for more information about the operation of this button. Within some functions, the **Mode** button is also used to change the level of a dimmer channel. To access this feature, press and hold the **Mode** button while using the ▼ and ▲ buttons.

DMX Input/Output Connectors

The DMX input and output connectors are used to connect the MicroTech to the DMX data link. The connectors are wired straight through, allowing DMX to pass through the MicroTech while it is monitoring the data or if the MicroTech is switched off. The MicroTech only attempts to transmit DMX through its output connector when no input signal is applied to the input connector.

On/Off Switch

The On/Off switch turns the MicroTech on and off. All of the MicroTech's memory for scenes and function settings is maintained while the MicroTech is turned off (and even if the batteries are removed).

Battery Compartment

The MicroTech uses two standard "AA" size alkaline batteries to operate without the AC adaptor. Use only standard 1.5V "AA" batteries in the MicroTech. Depending on the functions used, the MicroTech typically operates for more than 20 hours continuously on a single pair of batteries.

AC Power Input

The MicroTech can be powered by an external AC adaptor instead of using battery power through this connector. Use only the specified AC adaptor with the MicroTech.

Using the MicroTech DMX

This section describes each of the individual functions that the MicroTech DMX performs. See “Selecting a Function” for information on how to choose which function is currently active. The remainder of this section describes the operation of each function in detail.

Selecting a Function

Pressing the **Mode** button at any time returns the MicroTech DMX to the function menu. A three letter abbreviation of the currently selected function appears on the display. Pressing the ▼ and ▲ buttons cycles through each of the MicroTech’s available functions. Pressing the **Mode** button again enters the selected function.

The following list shows the functions available through the function menu and each function’s corresponding three letter abbreviation.

<i>d IS</i>	-	Display Channel
<i>CHF</i>	-	Channel Finder
<i>tSt</i>	-	Channel Test
<i>Out</i>	-	Scene Output
<i>Edt</i>	-	Scene Edit
<i>rEC</i>	-	Scene Record
<i>LEn</i>	-	Data Length
<i>rAt</i>	-	Update Rate
<i>Err</i>	-	Error Count
<i>tYP</i>	-	Display Type

If while browsing through the function menu you stop pressing the ▼ and ▲ buttons, the display will begin to scroll the name of the function after a short delay. This feature is to help avoid confusion if you don’t immediately recognize a function title.

For example, if you stop at the “*d IS*” function, the following name begins scrolling past the display:

d ISPLAY CHANNEL

* **Note:** The 7-segment displays used in the MicroTech DMX can only show letters that can be represented by the standard ‘8’ LED pattern that is commonly found in clock radios.

Changing Channel Levels

In several of the MicroTech’s functions, channel numbers are selected by using the ▼ and ▲ buttons. The Channel Test and Scene Edit functions also have the ability to change channel levels. In these functions, press and hold the **Mode** button. While the **Mode** button is held down, the display shows the output level instead of the channel number (the right-hand decimal point lights when a level is displayed). While holding down the **Mode** button the ▼ and ▲ buttons change the level.

Holding down the **Mode** button in these function does not return to the function menu. Briefly pressing and releasing the **Mode** button without using ▼ or ▲ returns to the function menu as it does in all other cases.

Display Channel Function

```
d IS d ISPLAY CHAnnEL
```

The display channel function is used to view the actual output levels of a console (or any other DMX transmitter).

When the display channel function is entered, the LED display briefly shows the number of the channel that is being monitored. After a short pause, the current level of the selected channel number will appear on the display. As the output level of the console changes, the number displayed on the MicroTech updates immediately.

Pressing the ▼ and ▲ buttons changes the channel number that is being displayed. While the channel number is being adjusted, the Status LED remains lit. Holding down the ▼ and ▲ buttons causes the channel number to change more quickly. For the fastest channel change, press the **Mode** button while holding down either ▼ or ▲.

The Status LED will flicker each time the MicroTech receives a channel update from the DMX source. If no DMX signal is being received, the Status LED will remain off and the display will show “---”. If the MicroTech detects an intermittent data error, the Status LED will signal with a long-short flashing pattern. The LED will immediately resume flickering unless additional errors are detected.

