# Aputure

Next Level Imaging

# amaran **PT**

## DMX Profile Specification

## Controller Firmware V1.0

# Content

## Mode 1: CCT & RGB

| Channel | Value | Percent | Function | |
|---|---|---|---|---|
| 1 | 0 - 255 | 0 - 100 | **Intensity** | 0 - 100% |
| 2 | 0 - 255 | 0 - 100 | **CCT** | 2700 K - 10000 K |
| 3 | 0 - 10<br>11 - 20<br>21 - 119<br>120 - 145<br>146 - 244<br>245 - 255 | 0 - 4<br>5 - 8<br>9 - 47<br>48 - 57<br>58 - 96<br>97 - 100 | **G / M** | Neutral / No Effect<br>Full Minus Green<br>- 99% -  - 1%<br>Neutral / No Effect<br>1% - 99%<br>Full Plus Green |
| 4 | 0 - 255 | 0 - 100 | **CCT ↔ RGB** | Crossfade to Color |
| 5 | 0 - 255 | 0 - 100 | **Red** | 0 - 100% |
| 6 | 0 - 255 | 0 - 100 | **Green** | 0 - 100% |
| 7 | 0 - 255 | 0 - 100 | **Blue** | 0 - 100% |
| 8 | Reserved for Future Use | | | |
| 9 | Reserved for Future Use | | | |
| 10 | 0 - 19<br>20 - 255 | 0 - 7<br>8 - 100 | **Strobe** | No Effect<br>1 Hz - 25 Hz |

## Mode 2: CCT

| Channel | Value | Percent | Function | |
|---|---|---|---|---|
| 1 | 0 - 255 | 0 - 100 | **Intensity** | 0 - 100% |
| 2 | 0 - 255 | 0 - 100 | **CCT** | 2700 K - 10000 K |
| 3 | 0 - 10<br>11 - 20<br>21 - 119<br>120 - 145<br>146 - 244<br>245 - 255 | 0 - 4<br>5 - 8<br>9 - 47<br>48 - 57<br>58 - 96<br>97 - 100 | **G / M** | Neutral / No Effect<br>Full Minus Green<br>- 99% -  - 1%<br>Neutral / No Effect<br>1% - 99%<br>Full Plus Green |
| 4 | Reserved for Future Use | | | |
| 5 | Reserved for Future Use | | | |
| 6 | 0 - 19<br>20 - 255 | 0 - 7<br>8 - 100 | **Strobe** | No Effect<br>1 Hz - 25 Hz |

## Mode 3: CCT & HSI

| Channel | Value | Percent | Function | |
|---------|-------|---------|----------|---|
| **1** | 0 - 255 | 0 - 100 | **Intensity** | 0 - 100% |
| **2** | 0 - 255 | 0 - 100 | **CCT** | 2700 K - 10000 K |
| **3** | 0 - 10<br>11 - 20<br>21 - 119<br>120 - 145<br>146 - 244<br>245 - 255 | 0 - 4<br>5 - 8<br>9 - 47<br>48 - 57<br>58 - 96<br>97 - 100 | **G / M** | Neutral / No Effect<br>Full Minus Green<br>- 99% -  - 1%<br>Neutral / No Effect<br>1% - 99%<br>Full Plus Green |
| **4** | 0 - 255 | 0 - 100 | **CCT ↔ HSI** | Crossfade to Color |
| **5** | 0 - 255 | 0 - 100 | **Hue** | 1° - 360° |
| **6** | 0 - 255 | 0 - 100 | **Saturation** | 0 - 100% |
| **7** | Reserved for Future Use | | | |
| **8** | Reserved for Future Use | | | |
| **9** | 0 - 19<br>20 - 255 | 0 - 7<br>8 - 100 | **Strobe** | No Effect<br>1 Hz - 25 Hz |

## Mode 4: RGB

| Channel | Value | Percent | Function | |
|---------|-------|---------|----------|---|
| **1** | 0 - 255 | 0 - 100 | **Intensity** | 0 - 100% |
| **2** | 0 - 255 | 0 - 100 | **Red** | 0 - 100% |
| **3** | 0 - 255 | 0 - 100 | **Green** | 0 - 100% |
| **4** | 0 - 255 | 0 - 100 | **Blue** | 0 - 100% |
| **5** | Reserved for Future Use | | | |
| **6** | Reserved for Future Use | | | |
| **7** | 0 - 19<br>20 - 255 | 0 - 7<br>8 - 100 | **Strobe** | No Effect<br>1 Hz - 25 Hz |

