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# THE MINI-D CONTROLLER FOR DMX STAGE & ARCHITECTURAL LIGHTING SYSTEMS

Basic Operation & Key Functions and Features Reference. ©September 2014

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The MINI-D Controller allows easy operation of almost any DMX-512 System.  
Using a standard PC style keyboard, any of 210 unique Scenes can be recalled with just one or two key presses.

We recommend watching some of the videos that are posted on our website [www.dmxplus.com](http://www.dmxplus.com)  
The videos show the Basic Concept of how the MINI-D operates.  
This Manual will explain in detail all of Key Functions and Features available with the MINI-D.  
Operation of the MINI-D with a PC or Laptop is covered in the Help File included with the Windows Application.

In this manual,  
**Keys Pressed on MINI-D's Keyboard are shown in Green.**  
**Items displayed the MINI-D's LED display are shown in Red.**

In many places, number keys are indicated with the word Alpha before the key.  
This means to use the Numbers on the Alpha or 'QWERTY' portion of the keyboard.  
*The keys on the Number Pad are always used to Start or Save Chase sequences.*

## SCENES, SCENE KEYS and PREFIX KEYS

The MINI-D is a 252 Channel Controller meaning that each 'Scene' consists of 252 individual memory locations. These memory locations are called 'Channels'. Each Channel holds a 'Value' from 0 - 255. When a Scene is 'Recalled' all 252 Values for the Scene are read from memory and applied to the DMX Fixtures. The 210 Scenes are 'Grouped' as 6 'Banks' of 35 Scenes each. 'Prefix' keys select the Scene Bank to be used.  
*Note: Some of the more advanced 'Escape Commands' use some of the upper channels.  
Be sure not to address any of your Fixtures to these Channel Addresses if you will be using these commands.*

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z [ ] ' , . / Tab Enter

These are called 'Scene' keys. They are used to select 1 of 35 Scenes within the Current Scene Bank.

Shift Ctrl Alt Win Menu

These are called 'Prefix' keys and are used to select 1 of 5 upper Scene Banks.

The 1<sup>st</sup> Scene Bank is selected by default when no Prefix key has been pressed.

When one of the Prefix keys is Pressed, then Released, the associated Scene Bank is selected.

MINI-D's display will indicate the Prefix key that has been pressed with one of the following:  
Shift shown as SHFt    Ctrl shown as CtrL    Alt shown as Alt    Windows shown as uind    Menu shown as nEnu

So, 1st Press and Release one of the Prefix keys, then Press and Release one of the Scene keys.

*Pressing the Same Prefix key twice will cancel the Prefix.  
Remember to always release the 1<sup>st</sup> key Before Pressing the Next key. Only 1 key is Pressed at Any time with the MINI-D.*

## WHEN POWER IS APPLIED TO THE MINI-D CONTROLLER

The MINI-D will either Begin to Play the Chase that was playing when the power was removed,

Or the MINI-D will enter the 'Scene' Mode with All Channels off, waiting for a key to be pressed.

Let's begin by describing the Scene Mode.

To insure the MINI-D is in the Scene Mode, Press the **Space** Bar.

Pressing the **Space** Bar is the Main Way To:

Stop a Chase if currently playing, enter Scene Mode.

Set All 252 DMX Channels to Zero. All Lights Off.

Set Channel Page 01, **F1 – F12** Select the first 12 DMX Channels.

Cancel Chase Recording, if Home had been pressed.

Clear Any Prefix Key that might be pending.

## THE **Space** BAR IS HOW YOU BEGIN MOST ACTIVITIES WITH THE MINI-D.

The Display on MINI-D will show **SPC1** or **SPC2** Indicating the **Space** Bar Has Been Pressed.

The MINI-D is now in Scene Mode.

## THERE ARE 2 **Space** BAR CONDITIONS:

When **Space** is pressed once, **SPC1** is shown on MINI-D's display.

Default Values for Channels are loaded and the Channel Map is Enabled.

Scene104 **Ctrl-Enter**, is loaded as the Channel Default Values.

When **Space** is pressed a 2nd time in a row, **SPC2** is shown on the display.

All Channels are set to Zero and Channel Map is Disabled.

Scene209 **Men-Enter**, is loaded into the MapPage.

You will notice that each time **Space** is pressed, the display changes from **SPC1** to **SPC2** and back to **SPC1**

**SPC1** means that the Default Channel Values & ChannelMap are ENABLED.

**SPC2** means that the Default Channel Values & ChannelMap are DISABLED.

*IF YOU ARE NEW TO THE MINI-D, YOU SHOULD ALWAYS PRESS **SPACE** TWICE OR UNTIL **SPC2** IS SHOWN*

## IF THE MINI-D'S DISPLAY APPEARS TO BE UP-SIDE-DOWN

You can either reverse the position of the MINI-D, or press the **CapsLock** key, to reverse MINI-D's Display.

The **CapsLock** key will function at any time, in Both Scene and Play Modes.