The level of the selected channel can be displayed in one of three format types. The display types available are percent, decimal and hexadecimal. The percent display shows the channel level from 0 to FL (100%), the decimal display shows the channel level from 0 to 255 and the hexadecimal display shows the channel level from 00 to FF. See the section on the “Display Type Function” to choose one of these three display types.

Display Channel Function (continued)

Determining the Source of Glitches

Use the Display Channel function to locate the source of glitches, random flashes and other odd behavior.

Place the MicroTech in-line with the DMX chain while the console is operating the equipment in question. Scroll to the channel number of a dimmer, scroller or moving light parameter that is acting erratically.

The MicroTech displays the actual output of the console. If the channel level is constant and the fixture is having problems then the error is in the fixture. If the channel level is changing, then the problem is in the console.

Sometimes the console can be sending very minor changes in level that are not normally seen when the MicroTech is displaying channel levels in percentage format (0 - FL). Switch the Display Type to either decimal or hexadecimal to observe the full 8-bit resolution of a console channel.

See the section on the “Error Count Function” for additional features that can help to track down the source of DMX errors.

Channel Finder Function

CHF CHANNEL FINDER

The channel finder function is used to determine the actual output channel (or dimmer) that a console channel is patched to.

While in the channel finder function, the display continuously shows a spinning dash that signifies that the MicroTech is waiting for a channel to change values.

As soon as any channel level being received rises above 50% or drops below 50%, the display immediately shows the channel number that is changing. After a short pause, the display returns to its waiting state. If more than one channel crosses the 50% mark in a single DMX update, only the lowest numbered channel that changes is displayed.

The Status LED flickers if DMX input is present and it remains off if no DMX input is present. If the MicroTech detects an intermittent data error, the Status LED will signal with a long-short flashing pattern. The LED will immediately resume flickering unless additional errors are detected.

Locating a Console Channel

To determine which dimmer a console channel is patched to, simply enter the channel finder mode and then raise and lower the console channel. As the output passes 50% the MicroTech displays the dimmer number that the console channel is patched to.

For example, if console channel 5 is patched to dimmer 27, moving channel 5 on the console will cause the MicroTech to display “27”.

Channel Test Function

TEST CHANNEL TEST

The channel test function is used to check dimmers and/or other DMX equipment. While in the channel test function, the MicroTech transmits DMX data to equipment connected to the DMX output connector.

While in the channel test function, the display shows the channel number currently being tested. This channel is being transmitted at the channel test level level while all other channels are transmitted at the off (or zero) level.

The channel number can be changed by pressing the ▼ and ▲ buttons. Holding down the ▼ and ▲ buttons causes the channel to change more quickly. For even faster channel changing, press the **Mode** button while holding down either the ▼ or ▲ buttons.

To change the channel test level, press and hold the **Mode** button. While the **Mode** button is pressed, the channel test level is displayed. Use the ▼ and ▲ buttons to change the channel test level. The level is displayed in the format chosen in the “Display Type Function”.

Advancing past channel 512 or below the “all” channels mode begins selecting from each of the 30 scene memories. Any channel that is recorded as a non-zero level in the chosen scene will be output at the channel test level. The display shows an ‘o’ followed by the selected scene number. This feature allows “dimmer groups” to be defined, for which each dimmer in the group can be raised and lowered simultaneously.

Advancing past scene group 30 or below channel 1 enters a special “all” channels mode. While in this mode, every dimmer channel is transmitted at the channel test level. The display shows ‘ALL’ while in this mode. This feature is useful to quickly test dimmers and scrollers when the address of the unit is not known.

If the MicroTech detects incoming DMX data while in the channel test mode, the MicroTech will not attempt to transmit any data and the display will periodically flash ‘In’. As soon as the MicroTech detects that the incoming DMX data is removed (by unplugging the console, or if the console fails) the channel test mode will begin transmitting data.