## Mode 5: HSI

| Channel | Value | Percent | Function | |
|---|---|---|---|---|
| **1** | 0 - 255 | 0 - 100 | **Intensity** | 0 - 100% |
| **2** | 0 - 255 | 0 - 100 | **Hue** | 1° - 360° |
| **3** | 0 - 255 | 0 - 100 | **Saturation** | 0 - 100% |
| **4** | Reserved for Future Use | | | |
| **5** | Reserved for Future Use | | | |
| **6** | 0 - 19<br>20 - 255 | 0 - 7<br>8 - 100 | **Strobe** | No Effect<br>1 Hz - 25 Hz |

## Mode 6: System FX - List of Effects

| Channel | Value | Percent | Function | |
|---|---|---|---|---|
| **1** | 0 - 255 | 0 - 100 | **Intensity** | 0 - 100% |
| **2** | 0 - 9<br>10 - 69<br>70 - 255 | 0 - 4<br>5 - 27<br>28 - 100 | **Lightning** | Loop<br>Trigger<br>Stop |
| | 0 - 69<br>70 - 255 | 0 - 27<br>28 - 100 | **Other Effects** | Loop<br>Stop |
| **3** | 0 - 9<br>10 - 19<br>20 - 29<br>30 - 39<br>40 - 49<br>50 - 59<br>60 - 69<br>70 - 79<br>80 - 89<br>90 - 255 | 0 - 4<br>5 - 8<br>9 - 12<br>13 - 16<br>17 - 20<br>21 - 24<br>25 - 28<br>29 - 32<br>33 - 36<br>37 - 100 | **FX Selection** | Paparazzi<br>Lightning<br>TV<br>Fire<br>Faulty Bulb<br>Pulsing<br>Cop Car<br>Party Lights<br>Fireworks<br>Reserved |
| **4 - 7** | See FX Parameter Tables in Following Pages | | | |

**FX Parameter: Paparazzi**

| Channel | Value | Percent | Function | |
|---|---|---|---|---|
| **4** | 0 - 255 | 0 - 100 | **CCT** | 2700 K - 10000 K |
| **5** | 0 - 10<br>11 - 20<br>21 - 119<br>120 - 145<br>146 - 244<br>245 - 255 | 0 - 4<br>5 - 8<br>9 - 47<br>48 - 57<br>58 - 96<br>97 - 100 | **G / M** | Neutral / No Effect<br>Full Minus Green<br>- 0.9 -  - 0.1<br>Neutral / No Effect<br>0.1 - 0.9<br>Full Plus Green |
| **6** | 0 - 9<br>10 - 19<br>20 - 29<br>30 - 39<br>40 - 49<br>50 - 59<br>60 - 69<br>70 - 79<br>80 - 89<br>90 - 99<br>100 - 255 | 0 - 4<br>5 - 8<br>9 - 12<br>13 - 16<br>17 - 20<br>21 - 24<br>25 - 28<br>29 - 32<br>33 - 36<br>37 - 40<br>41 - 100 | **Frequency** | 1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>9<br>10<br>Reserved |

## FX Parameter: Lightning

| Channel | Value | Percent | Function | |
|---|---|---|---|---|
| 4 | 0 - 255 | 0 - 100 | CCT | 2700 K - 10000 K |
| 5 | 0 - 10<br>11 - 20<br>21 - 119<br>120 - 145<br>146 - 244<br>245 - 255 | 0 - 4<br>5 - 8<br>9 - 47<br>48 - 57<br>58 - 96<br>97 - 100 | G / M | Neutral / No Effect<br>Full Minus Green<br>- 0.9 - - 0.1<br>Neutral / No Effect<br>0.1 - 0.9<br>Full Plus Green |
| 6 | 0 - 9<br>10 - 19<br>20 - 29<br>30 - 39<br>40 - 49<br>50 - 59<br>60 - 69<br>70 - 79<br>80 - 89<br>90 - 99<br>100 - 109<br>110 - 255 | 0 - 4<br>5 - 8<br>9 - 12<br>13 - 16<br>17 - 20<br>21 - 24<br>25 - 28<br>29 - 32<br>33 - 36<br>37 - 40<br>41 - 44<br>45 - 100 | Frequency | 1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>9<br>10<br>Random<br>Reserved |