*If the **CapsLock** Key Is Pressed While a Chase Is Playing,*

The Chase Number, Chase Speed and Fade Times are saved, along with the Display's Orientation.

When Power is Re-Applied, MINI-D will Begin to play this Chase at this Speed & Fade.

*You Generally Press **CapsLock** Twice.*

Once to Save the Chase Number and Speed, and Once to flip the display back to the way it was.

## CHANGING THE VALUES IN THE CHANNELS AND THEN SAVING AS SCENES

Press **Space** once or twice until the MINI-D's display shows **SPC2**

We are now in what's called 'Scene' or 'Live' Mode. Scene Mode is anytime the MINI-D is Not Playing a Chase.

From here we can do a number of things, including:

Change or Fade the Value contained in any Channel.

Recall any Scene.

Start any Chase.

Record a New Chase.

Create a Default Channel Values Scene.

Create a Channel Map.

Create a PotMap to define Channels for External Potentiometers or Resistive-Analog Inputs.

Enable or Disable the External Trigger and Host PC.

Reverse the orientation of MINI-D's display, and set to Start-Up in Scene Mode.

Let's start by changing the values in a couple of channels.

Press the **F1** key. This Selects Channel 001, and the MINI-D's display will show **c001** then quickly change to **u000**

The **c001** indicates Channel 001. The **c** is used to represent the word 'Channel'

The **u000** indicates the Current Value in That Channel. In this case the Value Is 000. The **u** represents 'Value'

Now Press the **UpArrow** key. Notice the Value will Increase to **u001**

Each Time the **UpArrow** key is pressed, the Value gets Larger by 1.

The **DownArrow** key Decreases the Value.

Now Press the **2** key on the Alpha portion of the Keyboard, Not on the Number-Pad.

Now when you press **UpArrow** or **DownArrow**, the Value will Change by 2.

Pressing **1, 2, 3, 4** or **5** will set the 'Amount of Change' to 1, 2, 3, 4 or 5, respectively.

Pressing **6** will set the 'Amount of Change' to 8.

Pressing **7** sets the 'Amount of Change' to 10.

Pressing **8** sets the 'Amount of Change' to 20.

This allows you to quickly set any Value, from **u000** to **u255**.

Pressing **9** doesn't affect the 'Amount of Change', but Sets the Current Channel's Value to **u255**.

Pressing **0** doesn't affect the 'Amount of Change', but Sets the Current Channel's Value to **u000**.

Set the Value of Channel 001 to, for example, **u005**

Now Press the **F2** key to select Channel 002. The MINI-D's display shows **c002** then quickly changes to **u000**.

Use the **1** thru **8** keys and the **UpArrow** and **DownArrow** keys to set the Value of Channel 002 at **u128**.

Press **8** to set the 'Amount of Change' to 20, then press **UpArrow** six times.

Then press **2** to set the 'Amount of Change' to 2, then press **UpArrow** four times.

Or you could have pressed **8** and then pressed the **UpArrow** 16 times.

Or you could have pressed **4** and then pressed the **UpArrow** 32 times.

Any combination of these keys to get to the desired Value is fine.

Each time a Channel Value Changes,

All DMX Fixtures connected to the system will respond if they are addressed to the Channel being changed.

This technique is during many 'Live' performances to 'Fade' a particular DMX Channel.

Much like a 'Slider' a Conventional DMX Controller.

Once Again, Press the **F1** key. The MINI-D's display shows **c001** then again, quickly changes to **u005**.  
**c001** means Channel 001 and **u005** is the Value in this Channel. This the Value that was set a moment ago.

Now Press the **F2** key. The MINI-D's display shows **c002** then quickly changes to **u128**, the Value of Channel 002.

So, by pressing the **F1 - F12** keys you can select any 1 of the 12 Channels in the Current Page.

The MINI-D CONTROLS 252 CHANNELS. THESE ARE ARRANGED AS 21 PAGES, of 12 CHANNELS EACH.

The **PageUp** and **PageDown** keys are used to select one of the Pages, 1 - 21.

Press **PageUp** one time, the MINI-D's display shows **Pn02**.

This means that Page Number 2 has been selected. So the **F1 - F12** keys now select Channels 13-24.

Press **PageUp** again and the MINI-D's display shows **Pn03**

Indicating that Page Number 3 has been selected. Now the **F1 - F12** keys select Channels 25-36.

**PageDown** Decreases the Page Number.

If you press the **PageUp** key twice and the MINI-D shows **Pn03**. Then press **F3**.

The MINI-D shows **c027** then **u000**. Where **c027** Indicates Channel 27 has been selected.

The 3rd Channel in the 3rd Page, and the Value in this Channel is 0.

WHEN SETTING THE 'BASE ADDRESS' ON THE DMX-FIXTURES

If the DMX System has less than 22 Fixtures & None of the Fixtures require more than 12 Channels,  
Then things are easy, just use 1 Page for each Fixture, and **F1 - F12** keys to control that one Fixture.