Channel Test Function (continued)

Testing a Dimmer Pack

To test a dimmer pack and/or the lamps connected to the dimmer, connect a DMX cable from the MicroTech's output connector to the dimmer pack. Select the dimmer's first channel number using the ▼ and ▲ buttons. If the dimmer is working properly, the dimmer's first channel will turn on. Use the ▼ and ▲ buttons to select the other channels of the dimmer pack.

The channel test level can be raised and lowered to verify the dimming behavior of the dimmer and/or lamp under test.

Testing a Color Scroller

After selecting the channel number of the scroller, raise and lower the channel test level to cause the scroller to advance through each color frame.

The "all" channels mode can be used to test more than one scroller at a time. The "all" channels mode is also useful if you would rather not locate the specific channel number that a scroller is addressed on.

Testing an Intelligent Fixture

To test an intelligent fixture, connect the MicroTech's output connector to the fixture with a DMX cable. Select the fixture's first channel number using the ▼ and ▲ buttons. Each of the intelligent fixture's channels can be tested sequentially using the ▼ and ▲ buttons which typically exercises each of the fixture's motors individually.

The channel test level can be raised and lowered to test the operation range of each of the fixtures parameters. For the highest degree of control over the test level, switch the Display Type to either decimal or hexadecimal, which provides full 8-bit resolution for each channel.

To test more than one parameter of an intelligent fixture at once, see the sections about the scene record, edit and output functions.

Scene Output Function

Out SCENE OUTPUT

The scene output function is used to transmit any of the 30 scenes stored in the MicroTech's non-volatile memory. This function is also used to automatically provide a backup scene to the stage if the console fails.

While in the scene output function, the display shows an "o" and the scene number being output. Pressing ▼ and ▲ changes the current scene output. The Status LED will flicker while scene data is being transmitted; an empty scene will cause the Status LED to remain off. Also, the right most decimal point on the display lights when a recorded scene is selected.

If the MicroTech detects incoming DMX data while in the scene output mode, the MicroTech will not attempt to transmit any data and the display will periodically flash 'In', signifying that the unit is receiving DMX input from an external source. As soon as the MicroTech detects that the incoming DMX data is removed (by unplugging the console, or if the console fails) the scene output mode will begin transmitting data immediately. This feature allows the MicroTech to be used as a console backup unit.

Using the MicroTech as a Console Backup

Since the MicroTech will not output a scene until it detects the absence of a DMX signal, the MicroTech can be placed in-line between the console and the DMX equipment. While the console is controlling the DMX equipment, enter the scene output function and select the desired backup scene number. As soon as the console is switched off, the DMX cable is disconnected, the console fails or loses power, the MicroTech will immediately begin transmitting the selected scene - without allowing the stage to go to black.

Testing Fixtures with the Scene Output Function

The scene output function can be used to test all of the fixtures in a rig by simply recording a scene (or multiple scenes) that simultaneously exercises all of the fixtures that need to be checked. With these scenes recorded, the MicroTech can be used to quickly test the rig without the console. When testing intelligent fixtures, it is useful to record scenes that operate all of the fixtures parameters at once.

Scene Edit Function

Edt SCENE Edit

The scene edit function is used to modify the channel levels of any of the 30 scenes stored in the MicroTech's non-volatile memory. While editing a scene, the current scene is transmitted to the stage "live". Any changes made to the scene occur immediately.

When the scene edit function is entered, the MicroTech requests that the scene number to edit is chosen. The display shows an 'E' followed by the currently chosen scene number. Use ▼ and ▲ to select the scene number to edit. Press **Mode** to begin editing the selected scene. The right-hand decimal point on the display lights when a non-empty scene is selected.

After the scene number is chosen, the MicroTech begins transmitting the scene and the display shows the currently selected channel number. The ▼ and ▲ buttons are used to change the selected channel. Holding ▼ or ▲ down causes the channel to change more quickly. For even faster channel changing, press the **Mode** button while holding down either the ▼ or ▲ buttons.

To change the output level of the selected channel, press and hold the **Mode** button. While the **Mode** button is pressed, the display changes to show the channel's level. While **Mode** is pressed, the ▼ and ▲ buttons raises and lowers the channel's level.