## FX Parameter: TV

| Channel | Value | Percent | Function | |
|---|---|---|---|---|
| 4 | 0 - 9<br>10 - 19<br>20 - 29<br>30 - 255 | 0 - 4<br>5 - 8<br>9 - 12<br>13 - 100 | CCT Range | Warmer<br>Natural<br>Cooler<br>Reserved |
| 5 | 0 - 9<br>10 - 19<br>20 - 29<br>30 - 39<br>40 - 49<br>50 - 59<br>60 - 69<br>70 - 79<br>80 - 89<br>90 - 99<br>100 - 109<br>110 - 255 | 0 - 4<br>5 - 8<br>9 - 12<br>13 - 16<br>17 - 20<br>21 - 24<br>25 - 28<br>29 - 32<br>33 - 36<br>37 - 40<br>41 - 44<br>45 - 100 | Frequency | 1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>9<br>10<br>Random<br>Reserved |

## FX Parameter: Fire

| Channel | Value | Percent | Function | |
|---|---|---|---|---|
| 4 | 0 - 9<br>10 - 19<br>20 - 29<br>30 - 255 | 0 - 4<br>5 - 8<br>9 - 12<br>13 - 100 | **CCT Range** | Warmer<br>Natural<br>Cooler<br>Reserved |
| 5 | 0 - 9<br>10 - 19<br>20 - 29<br>30 - 39<br>40 - 49<br>50 - 59<br>60 - 69<br>70 - 79<br>80 - 89<br>90 - 99<br>100 - 255 | 0 - 4<br>5 - 8<br>9 - 12<br>13 - 16<br>17 - 20<br>21 - 24<br>25 - 28<br>29 - 32<br>33 - 36<br>37 - 40<br>41 - 100 | **Speed** | 1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>9<br>10<br>Reserved |

## FX Parameter: Faulty Bulb

| Channel | Value | Percent | Function | |
|---|---|---|---|---|
| **4** | 0 - 9<br>10 - 19<br>20 - 255 | 0 - 4<br>5 - 8<br>9 - 100 | **Mode Select** | CCT<br>HSI<br>Reserved |
| **CCT** | | | | |
| **5** | 0 - 255 | 0 - 100 | **CCT** | 2700 K - 10000 K |
| **6** | 0 - 10<br>11 - 20<br>21 - 119<br>120 - 145<br>146 - 244<br>245 - 255 | 0 - 4<br>5 - 8<br>9 - 47<br>48 - 57<br>58 - 96<br>97 - 100 | **G / M** | Neutral / No Effect<br>Full Minus Green<br>- 0.9 -  - 0.1<br>Neutral / No Effect<br>0.1 - 0.9<br>Full Plus Green |
| **7** | 0 - 9<br>10 - 19<br>20 - 29<br>30 - 39<br>40 - 49<br>50 - 59<br>60 - 69<br>70 - 79<br>80 - 89<br>90 - 99<br>100 - 109<br>110 - 255 | 0 - 4<br>5 - 8<br>9 - 12<br>13 - 16<br>17 - 20<br>21 - 24<br>25 - 28<br>29 - 32<br>33 - 36<br>37 - 40<br>41 - 44<br>45 - 100 | **Frequency** | 1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>9<br>10<br>Random<br>Reserved |
| **HSI** | | | | |
| **5** | 0 - 255 | 0 - 100 | **HUE** | 1° - 360° |
| **6** | 0 - 255 | 0 - 100 | **Saturation** | 0 - 100% |
| **7** | 0 - 255 | 0 - 100 | **Frequency** | 1 - 10 - Random |