Set the Base Address of Each Fixture in Multiples of 12+1. For example 1, 13, 25, 37, 49, 61, 73 etc.

Many Moving-Head Spot Lights and Scanners require more than 12 Channels.

In this case you need to use Two Pages for that Fixture.

Many Spot-RGB Fixtures use only 3, 4, 5 or 6 Channels.

In this case you can address two or more Fixtures into One Page.

KEEP THIS 'Groups of 12' IN MIND AS YOU DECIDE, WHAT ADDRESS TO ASSIGN TO WHAT FIXTURE.

Use **PageUp** and **PageDown** to Select the Page, then **F1 - F12** to Select a Channel Within that Page.

Use the ALPHA **1 – 8 0** and **9** to Set the Value for that Channel.

When all of the Channels have been set to one particular, desired state, this is referred to as a Scene.

It Does Not Matter What Order You Set The Channels Or Values.

You can always go-back to any Page and Channel to see the Value in a Particular Channel.

Once All Channels in the System Have Been Set to the desired Values, you can save them as a Scene.

Then when the Scene is Recalled, all 252 Values are Read from Memory, and all Fixtures will Change at Once.

TO SAVE THE CURRENT VALES AS 'Scene A' PRESS **PrintScreen A Insert**

**PrintScreen** tells MINI-D to Copy all Current Channel Values to the following Scene, in this case, Scene A. **Insert** executes the actual 'Save' function.

**Note:** **Esc** then **Insert** Toggle Scene Save Lock.  
Use **CapsLock** to Retain Setting after power cycle.

So now, whenever the **A** key is Pressed or encountered within a Chase,  
All 252 Channel Values for Scene A will be recalled from memory and applied to Fixtures.

At this point, Values may be modified if desired, then Re-Saved to the Same Scene by simply pressing **Insert**.  
If you want to the Current Scene, modified or not, to Different Scene,  
Press **PrintScreen** to change the Name of the Scene, then press **Insert** to save it under the New Name.  
This allows recalling Scenes to set the Values to a defined starting point.  
Then change some of the Values, then saving to a Different Scene.

Many times, several Scenes may be the same except for perhaps one or two Channels.  
This is where the **PrintScreen** Feature comes in handy.

So Again, Pressing any Scene key will recall that Scene.  
The Scene key that was pressed, is the Name of the Scene.  
The **Insert** key saves all of the Current Channel Values under This Name.

The **PrintScreen** Changes the Name of the Scene to the Next Key Pressed.  
**PrintScreen** Followed by Any Scene key sets the NEW Name to THAT Key. In Effect, this creates a Copy of the Scene.

As mentioned above, there are Six 'Banks' of Scenes.  
Without using any Prefix keys, you can directly access 35 different Scenes using the following keys:

**A B C D E F G H I J K L M N O P Q R S T U V W X Y Z [ ] ' , . / Tab Enter**

These Keys are called 'Scene' Keys and Select 1 of 35 Scenes within the Current Scene Bank.

Whenever entering a Scene Key, you can press one of the five Prefix keys to select one of the upper Scene Banks.  
So if you wanted to save the current Scene as Scene A in the 2<sup>nd</sup> Bank,  
Press **PrintScreen Shift A Insert**  
Then whenever **Shift A** is pressed, the Scene is recalled.

*REMEMBER, ONE KEY AT A TIME. NEVER TWO KEYS A ONCE*

**Shift Ctrl Alt Win Menu**

These are called 'Prefix' keys and are used to Select 1 of the 5 Upper Scene Banks.  
The 1<sup>st</sup> Scene Bank is selected by default when no Prefix Key has been pressed.  
When one of the Prefix keys is Pressed, then Released, the associated Scene Bank is selected.

|  |                  |
|--|------------------|
| <b>A</b> recalls Scene 'A'             | Scene Number 0   |
| <b>Shift A</b> recalls Scene 'Shift A' | Scene Number 35  |
| <b>Ctrl A</b> recalls Scene 'Ctrl A'   | Scene Number 70  |
| <b>Alt A</b> recalls Scene 'Alt A'     | Scene Number 105 |
| <b>Win A</b> recalls Scene 'Win A'     | Scene Number 140 |
| <b>Men A</b> recalls Scene 'Men A'     | Scene Number 175 |

*All of these are unique Scenes and may contain completely different Values.*

As an example, you want to copy Scene A, Scene Number 0

To Scene Ctrl B, Scene Number 71, but with some changes to it.

Press **A** no Prefix, to recall Scene A. MINI-D's display shows **J000**, the **J** represents 'Scene Number'

Press **F2** to Select Channel 002. MINI-D's display quickly shows **c002**.

Press Alpha **9** to set the Channel's Value to 255. MINI-D's display shows **u255**.

Press **PageUp** to Select Channel Page 2. MINI-D's display shows **Pn02**.

Press **F2** to Select Channel 014. MINI-D's display quickly shows **c014**.