The channel level display is shown in the format chosen in the Display Type function (percent, decimal or hexadecimal). For the highest degree of control over the channel level, switch the Display Type to either decimal or hexadecimal, which provides full 8-bit resolution for each channel.

If the MicroTech detects incoming DMX data while in the scene edit mode, the MicroTech will not attempt to transmit any data and the display will periodically flash 'In', signifying that the unit is receiving DMX input from an external source. As soon as the MicroTech detects that the incoming DMX data is removed (by unplugging the console, or if the console fails) the scene output mode will begin transmitting data immediately. This feature allows the MicroTech to be used as a console backup unit.

Scene Edit Function (continued)

Testing Fixtures with the Scene Edit Function

The scene edit function can be used to test all types of fixtures, as it has the highest degree of flexibility for changing channel levels. While editing a scene, the scene's channels are transmitted "live", allowing precise control over all 512 channels in the scene.

While editing a scene, each of the scene's 512 channels can be raised and lowered independently of each other, allowing intelligent fixtures with multiple channels of control to be tested easily. Simply scroll forward and back through the fixture's addressed channels and raise and lower each channel's level. Unlike the Channel Test Function, each channel retains its last programmed level, allowing an entire cue to be assembled.

For the highest degree of control over the channel level, switch the Display Type to either decimal or hexadecimal, which provides full 8-bit resolution for each channel.

Testing Fixtures with 16-bit Control Channels

When an intelligent fixture has 16-bit control channels (i.e. for Pan and Tilt), the fixture is actually receiving two separate 8-bit control channels which it combines for more accurate control.

When testing these types of fixtures with the MicroTech, one fixture channel will operate as a "coarse" adjustment of the parameter and the following channel will operate as a "fine" adjustment of the parameter. This is precisely the same behavior that would be observed if the fixture was operated from a standard conventional lighting (not a moving light) DMX console.

Scene Record Function

rEC SCEnE rEcord

The scene record function is used to store up to 30 scenes in the MicroTech's non-volatile memory. For information about how to playback scenes from MicroTech's memory, see the "Scene Output Function".

When the scene record function is entered, the MicroTech displays "r -". Use the ▼ and ▲ buttons to select a scene number (from 1 to 30). The scene number will appear after the "r".

When the desired scene number is reached, pressing the **Mode** button will cause the MicroTech to take a snapshot of the current DMX input and record it into the selected scene.

Depending on the number of channels being transmitted by the console that is connected to the MicroTech, it may take several seconds for the MicroTech to record the scene. While the scene is being recorded, the display shows a spinning segment that denotes that the MicroTech is working on recording the scene.

Erasing a Scene

Enter the scene record function, select the scene number to erase, make sure that no DMX input is connected to the MicroTech and then press Mode to record the scene. When the MicroTech attempts to record a scene when there is no DMX input, the display briefly shows "no InP" to warn that no input was present, and the scene will be erased.

Exiting the Scene Record Function without Recording

If the scene record function is accidentally entered, use the ▼ and ▲ buttons until "r -" is displayed (no scene is selected). Pressing the **Mode** button when no scene is selected will exit the record mode without recording anything.

Data Length Function

LEn dATA LEnGTH

The data length function is used to observe the number of dimmers that are being transmitted by a DMX console.

While in the data length function, the number of dimmers being received is displayed. The number of dimmers will be in the range of 1 to 512.

The Status LED will flicker each time the MicroTech receives a channel update from the DMX source. If no DMX signal is being received, the Status LED will remain off and the display will show "---". If the MicroTech detects an intermittent data error, the Status LED will signal with a long-short flashing pattern. The LED will immediately resume flickering unless additional errors are detected.

The data length function is useful when it is unclear how many dimmers a given console is transmitting. If a dimmer or fixture in a rig is not responding to the console, a quick check to make sure that the console is transmitting enough information can sometimes help to resolve the problem.

Update Rate Function

`rAt` `UPDATE RATE`

The update rate function is used to observe how quickly a DMX console is transmitting level updates to each dimmer (or other DMX equipment).

When the update rate function is entered, the display momentarily displays a spinning segment while the MicroTech calculates the rate at which the console is transmitting DMX updates. The rate will then be displayed as updates per second. Each second, the MicroTech re-calculates the transmit rate of the console.