**FX Parameter: Pulsing**

| Channel | Value | Percent | Function | |
|---------|-------|---------|----------|---|
| **4** | 0 - 9<br>10 - 19<br>20 - 255 | 0 - 4<br>5 - 8<br>9 - 100 | **Mode Select** | CCT<br>HSI<br>Reserved |
| **CCT** | | | | |
| **5** | 0 - 255 | 0 - 100 | **CCT** | 2700 K - 10000 K |
| **6** | 0 - 10<br>11 - 20<br>21 - 119<br>120 - 145<br>146 - 244<br>245 - 255 | 0 - 4<br>5 - 8<br>9 - 47<br>48 - 57<br>58 - 96<br>97 - 100 | **G / M** | Neutral / No Effect<br>Full Minus Green<br>- 0.9 -  - 0.1<br>Neutral / No Effect<br>0.1 - 0.9<br>Full Plus Green |
| **7** | 0 - 9<br>10 - 19<br>20 - 29<br>30 - 39<br>40 - 49<br>50 - 59<br>60 - 69<br>70 - 79<br>80 - 89<br>90 - 99<br>100 - 255 | 0 - 4<br>5 - 8<br>9 - 12<br>13 - 16<br>17 - 20<br>21 - 24<br>25 - 28<br>29 - 32<br>33 - 36<br>37 - 40<br>41 - 100 | **Frequency** | 1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>9<br>10<br>Reserved |
| **HSI** | | | | |
| **5** | 0 - 255 | 0 - 100 | **HUE** | 1° - 360° |
| **6** | 0 - 255 | 0 - 100 | **Saturation** | 0 - 100% |
| **7** | 0 - 255 | 0 - 100 | **Frequency** | 1 - 10 - Random |

## FX Parameter: Cop car

| Channel | Value | Percent | Function | |
|---|---|---|---|---|
| **4** | 0 - 9<br>10 - 19<br>20 - 29<br>30 - 39<br>40 - 49<br>50 - 255 | 0 - 4<br>5 - 8<br>9 - 12<br>13 - 16<br>17 - 20<br>21 - 100 | **Color Combinations** | Red<br>Blue<br>Red + Blue<br>Blue + White<br>Red + Blue + White<br>Reserved |
| **5** | 0 - 9<br>10 - 19<br>20 - 29<br>30 - 39<br>40 - 49<br>50 - 59<br>60 - 69<br>70 - 79<br>80 - 89<br>90 - 99<br>100 - 255 | 0 - 4<br>5 - 8<br>9 - 12<br>13 - 16<br>17 - 20<br>21 - 24<br>25 - 28<br>29 - 32<br>33 - 36<br>37 - 40<br>41 - 100 | **Frequency** | 1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>9<br>10<br>Reserved |

## FX Parameter: Party Lights

| Channel | Value | Percent | Function | |
|---|---|---|---|---|
| **4** | 0 - 255 | 0 - 100 | **Saturation** | 0 - 100% |
| **5** | 0 - 9<br>10 - 19<br>20 - 29<br>30 - 39<br>40 - 49<br>50 - 59<br>60 - 69<br>70 - 79<br>80 - 89<br>90 - 99<br>100 - 255 | 0 - 4<br>5 - 8<br>9 - 12<br>13 - 16<br>17 - 20<br>21 - 24<br>25 - 28<br>29 - 32<br>33 - 36<br>37 - 40<br>41 - 100 | **Frequency** | 1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>9<br>10<br>Reserved |

## FX Parameter: Fireworks

| Channel | Value | Percent | Function | |
|---------|-------|---------|----------|---|
| 4 | 0 - 9<br>10 - 19<br>20 - 29<br>30 - 255 | 0 - 4<br>5 - 8<br>9 - 12<br>13 - 100 | **Color Combinations** | CCT<br>HUE<br>CCT+HUE<br>Reserved |
| 5 | 0 - 9<br>10 - 19<br>20 - 29<br>30 - 39<br>40 - 49<br>50 - 59<br>60 - 69<br>70 - 79<br>80 - 89<br>90 - 99<br>100 - 109<br>110 - 255 | 0 - 4<br>5 - 8<br>9 - 12<br>13 - 16<br>17 - 20<br>21 - 24<br>25 - 28<br>29 - 32<br>33 - 36<br>37 - 40<br>41 - 44<br>45 - 100 | **Frequency** | 1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>9<br>10<br>Random<br>Reserved |