That's all the changes we want to make, so let's save it,

Press **PrintScreen** to assign new name for the Scene.

Press **Ctrl** Prefix key to select the 3<sup>rd</sup> Scene Bank. MINI-D's display shows **Ctrl**

Press **B** to Select the Name in this Bank.

Press **Insert** to Save the Scene. MINI-D's display shows **J071**, indicating Scene 071.

*When a recalling Scenes, pressing a Prefix key is indicated on the MINI-D's display,*

*But Nothing Happens on DMX Fixtures until one of the Scene keys are pressed.*

The MINI-D allows you to use any of the above features in any order or combination. 'Live Mode'

*The keys on the Number Pad are always available to Start Chase sequences.*

## THE MERGE-SCENE FEATURE

The **ScrollLock** key turns Merge Scene ON. And the **Pause** key turns Merge Scene OFF.

The Merge Scene feature allows several Scenes to 'OR' into the Current Scene.

If the Current Scene has a couple of Channels set to a On Value, say 255, And Merge feature Is ON,

When the Next Scene is recalled, the Channels in the 1st Scene will REMAIN ON,

Along With the 'ON' Channels in the New Scene.

So if you had say, 10 Fixtures and 10 Scenes, each with a Different Single Light On.

These Scenes could be shown as normally in some instances, with Merge turned off.

Other times you could show the 1st Scene, again with Merge turned off,

Then Turn Merge ON, then show the 2nd Scene, then the 3rd, 4th and So-On.

The result will be one more Light On with each Chase Step, or with each Scene key press.

Sort of a 'Runway' effect. This can greatly increase the apparent number of Scenes actually used.

## THERE ARE 4 SCENES THAT HAVE SPECIAL USES

**Ctrl Enter** Scene 104, Default Scene. Holds the Values loaded into Channels when Space is pressed once.

**Men Enter** Scene 209, Channel Map. Holds the Channel Map.

**Win Enter** Scene 174, Reset Channel Map. This used to Reset Channel Map.

**Alt Enter** Scene 139, Pot Map. Used with the External Potentiometer(s).

## CHANNEL MAPPING and the DEFAULT SCENE

These features is allow you to set all of the Control Channels, in all of your DMX Fixtures, Just 1 Time.

Then create a 'Channel Map' containing Only the Channels that you normally change the Values in.

*You'll no longer need to remember the details about control channels that never change.*

## THE DEFAULT SCENE

The Default Scene is stored in Scene104. **Ctrl Enter**.

This Scene is like other Scenes except that it is recalled automatically when **Space** is pressed the first time. The MINI-D's display will show **SPC1** to indicate that the Default Scene has been recalled.

*Allows all control Channels to be Preset to settings you usually want, and Don't want to continually mess with.*

Press **Space** until **SPC2** is shown on the display. This sets all Channels to a Value of 0.

Now set all Control Channels to the Value normally used in that channel

Set all Brightness Channels to a Value of 0, or whatever the Off Value is.

Then Save to Scene 104. Press **PrintScreen** then **Ctrl** then **Enter** then **Insert**. This Saves the New Default Scene.

*To Reset the Default Scene:*

Press **Space** until **SPC2** is shown on the display. This sets all Channels to a Value of 0.

Then Save to Scene 104. Press **PrintScreen** then **Ctrl** then **Enter** then **Insert**. This Saves the Cleared Default Scene.

## THE CHANNEL MAP

The Channel Map is stored in Scene209. **Menu Enter**.

The **F1 - F12** key Number x Page Number is used to as an Address in the MapPage.

The Contents of That Location in the MapPage, is the Actual Channel Number.

*To Reset the Channel Map:*

Press **Space** until **SPC2** is shown on the display. This sets ChannelMap Area.

Then save to Scene 174. Press **PrintScreen** then **Win** then **Enter** then **Insert**. This Saves the Reset Channel Map.

Any time scene 209 is saved, contents of map area are moved to scene 209.

This resets map to 1,2,3,4, etc. so **Space** Bar once uses a normal map.

## ROTATE, SHIFT and INVERT the Contents of the Channels Pointed to in the Channel Map

**F10** Shift or Rotate Right.

**F11** Shift or Rotate Left.

**F12** Invert.

The 1<sup>st</sup> Location in the Channel Map that contains the Value 253 Marks the Last Channel to be affected.

The Next Location in the Channel Map determines if Shift or Rotate will be performed. 0=Shift 1=Rotate.

SHIFT operation moves Zero into FIRST Channel when RIGHT operation is performed.

Or moves Zero into LAST Channel when LEFT operation is performed.

ROTATE operation moves LAST Channel into FIRST Channel when RIGHT Shift or Rotate is performed.

Or moves the FIRST Channel into the LAST Channel when LEFT Shift or Rotate is performed.

The Next Location in the Channel Map after the Shift/Rotate operator, contains the Number of Operations.

The number of times the Shift or Rotate operation is performed with each execution of the function.