The Status LED will flicker each time the MicroTech receives a channel update from the DMX source. If no DMX signal is being received, the Status LED will remain off and the display will show “0” (zero updates per second). If the MicroTech detects an intermittent data error, the Status LED will signal with a long-short flashing pattern. The LED will immediately resume flickering unless additional errors are detected.

The update rate function is useful when trying to determine why a dimmer or other fixture is not reacting smoothly to a fade from one level to the next. This function will display how quickly the dimmer is receiving information from the console, which helps to determine if the dimmer is at fault or the console is simply not keeping up with the fade operation.

Error Count Function

`Err` `Error Count`

The error count function is used to determine if there are any sources of transmission errors on the DMX data link.

When the error count function is entered, the display will show the number of DMX errors detected on the data link. Whenever the error count function is entered, the count is cleared to zero and the display shows “0”.

Each time the MicroTech detects a transmission error on the data link, the displayed error count is incremented by 1.

This function can be used to determine if the DMX data link is receiving any interference from other sources. If the error count function is entered and the display continues to read “0”, then the DMX data link is receiving a clean signal.

The Status LED will flicker each time the MicroTech receives a channel update from the DMX source. If no DMX signal is being received, the Status LED will remain off and the display will show “---”. If the MicroTech detects an intermittent data error, the Status LED will signal with a long-short flashing pattern. The LED will immediately resume flickering unless additional errors are detected.

Finding Bad Connections and Intermittent Problems

The error count function can be used to help track down intermittent problems, such as weak connections, faulty cables or external sources of interference. The MicroTech can be placed at the end of a DMX line, after passing through multiple cables and pieces of equipment. If each connection is flexed or any other intermittent failure occurs, the MicroTech will immediately register a number of DMX errors, helping to determine the physical point at which a data link problem exists.

Display Type Function

`LYP dISPLAY TYPE`

The display type function is used to select the type of numeric display that is used in the display channel function.

When the display type function is entered, one of three types will be shown on the display:

- `PER` Percent display (0 to FL)
- `dEC` Decimal display (0 to 255)
- `HEd` Hexadecimal display (00 to FF)

The display type can be changed by pressing the ▼ and ▲ buttons. When the desired display type is selected, pressing the **Mode** button will return the MicroTech to the function menu. The display type only affects the channel levels shown in the display channel function. All other functions always display their values in normal decimal format.

Percent Display

The percent display type shows channel levels in the familiar number format used by many DMX consoles. The possible values range from 0 to 99, followed by FL (full).

Decimal Display

The decimal display type shows channel levels in their full 8-bit resolution, in base 10 notation (normal counting numbers). The possible values range from 0 to 255.

Hexadecimal Display

The hexadecimal display type shows channel levels in their full 8-bit resolution, in base 16 notation. The possible values range from 00 to FF.

Special Functions

The functions described in this section are used to display the MicroTech's firmware version number, invoke the unit's self test and to erase the unit's memory. These functions are typically used by the factory, however they may be of interest to you, so they are documented here for completeness.

Determining the Firmware Version Number

With the MicroTech turned off, press and hold the **Mode** button. While holding the **Mode** button down, turn on the MicroTech. The LED display will show the firmware version number.

This manual describes the features included in firmware version 2.0.0. Higher versions may contain bug fixes and/or new features.

Pressing any of the three buttons on the MicroTech will return the MicroTech to normal operation.

Self Test and Memory Initialization

The MicroTech contains a function which performs a self test of the unit as well as erase all of the MicroTech's non-volatile memory. Use this function to clear the MicroTech's memory and to have the unit perform its self test.

- * **Warning:** Invoking the Self Test and Memory Initialization will remove all recorded scenes the the MicroTech's non-volatile memory. Make sure any important scenes are saved before performing this operation.

With the MicroTech turned off, press and hold both of the ▼ and ▲ buttons. While holding these buttons, turn on the MicroTech.