## Mode 7: Light Engine CCT & RGB 2 Pixels (PT1c / PT2c / PT4c )

| Channel | Value | Percent | Function | |
|---------|-------|---------|----------|---|
| **Light Engine 1** | | | | |
| **1** | 0 - 255 | 0 - 100 | **Intensity** | 0 - 100% |
| **2** | 0 - 255 | 0 - 100 | **CCT** | 2700 K - 10000 K |
| **3** | 0 - 10<br>11 - 20<br>21 - 119<br>120 - 145<br>146 - 244<br>245 - 255 | 0 - 4<br>5 - 8<br>9 - 47<br>48 - 57<br>58 - 96<br>97 - 100 | **G / M** | Neutral / No Effect<br>Full Minus Green<br>- 99% -  - 1%<br>Neutral / No Effect<br>1% - 99%<br>Full Plus Green |
| **4** | 0 - 255 | 0 - 100 | **CCT ↔ RGB** | Crossfade to Color |
| **5** | 0 - 255 | 0 - 100 | **Red** | 0 - 100% |
| **6** | 0 - 255 | 0 - 100 | **Green** | 0 - 100% |
| **7** | 0 - 255 | 0 - 100 | **Blue** | 0 - 100% |
| **Light Engine 2** | | | | |
| **8** | 0 - 255 | 0 - 100 | **Intensity** | 0 - 100% |
| **9** | 0 - 255 | 0 - 100 | **CCT** | 2700 K - 10000 K |
| **10** | 0 - 10<br>11 - 20<br>21 - 119<br>120 - 145<br>146 - 244<br>245 - 255 | 0 - 4<br>5 - 8<br>9 - 47<br>48 - 57<br>58 - 96<br>97 - 100 | **G / M** | Neutral / No Effect<br>Full Minus Green<br>- 99% -  - 1%<br>Neutral / No Effect<br>1% - 99%<br>Full Plus Green |
| **11** | 0 - 255 | 0 - 100 | **CCT ↔ RGB** | Crossfade to Color |
| **12** | 0 - 255 | 0 - 100 | **Red** | 0 - 100% |
| **13** | 0 - 255 | 0 - 100 | **Green** | 0 - 100% |
| **14** | 0 - 255 | 0 - 100 | **Blue** | 0 - 100% |

## Mode 8: Light Engine CCT & RGB 4 Pixels (PT1c / PT2c / PT4c )

| Channel | Value | Percent | Function | |
|---|---|---|---|---|
| **Light Engine 1** | | | | |
| **1** | 0 - 255 | 0 - 100 | **Intensity** | 0 - 100% |
| **2** | 0 - 255 | 0 - 100 | **CCT** | 2700 K - 10000 K |
| **3** | 0 - 10<br>11 - 20<br>21 - 119<br>120 - 145<br>146 - 244<br>245 - 255 | 0 - 4<br>5 - 8<br>9 - 47<br>48 - 57<br>58 - 96<br>97 - 100 | **G / M** | Neutral / No Effect<br>Full Minus Green<br>- 99% -  - 1%<br>Neutral / No Effect<br>1% - 99%<br>Full Plus Green |
| **4** | 0 - 255 | 0 - 100 | **CCT ↔ RGB** | Crossfade to Color |
| **5** | 0 - 255 | 0 - 100 | **Red** | 0 - 100% |
| **6** | 0 - 255 | 0 - 100 | **Green** | 0 - 100% |
| **7** | 0 - 255 | 0 - 100 | **Blue** | 0 - 100% |
| **8 - 21** | **Light Engine 2 - 3** | | | |
| **Light Engine 4** | | | | |
| **22** | 0 - 255 | 0 - 100 | **Intensity** | 0 - 100% |
| **23** | 0 - 255 | 0 - 100 | **CCT** | 2700 K - 10000 K |
| **24** | 0 - 10<br>11 - 20<br>21 - 119<br>120 - 145<br>146 - 244<br>245 - 255 | 0 - 4<br>5 - 8<br>9 - 47<br>48 - 57<br>58 - 96<br>97 - 100 | **G / M** | Neutral / No Effect<br>Full Minus Green<br>- 99% -  - 1%<br>Neutral / No Effect<br>1% - 99%<br>Full Plus Green |
| **25** | 0 - 255 | 0 - 100 | **CCT ↔ RGB** | Crossfade to Color |
| **26** | 0 - 255 | 0 - 100 | **Red** | 0 - 100% |
| **27** | 0 - 255 | 0 - 100 | **Green** | 0 - 100% |
| **28** | 0 - 255 | 0 - 100 | **Blue** | 0 - 100% |