## WHY USE A CHANNEL MAP?

Most RGB LED Stage Lighting Fixtures require more than Just 3 Channels!

Many Fixtures Use 5 DMX Channels.

1 for Master Brightness

1 for a Flash Rate for Auto-Flash.

1 for Red

1 for Green

1 for Blue

Usually the first 2 Channels are set to a value of 255, Full-Brightness, No Flash.

Other Fixtures place the color channels in a different order than RGB, some use RGB.

Many Moving-Head Spot Fixtures Have 16 Channels, but You might only want to vary 6 or 7 of those channels.

This can be very confusing while you are programming scenes!

For example, a system with-

2 'Stage Ape LED-86' RGB Fixtures and 1 'Eagle' Moving-Head LED Spot Fixture.

The LED-86 Fixtures Use 5 DMX Channels Each, The Eagle Spot Uses 13 DMX Channels.

And you set the 1st LED-86 Fixture to a DMX Base Address of 1.

And then set the 2nd LED-86 Fixture to a DMX Base Address of 6.

And then set the Eagle Fixture to a DMX Base Address of 11.

The DMX Channel Setup or 'Map' would be:

1st Fixture LED-86 RGB PAR Can:

Channel 1=Strobe, 0-255. You'd want it to always be 255, No Flash. We Flash under DMX Control.

Channel 2=Master Brightness, 0-255. Always set to 255, Max Bright. DMX Controls this too.

Channel 3=Red Brightness, 0-255. This you'd want to Control.

Channel 4=Green Brightness, 0-255. This you'd want to Control.

Channel 5=Blue Brightness, 0-255. This you'd want to Control.

2nd Fixture LED-86 RGB PAR Can:

Channel 6=Strobe, 0-255. You'd want it to always be 255, No Flash. We Flash under DMX Control.

Channel 7=Master Brightness, 0-255. Always set to 255, Max Bright. DMX Controls this too.

Channel 8=Red Brightness, 0-255. This you'd want to Control.

Channel 9=Green Brightness, 0-255. This you'd want to Control.

Channel 10=Blue Brightness, 0-255. This you'd want to Control.

3rd Fixture Eagle Moving-Head RGB Spot Light:

Channel 11=Pan X-axis, 0-255 Coarse. This you'd want to Control.

Channel 12=Pan X-axis, 0-255 Fine. Always 0, Most applications won't need this much precision.

Channel 13=Tilt Y-axis, 0-255 Coarse. This you'd want to Control.

Channel 14=Tilt Y-axis, 0-255 Fine. Always 0, Most applications won't need this much precision.

Channel 15=Pan & Tilt Speed Adjust. Always 255, Set to Fast. DMX 'Fade' Controls the Speed.

Channel 16=Lamp Switch, 0-255. This is Brightness, you'd always set this to 255, Max Bright.

Channel 17=Red Brightness, 0-255. This you'd want to Control.

Channel 18=Green Brightness, 0-255. This you'd want to Control.

Channel 19=Blue Brightness, 0-255. This you'd want to Control.

Channel 20=Color Mix, 0-255. You'd Always set 0, DMX Controls RGB Brightness.

Channel 21=Color Mix, 0-255. You'd always set to 0, DMX Controls RGB Brightness.

Channel 22=Sound Control, 0-255. You'd always set to 0, DMX Controls all actions.

Channel 23=GoBo Rotation, 0-255. This is Cool, you'd want to Control this one.

The above channel layout is straight-forward enough.

But most DMX Controllers require some kind of 'Bank-Switching' to access all of the 23 channels.

Many DMX Controllers only allow access to 8, 12 or 16 channels at 1 time.

You must select a different 'Bank' or 'Page' to work with more channels.

Even with The MINI-D controller,

You must press the PageUp or PageDown keys to access different Pages of 12 Channels Each.

Then you need to always keep in mind that channels 1, 2, 5, 6, 12, 14, 15,16,20,21 and 22 must be Maintained at a value of either 0 for some channels, 255 for others.

Can you remember this?

And this is only 3 fixtures! What about 10, 12 or 20 fixtures?



That's a lot of never-used channels to deal with.  
It can be tough enough just to make sure the Red, Green, Blue settings are correct,  
Without having to remember about some Strobe or Master-Brightness setting!

Wouldn't It Be Better if you could set things up like this?

1st Fixture LED-86 RGB PAR Can:

Channel 1 for Red in the 1st Fixture.

Channel 2 for Green in the 1st Fixture.

Channel 3 for Blue in the 1st Fixture.

2nd Fixture LED-86 RGB PAR Can:

Channel 4 for Red in the 2nd Fixture.

Channel 5 for Green in the 2nd Fixture.

Channel 6 for Blue in the 2nd Fixture.

3rd Fixture Eagle Moving-Head RGB Spot Light:

Channel 7 for Red in your Moving-Head Spot Fixture.

Channel 8 for Green in your Moving-Head Spot Fixture.