The LED display will quickly cycle through its test sequence, illuminating each digit. If the MicroTech passes its other internal tests, it will initialize its internal memory. During memory initialization the display shows a spinning segment. If the memory fails to initialize, the MicroTech will restart the self test sequence.

If the tests and initialization pass, the MicroTech will enter the function menu. If an internal problem is detected, a result code will be displayed for factory use.

Troubleshooting

❑ The MicroTech is not turning on

If you are trying to use the MicroTech with batteries, make sure that the batteries are inserted in the correct direction and that the batteries are not dead. If the combined battery voltage drops below 0.7 volts, the MicroTech will not turn on.

If you are trying to use the MicroTech with the AC adaptor, make sure that the adaptor is getting power (perhaps the outlet is switched off). Also make sure that the adaptor you are using is the one that was supplied for use with the MicroTech.

If the MicroTech still does not turn on, contact technical support for additional help.

❑ The MicroTech returns to the function menu while using a function

The MicroTech's batteries are becoming too weak. Replace the batteries and try again.

❑ The MicroTech is operating but not receiving data

Make sure that the DMX source is actually working by attaching a working piece of equipment to the source. It is possible that the MicroTech is functioning properly and telling you that the DMX source is broken.

If the source is transmitting data, it is possible that the DMX transceiver in the MicroTech has been damaged by connecting the MicroTech to a very strong signal that is not DMX. If this happens, typically the MicroTech will not be able to transmit data either (try the channel test or scene output modes). Contact technical support for additional information.

❑ The channel finder function is not displaying a channel when the console channel is operated

There are several possibilities that cause the channel finder function to not display a channel. The channel finder only displays a channel number when the channel rises above or falls below 50%. Make sure that you are causing the channel to track across the 50% mark. It is possible that the console's patch is set to restrict the output of the channel in question to lower than 50%, which would cause the MicroTech not to display the channel number.

It is also possible that the console channel that you are operating is not patched to any dimmer. This means that there really isn't any output to be detected when the console channel is manipulated.

It is also possible that the console is not transmitting enough dimmers to include the channel that is being operated. Use the data length function to determine how many dimmers are being transmitted by the console.

❑ The channel test function is not operating any equipment

Make sure that there isn't any other signal applied to the DMX data link. Sometimes consoles that are connected to the data link can appear not to be transmitting any data but actually are asserting a signal to the data link that cannot be overridden by the MicroTech. Try disconnecting any other console from the data link completely.

❑ The scene output function is not operating any equipment

Make sure that the selected scene number has a snapshot recorded into it. If the scene has data recorded into it, the Status LED will flicker each time the scene is sent through the DMX output connector.

Also make sure that there isn't any other signal applied to the DMX data link. Sometimes consoles that are connected to the data link can appear not to be transmitting any data but are actually asserting a signal to the data link that cannot be overridden by the MicroTech. Try disconnecting any other console from the data link completely.

❑ **The MicroTech does not take over the stage when the console fails**

Sometimes when a console has a problem (like if the front panel locks up or the operating system crashes) the portion of the console that is responsible for generating its DMX signal continues to operate properly. Even though your show may come grinding to a halt, the MicroTech has no way to detect that a problem has occurred. In this case, either remove the DMX cable from the console or shut off the console. This will allow the MicroTech to take over the stage without interference from the console.

❑ **The data length function is not showing what the console is set to**

Some consoles always transmit their maximum number of dimmers even if the console's settings are configured for less. In this case the unused dimmer levels are still transmitted, but the console always transmits them at a zero level. This is not a bug in either the MicroTech or the console. If you are concerned about the operation of your console, please consult your console's operator's manual.

❑ **My fixtures are exhibiting erroneous behavior but the error count function is not detecting any problems**

It is possible that the error is occurring farther down the data link than where the MicroTech is connected. Try connecting the MicroTech to the data link at a point beyond the problem.

It is also possible that the console is transmitting the false information. Use the display channel function to verify that the channels in question are being transmitted at a constant value.

It is also possible that the fixture in question is at fault. If possible, try connecting a different fixture at that location.