## Mode 9: Light Engine CCT & RGB 8 Pixels (PT2c / PT4c )

| Channel | Value | Percent | Function | |
|---------|-------|---------|----------|---|
| **Light Engine 1** | | | | |
| **1** | 0 - 255 | 0 - 100 | **Intensity** | 0 - 100% |
| **2** | 0 - 255 | 0 - 100 | **CCT** | 2700 K - 10000 K |
| **3** | 0 - 10<br>11 - 20<br>21 - 119<br>120 - 145<br>146 - 244<br>245 - 255 | 0 - 4<br>5 - 8<br>9 - 47<br>48 - 57<br>58 - 96<br>97 - 100 | **G / M** | Neutral / No Effect<br>Full Minus Green<br>- 99% -  - 1%<br>Neutral / No Effect<br>1% - 99%<br>Full Plus Green |
| **4** | 0 - 255 | 0 - 100 | **CCT ↔ RGB** | Crossfade to Color |
| **5** | 0 - 255 | 0 - 100 | **Red** | 0 - 100% |
| **6** | 0 - 255 | 0 - 100 | **Green** | 0 - 100% |
| **7** | 0 - 255 | 0 - 100 | **Blue** | 0 - 100% |
| **8 - 49** | **Light Engine 2 - 7** | | | |
| **Light Engine 8** | | | | |
| **50** | 0 - 255 | 0 - 100 | **Intensity** | 0 - 100% |
| **51** | 0 - 255 | 0 - 100 | **CCT** | 2700 K - 10000 K |
| **52** | 0 - 10<br>11 - 20<br>21 - 119<br>120 - 145<br>146 - 244<br>245 - 255 | 0 - 4<br>5 - 8<br>9 - 47<br>48 - 57<br>58 - 96<br>97 - 100 | **G / M** | Neutral / No Effect<br>Full Minus Green<br>- 99% -  - 1%<br>Neutral / No Effect<br>1% - 99%<br>Full Plus Green |
| **53** | 0 - 255 | 0 - 100 | **CCT ↔ RGB** | Crossfade to Color |
| **54** | 0 - 255 | 0 - 100 | **Red** | 0 - 100% |
| **55** | 0 - 255 | 0 - 100 | **Green** | 0 - 100% |
| **56** | 0 - 255 | 0 - 100 | **Blue** | 0 - 100% |

## Mode 10: Light Engine CCT & RGB 16 Pixels (PT4c )

| Channel | Value | Percent | Function | |
|---------|-------|---------|----------|---|
| **Light Engine 1** | | | | |
| **1** | 0 - 255 | 0 - 100 | **Intensity** | 0 - 100% |
| **2** | 0 - 255 | 0 - 100 | **CCT** | 2700 K - 10000 K |
| **3** | 0 - 10<br>11 - 20<br>21 - 119<br>120 - 145<br>146 - 244<br>245 - 255 | 0 - 4<br>5 - 8<br>9 - 47<br>48 - 57<br>58 - 96<br>97 - 100 | **G / M** | Neutral / No Effect<br>Full Minus Green<br>- 99% -  - 1%<br>Neutral / No Effect<br>1% - 99%<br>Full Plus Green |
| **4** | 0 - 255 | 0 - 100 | **CCT ↔ RGB** | Crossfade to Color |
| **5** | 0 - 255 | 0 - 100 | **Red** | 0 - 100% |
| **6** | 0 - 255 | 0 - 100 | **Green** | 0 - 100% |
| **7** | 0 - 255 | 0 - 100 | **Blue** | 0 - 100% |
| **8 - 105** | **Light Engine 2 - 15** | | | |
| **Light Engine 16** | | | | |
| **106** | 0 - 255 | 0 - 100 | **Intensity** | 0 - 100% |
| **107** | 0 - 255 | 0 - 100 | **CCT** | 2700 K - 10000 K |
| **108** | 0 - 10<br>11 - 20<br>21 - 119<br>120 - 145<br>146 - 244<br>245 - 255 | 0 - 4<br>5 - 8<br>9 - 47<br>48 - 57<br>58 - 96<br>97 - 100 | **G / M** | Neutral / No Effect<br>Full Minus Green<br>- 99% -  - 1%<br>Neutral / No Effect<br>1% - 99%<br>Full Plus Green |
| **109** | 0 - 255 | 0 - 100 | **CCT ↔ RGB** | Crossfade to Color |
| **110** | 0 - 255 | 0 - 100 | **Red** | 0 - 100% |
| **111** | 0 - 255 | 0 - 100 | **Green** | 0 - 100% |
| **112** | 0 - 255 | 0 - 100 | **Blue** | 0 - 100% |