Channel 9 for Blue in your Moving-Head Spot Fixture.

Channel 10 for GoBo Rotation in your Moving-Head Spot Fixture.

Channel 11 for X-Axis in your Moving-Head Spot Fixture.

Channel 12 for Y-Axis in your Moving-Head Spot Fixture.

Now we need only 12 channels to control all of the normally used features, in all 3 fixtures.

## Here's how you do it.

First, setup the system as described above.

Set 1st LED-86 Fixture's Base Address to 1. This is done with the DIP Switches on the LED-86 Fixture.

Set 2nd LED-86 Fixture's Base Address to 6.

Set 3rd Eagle Spot Fixture's Base Address to 11. This is done using the LED Display on the Eagle Fixture.

Now using The MINI-D's Keyboard we want to create 2 Special Scenes, the Default-Scene and the Channel-Map.

### Creating the Default-Scene:

We need to set the Control Channels to settings described above.

Set Master Brightness & Strobe Channels to 255, X Y Fine & Color Mix Channels to 0.

Set all of the other Channels like Red, Green & Blue to 0 so that they are Off.

Next, we want to save these settings as the Default or 'Lights Off' Scene.

All Lights Off, but Control Channels Still Set to what they need to be for normal operation.

On The MINI-D Controller, this is how you would want your lights to be after you Press the **SPACE** Bar One Time.

All Lights Off, Spots Pointing at some known-position and Gobos Off.

Any way that you want your fixtures to be after the **SPACE** Bar is pressed.

### Let's Setup the Default Scene

To Create a new Default-Scene or Channel-Map, we want them Both to be Disabled,

So press the **SPACE** Bar so that the display shows **SCP2**.

The MINI-D deals with DMX Channels in Pages of 12 Channels Each.

The **PageUp** and **PageDown** keys are used to Select 1 of 21 Pages.

Each time the **PageUp** or **PageDown** key is pressed,

The MINI-D's display will show **Pn01** to **Pn21**, to indicate the current Page Number.

Any time the **SPACE** Bar is pressed, the Page Number is automatically set to 1.

The system we are setting up uses 23 channels.

So we will be using Page 1 for the First 12 Channels and Page 2 for the rest of the Channels.

Since we just pressed the **SPACE** Bar, the current Page Number is 1.

But just to check it, press the **PageDown** key. The MINI-D's display should show **Pn01**

Now the **F1** through **F12** keys select DMX Channels 1 through 12 for editing.

Press the **F1** key, to select Channel 1.

As you press the **F1** key, MINI-D's display quickly shows **c001**, meaning- Channel 001.

The display then quickly changes to **u000**, meaning- Value 000.

We want to set Channel 1's value to 255.

To save all of the current-channel-values as the Default-Scene, on the MINI-D Keyboard,  
Press & release the following keys, 1 key at a time:

**PrintScreen Ctrl Enter Insert**

The **PrintScreen** Key Copies the Values in all 252 Channels into a New Scene.

The **Ctrl** key is a prefix for the **Enter** key.

The **Insert** key is what actually saves the Scene.

## Creating the Channel-Map:

To operate all 3 of these fixtures we need to control the following 12 Channels:

|          | Fixture-1 |   |   | Fixture-2 |   |    | Fixture-3 |    |    |    |    |      |
|----------|-----------|---|---|-----------|---|----|-----------|----|----|----|----|------|
| Function | R         | G | B | R         | G | B  | X         | Y  | R  | G  | B  | Gobo |
| Channel  | 3         | 4 | 5 | 8         | 9 | 10 | 11        | 13 | 17 | 18 | 19 | 23   |

So we just set the Values in the First 12 Channels, to These Values.

Press **F1** to select the 1st channel.

Now use the **UpArrow** or **DownArrow** keys until MINI-D's display shows **u003**.

What we are saying is that we want Channel 1 to Actually Control Channel 3.

Press **F2** to select the 2nd channel.

Now use the **UpArrow** or **DownArrow** keys until the display shows **u004**.

We want Channel 2 to Actually Control Channel 4.

Press **F3** to select the 3rd channel.

Now use the **UpArrow** or **DownArrow** keys until the display shows **u005**.

We want Channel 3 to Actually Control Channel 5.

Press **F4** to select the 4th channel.  
Now use the **UpArrow** or **DownArrow** keys until the display shows **u008**.  
We want Channel 4 to Actually Control Channel 8.

Press **F5** to select the 5th channel.  
Now use the **UpArrow** or **DownArrow** keys until the display shows **u009**.  
We want Channel 5 to Actually Control Channel 9.

Press **F6** to select the 6th channel.  
Now use the **UpArrow** or **DownArrow** keys until the display shows **u010**.  
We want Channel 6 to Actually Control Channel 10.

Press **F7** to select the 7th channel.  
Now use the **UpArrow** or **DownArrow** keys until the display shows **u011**.  
We want Channel 7 to Actually Control Channel 11.