❑ **The MicroTech is displaying symbols that are difficult to understand**

This problem is not yours, but the MicroTech's. The design of the MicroTech incorporates a three digit LED display that can only show letters that can be displayed in the "8" pattern commonly found in clock radios. The following list shows all of the possible messages that the MicroTech can display and their english translation:

<i>d IS</i>	<i>d ISPLAY CHAnnEL</i>	>	DIS	Display Channel
<i>CHF</i>	<i>CHAnnEL F IndEr</i>	>	CHF	Channel Finder
<i>tSt</i>	<i>CHAnnEL tEst</i>	>	TST	Channel Test
<i>Out</i>	<i>ScEnE OutPut</i>	>	OUT	Scene Output
<i>Edt</i>	<i>ScEnE Ed It</i>	>	EDT	Scene Edit
<i>rEC</i>	<i>ScEnE rEcord</i>	>	REC	Scene Record
<i>LEn</i>	<i>dAtA LEngth</i>	>	LEN	Data Length
<i>rAt</i>	<i>UPdAtE rAtE</i>	>	RAT	Update Rate
<i>Err</i>	<i>Error Count</i>	>	ERR	Error Count
<i>tYP</i>	<i>d ISPLAY tYPE</i>	>	TYP	Display Type
<i>PER</i>		>	PER	(Percent)
<i>dEC</i>		>	DEC	(Decimal)
<i>HED</i>		>	HED	(Hexadecimal)
<i>0 to FL</i>		>	0 to FL	
<i>0 to 255</i>		>	0 to 255	
<i>00 to FF</i>		>	00 to FF	
<i>no InP</i>		>	No Input	

Specifications

Functions

Display Channel Function

- View any channel 1 - 512
- Three display modes
 - Percent (0 to FL)
 - Decimal (0 to 255)
 - Hexadecimal (00 to FF)
- Full 8-bit resolution for decimal and hexadecimal display modes

Channel Finder Function

- Displays channel number of channel that is tracking up or down
- Holds last channel number for 1 second

Channel Test Function

- Transmits test level to single selected dimmer, to one of 30 dimmer groups or to all dimmers simultaneously
- Quickly scrolls through all 512 channels
- Test level can be raised or lowered to desired value
- Automatically yields to any other external source of DMX

Scene Record Function

- Records up to 30 static scenes (snapshots) in non-volatile EEPROM memory
- Each scene may contain up to 512 dimmer levels
- Memory retention greater than 40 years without battery power

Scene Edit Function

- Edits any of 30 scenes in non-volatile EEPROM memory
- Channel levels may be independently raised and lowered to any desired value
- Scenes are edited with “live” output to DMX equipment
- Automatically yields to any other external source of DMX

Scene Output Function

- Transmits any of 30 scenes from non-volatile EEPROM memory
- Easily steps from scene to scene
- Automatically yields to any other external source of DMX
- Acts as a console backup if external DMX signal is lost due to console failure

Data Length Function

- Displays the number of dimmers being transmitted by the console

Update Rate Function

- Calculates the speed at which console is transmitting new channel levels
- Display is in updates per second

Error Count Function

- Monitors DMX line for transmission errors
- Displays accumulated total of errors received to facilitate cable and/or connection checking

Display Type Function

- Changes the display type used for showing channel levels in the Display Channel, Channel Test and Scene Edit functions
- Three display modes
 - Percent (0 to FL)
 - Decimal (0 to 255)
 - Hexadecimal (00 to FF)

Power Supply

Battery Operation

- Uses 2 “AA” size alkaline batteries
- Battery life is typically greater than 20 hours of continuous operation (depending on functions used)

AC Operation

- Powered from AC wall adaptor

Optional Equipment

Replaceable DMX Connector Panel

- Standard 5-pin XLR male/female data connectors
- 3-pin XLR male/female data connectors

Accessories

- Nylon carrying case with belt clip

Physical Characteristics

- Length: 3.97" (101 mm)
- Width: 2.38" (60 mm)
- Height: 1.50" (38 mm)
- Weight: 7.3 oz (209 g) including batteries

Note: In order to maintain the highest possible product quality, Interactive Technologies reserves the right to change specifications without notice. Some of the available functions may be altered over the life of the product.