## Mode 11: Light Engine HSI 2 Pixels (PT1c / PT2c / PT4c )

| Channel | Value | Percent | Function | |
|---------|-------|---------|----------|---|
| **Light Engine 1** | | | | |
| **1** | 0 - 255 | 0 - 100 | **Intensity** | 0 - 100% |
| **2** | 0 - 255 | 0 - 100 | **Hue** | 1° - 360° |
| **3** | 0 - 255 | 0 - 100 | **Saturation** | 0 - 100% |
| **Light Engine 2** | | | | |
| **4** | 0 - 255 | 0 - 100 | **Intensity** | 0 - 100% |
| **5** | 0 - 255 | 0 - 100 | **Hue** | 1° - 360° |
| **6** | 0 - 255 | 0 - 100 | **Saturation** | 0 - 100% |

## Mode 12: Light Engine HSI 4 Pixels (PT1c / PT2c / PT4c )

| Channel | Value | Percent | Function | |
|---------|-------|---------|----------|---|
| **Light Engine 1** | | | | |
| **1** | 0 - 255 | 0 - 100 | **Intensity** | 0 - 100% |
| **2** | 0 - 255 | 0 - 100 | **Hue** | 1° - 360° |
| **3** | 0 - 255 | 0 - 100 | **Saturation** | 0 - 100% |
| **Light Engine 2** | | | | |
| **4** | 0 - 255 | 0 - 100 | **Intensity** | 0 - 100% |
| **5** | 0 - 255 | 0 - 100 | **Hue** | 1° - 360° |
| **6** | 0 - 255 | 0 - 100 | **Saturation** | 0 - 100% |
| **Light Engine 3** | | | | |
| **7** | 0 - 255 | 0 - 100 | **Intensity** | 0 - 100% |
| **8** | 0 - 255 | 0 - 100 | **Hue** | 1° - 360° |
| **9** | 0 - 255 | 0 - 100 | **Saturation** | 0 - 100% |
| **Light Engine 4** | | | | |
| **10** | 0 - 255 | 0 - 100 | **Intensity** | 0 - 100% |
| **11** | 0 - 255 | 0 - 100 | **Hue** | 1° - 360° |
| **12** | 0 - 255 | 0 - 100 | **Saturation** | 0 - 100% |

## Mode 13: Light Engine HSI 8 Pixels (PT2c / PT4c )

| Channel | Value | Percent | Function | |
|---|---|---|---|---|
| **Light Engine 1** | | | | |
| **1** | 0 - 255 | 0 - 100 | **Intensity** | 0 - 100% |
| **2** | 0 - 255 | 0 - 100 | **Hue** | 1° - 360° |
| **3** | 0 - 255 | 0 - 100 | **Saturation** | 0 - 100% |
| **5 - 21** | **Light Engine 2 - 7** | | | |
| **Light Engine 8** | | | | |
| **22** | 0 - 255 | 0 - 100 | **Intensity** | 0 - 100% |
| **23** | 0 - 255 | 0 - 100 | **Hue** | 1° - 360° |
| **24** | 0 - 255 | 0 - 100 | **Saturation** | 0 - 100% |

## Mode 14: Light Engine HSI 16 Pixels (PT4c )

| Channel | Value | Percent | Function | |
|---|---|---|---|---|
| **Light Engine 1** | | | | |
| **1** | 0 - 255 | 0 - 100 | **Intensity** | 0 - 100% |
| **2** | 0 - 255 | 0 - 100 | **Hue** | 1° - 360° |
| **3** | 0 - 255 | 0 - 100 | **Saturation** | 0 - 100% |
| **5 - 45** | **Light Engine 2 - 15** | | | |
| **Light Engine 16** | | | | |
| **46** | 0 - 255 | 0 - 100 | **Intensity** | 0 - 100% |
| **47** | 0 - 255 | 0 - 100 | **Hue** | 1° - 360° |
| **48** | 0 - 255 | 0 - 100 | **Saturation** | 0 - 100% |

## Equations for Conversion

### CCT Conversion

### 8-bit

| CCT | DMX Value |
|---|---|
| 2700 K | 0 |
| 3200 K | 17 |
| 3800 K | 38 |
| 4300 K | 56 |
| 4800 K | 73 |
| 5600 K | 101 |
| 6500 K | 133 |
| 7500 K | 168 |

$$\text{DMX Value} = \frac{\text{Desired CCT} - 2700}{28.627}$$

$$\text{CCT} = (\text{DMX Value} * 28.627) + 2700$$