Press **F8** to select the 8th channel.  
Now use the **UpArrow** or **DownArrow** keys until the display shows **u013**.  
We want Channel 8 to Actually Control Channel 13.

Press **F9** to select the 9th channel.  
Now use the **UpArrow** or **DownArrow** keys until the display shows **u017**.  
We want Channel 9 to Actually Control Channel 17.

Press **F10** to select the 10th channel.  
Now use the **UpArrow** or **DownArrow** keys until the display shows **u018**.  
We want Channel 10 to Actually Control Channel 18.

Press **F11** to select the 11th channel.  
Now use the **UpArrow** or **DownArrow** keys until the display shows **u019**.  
We want Channel 11 to Actually Control Channel 19.

Press **F12** to select the 12th channel.  
Now use the **UpArrow** or **DownArrow** keys until the display shows **u023**.  
And we want Channel 12 to Actually Control Channel 23.

Now to save the current-channel-values as the Channel-Map,

Press & release the following keys 1 key at a time:

**PrintScreen** **Menu** **Enter** **Insert**

The **PrintScreen** key assigns a New Name for the Scene. **Menu** **Enter** is the Scene Name. **Insert** does the save.

## Pot Map, Setting the Channels Controlled By External Potentiometer(s)

The MINI-D comes standard with 1 Analog Input. More Inputs are available using an optional 'Slider-Board' Analog Inputs may be used with a variety of devices and sensors. One of the easiest to use, is a Potentiometer. A Potentiometer or 'Pot' is a variable Resistor. Sometimes called 'Slider-Pot'. A Volume Control will also work.

The 1<sup>st</sup> Pot is easily connected using only an extra Y-Cable.

The Pot Input continually 'Reads' the input voltage level and converts it to a Value.

*That* Value is applied to the Channel Assigned to *That* Pot.

The Pot(s) can be assigned to any of the 252 Channels using the PotMap.

Channels assigned to the PotMap Operate Independently from the rest of the Channels.

Pots May Be Operated Even While Chases Are Playing.

You could perhaps set a Slide-Pot to control the X-Axis of a Moving-Spot Fixture.

You could then move the Spot's Beam around the room without messing with any other settings.

There are several more ways to use the 'Standard' Pot Input.

The Pot Value can be used to Channel's Value, as shown,

Or the Value can be used as the Scene Number to Recall.

As the Analog Value Changes, So Does the Scene Being Shown.

Or, The Analog Value can be used to Start 1 of the 16 Chases.

Or, The Analog Value can be used to Control the SPEED of the Chase.

The Pot Map is stored in Scene139. **Alt Enter**. Pot1 Controls the Channel Number Stored in Channel 1 of Scene139.

The values contained these Channels are the 'Physical Channel Numbers', 'Not Mapped',

Of the Channels to be controlled by the Pots. If Value in any of these Channels = 0 then THAT Pot is Disabled.

*Multiple Pot Inputs are available using external devices.*

Each Pot uses 1 Channel of a special Scene, Called the PotMap. Scene 139.

The VALUE in the 1st Channel of Scene 139, is the ACTUAL Channel Number the 1<sup>st</sup> Pot will control.

The VALUE in the 2nd Channel of Scene 139, is the ACTUAL Channel Number the 2nd Pot will control.

The VALUE in the 3rd Channel of Scene 139, is the ACTUAL Channel Number the 3rd Pot will control. And so on.

All these values are saved in Scene 139, the PotMap. You save to this Scene using: **PrintScreen Alt Enter Insert**.

Remember, release 1st key Before Pressing another. Once this Scene has been Saved, the Pot(s) will become active.

*Before you create your PotMap, Remember to Press Space Twice, so that SPC2 appears on display.*

We want to be sure all Unused Pot Channels are 0, Disabled.

Then for as many Pots or Resistive Inputs, you have,

Set the Value in each channel to the Channel Number You Want That Pot To Control.

The PotMap is Always active, so channel Not 0 that does Not Have a Pot may send 'Ghost' data.

*To Disable All Potentiometers:*

Press the **Space** Bar Twice so the LED shows **SPC2** so that all channels are set to zero.

Then Save the Scene using: **PrintScreen Alt Enter Insert**.

## The MINI-D Also Has a Digital Trigger Line

This Trigger Can Be Driven HIGH or LOW Under Chase Control.

The Trigger Will Drive a Small Relay, Actuator or LED which can be used to Operate Larger Devices.

*Alternatively, the Digital Trigger Line May Be Used As an INPUT Line.*

Where the Chase Would Pause Until The Line Went High OR Low.

Chases may also be programmed to 'Skip the Next Step' If the Trigger Is High or Low.

*Again, All That Is Needed To Make Use of the Analog-In and Digital Trigger,*

Is PS/2 Y-Connector, a Slide or Rotary Pot, 10k Ohm or Larger, and Maybe a Relay or Push Button Switch.

## KEYS THAT HAVE THE SAME FUNCTION IN BOTH SCENE and PLAY MODES

*The keys on the Number Pad are Always to Start or Save Chase sequences.*

|                    |   |
|--------------------|---|
| Number Pad 0 to 9  | Start Chase 0 to 9.                                     |
| Number Pad NumLock | Starts Chase 10.  |
| Number Pad /       | Starts Chase 11.  |
| Number Pad *       | Starts Chase 12.  |
| Number Pad -       | Starts Chase 13.  |
| Number Pad +       | Starts Chase 14.  |
| Either Del key     | Starts Chase 15.  |
| CapsLock           | Invert MINI-D's LED Display and Save Chase Play Status. |
| ScrollLock         | Turn Merge Scene ON.                                    |
| Pause/Break        | Turn Merge Scene OFF.                                   |

## KEY FUNCTIONS IN SCENE MODE.

|                 |  |
|-----------------|--|
| Insert          | Save Current Scene.  |
| PrintScreen     | Copy Scene. Usually done just before Insert to Name the Scene.                           |
| DownArrow       | Decrease Channel Value by the Amount of Change Value.                                    |
| UpArrow         | Increase Channel Value by the Amount of Change Value.                                    |
| PageUp          | Next Channel Page.   |
| PageDown        | Previous Channel Page.   |
| Home            | Start Recording a Chase sequence. Records Key Presses until a Number Pad Key is Pressed. |
| Esc then End    | Toggle Trig/Host. ToFF=Host Enabled. Use CapsLock to Retain Setting after power cycle.   |
| Esc then Insert | Toggle Scene Save Lock. Use CapsLock to Retain Setting after power cycle.                |

- F1 Select 1st Channel in Current Page.
- F2 Select 2nd Channel in Current Page.
- F3 Select 3rd Channel in Current Page.
- F4 Select 4th Channel in Current Page.
- F5 Select 5th Channel in Current Page.
- F6 Select 6th Channel in Current Page.
- F7 Select 7th Channel in Current Page.
- F8 Select 8th Channel in Current Page.
- F9 Select 9th Channel in Current Page.
- F10 Select 10th Channel in Current Page.
- F11 Select 11th Channel in Current Page.
- F12 Select 12th Channel in Current Page.

When F1 – F12 are pressed MINI-D's display will show the Channel Number, regardless of Page Number. The Channel Number Display is quickly replaced by the Value contained in that Channel. To see the Channel Number Again, Just press the same F key again.

*These key functions control the Amount the Value Changes with Each Up or Down Arrow key press.*

- Alpha 1 Set 'Amount of Change' Value to 1.
- Alpha 2 Set 'Amount of Change' Value to 2.
- Alpha 3 Set 'Amount of Change' Value to 3.
- Alpha 4 Set 'Amount of Change' Value to 4.
- Alpha 5 Set 'Amount of Change' Value to 5.
- Alpha 6 Set 'Amount of Change' Value to 8.
- Alpha 7 Set 'Amount of Change' Value to 10.
- Alpha 8 Set 'Amount of Change' Value to 20.
- Alpha 9 Set Current Value to 255.
- Alpha 0 Set Current Value to 0.

*These key functions control the Fade Speed when Scenes are recalled in Scene Mode.*

- Esc then F1 Set Instant-On.
- Esc then F2 Set Fastest Ramp Speed.
- Esc then F3 Set Faster Ramp Speed.
- Esc then F4 Set Fast Ramp Speed.
- Esc then F5 Set Slow Ramp Speed.
- Esc then F6 Set Slower Ramp Speed.
- Esc then F7 Set Very Slow Ramp Speed.
- Esc then F8 Set Slowest Ramp Speed.
- Esc then F9 not used.
- Esc then F10 not used.
- Esc then F11 not used.
- Esc then F12 not used.

## KEY FUNCTIONS WHILE CHASE IS PLAYING

*The keys on the Number Pad are Always to Start or Save Chase sequences.*

- F1 Set Instant-On.
- F2 Set Fastest Ramp Speed.
- F3 Set Faster Ramp Speed.
- F4 Set Fast Ramp Speed.
- F5 Set Slow Ramp Speed.
- F6 Set Slower Ramp Speed.
- F7 Set Very Slow Ramp Speed.
- F8 Set Slowest Ramp Speed.
- F9 Play Reverse. Toggles Forward/Reverse Play of the Chase.
- F10 not used.
- F11 not used.
- F12 not used.

- Alpha ` Set Slowest Chase Speed.
- Alpha 1 Set Very Slow Chase Speed.
- Alpha 2 Set Slower Chase Speed.
- Alpha 3 Set Slower Chase Speed.
- Alpha 4 Set Slower Chase Speed.
- Alpha 5 Set Slower Chase Speed.
- Alpha 6 Set Medium Chase Speed.
- Alpha 7 Set Slow Chase Speed.
- Alpha 8 Set Fast Chase Speed.
- Alpha 9 Set Faster Chase Speed.
- