

## DMX Modes

### DS8 / ITSH8

Modes DS8 and ITSH8 differ only in the implementation of saturation dimming. Use DS8 for negative/positive mid-starting saturation, and ITSH8 for positive saturation only.

DMX channel shift	Name/Function	Range	Explanation
+0 (8-bit)	• <b>Intensity</b>	0-255	
+1 (8-bit)	• Color Temperature	0-255	1,500 - 10,000 K
+2 (8-bit)	• Saturation	0-255	<b>Mode DS8:</b> 0: maps to 0% 1...127: maps to -120%...0% 127: maps to 0% 127...255: maps to 0%...120% <b>Mode ITSH8:</b> 0...255 maps to 0%...120%
+3 (8-bit)	• Hue	0-255	Hue from 0 to 360 degrees
+4 (8-bit)	• Fan Control	0-255	Modifies fan

### DS16 / ITSH16

16-bit versions of DS8 / ITSH8 modes

### XFADE8

DMX channel shift	Name/Function	Range	Explanation
+0 (8-bit)	• <b>Master Dimmer</b>	0-255	Master Dimmer for this lamp/range
+1 (8-bit)	• Color Temperature	0-255	Modifies temperature in the range from 1,500 K ("0") to 10,000 K.
+2 (8-bit)	• Tint	0-255	"Modifies Green/Magenta Tint for White Balance from -30...+30 (zero is at 0, 127, and 128)
+3 (8-bit)	• XFade	0-255	Crossfade between White Balance (channels +0...+2) and RGBW (channels +4...+7)
+4 (8-bit)	• Red	0-255	Pure Red (R=G=B goes to WB)
+5 (8-bit)	• Green	0-255	Pure Green (R=G=B goes to WB)
+6 (8-bit)	• Blue	0-255	Pure Blue (R=G=B goes to WB)
+7 (8-bit)	• White	0-255	Additional control for WB on top of the RGB balance (0 - no effect, 255 - pure WB)
+8 (8-bit)	• Fan Mode	0-255	Modifies fan mode

### XFADE16

16-bit version of the XFADE8 mode

### RGB8

DMX channel shift	Name/Function	Range	Explanation
+0 (8-bit)	• <b>Red</b>	0-255	Pure R (R=G=B goes to WB)
+1 (8-bit)	• <b>Green</b>	0-255	Pure G (R=G=B goes to WB)
+2 (8-bit)	• <b>Blue</b>	0-255	Pure B (R=G=B goes to WB)
+3 (8-bit)	• Color Temperature	0-255	Modifies temperature in the range from 1,500 K ("0") to 10,000 K.

### iRGB8

RGB8 with Master Intensity and Fan Control.

## ARRI6 / ARRI1

Compatibility modes. Note: ARRI fan speeds apply. ARRI color temperature range applies (2,800 K - 10,000 K)

### DS Fan Settings\*

Fan mode	DMX value (decimal, 0-255)	DMX value (hex, 00h-FFh)	Percent value (0-100%)
Manual: Manually or last set values are used	0	00h	0%
FLEX: Fan always on, speed increases with temperature	1...50	01h...32h	1-19%
FAST: Fan is always at maximum speed	51...101	33h...65h	20-39%
SLOW: Fan is always at minimum speed	102...152	66h...98h	40-59%
OFF: Fan remains off; turns on at minimum speed only at high temperatures	153...203	99h...CBh	60-79%
FLX2: Similar to FLEX, but starts completely off at low temperatures	204...255	CCh...FFh	80-100%

## DS Color Temperature settings

Color temperature Mapping (0...65535) is translated as follows:

#### Coarse component

0...255 in byte0 → 1,500...10,000 K (approx 33.2 K increments)  
Used alone in 8-bit modes

#### Fine component

0...255 in byte1 → adds +0...+approx 33.2 K (with 1 K resolution)

### Color Temperature quick reference table DMX values

Coarse (0-255)	Fine (0-255)	16-bit, 0-65535 range	%	Color Temperature, Kelvins
36	39	9255	14%	2700
51	54	13110	20.00%	3200
90	93	23133	35.29%	4500
123	131	31619	48.24%	5600

### Hex values

Coarse (00-FF)	Fine (00-FF)	16-bit, 0000-FFFF range	%	Color Temperature, Kelvins
24	27	2427	14%	2700
33	36	3336	20.00%	3200
5A	5D	5A5D	35.29%	4500
7B	83	7B83	48.24%	5600

**Note:** Critical temperature for a lamp module is 80 °C, upon which it is shut off. Covering the lamp unit even partly is not recommended, as it will increase the chances of it reaching this critical temperature. Consult with Digital Sputnik technical support if you have questions about a custom application in extreme conditions.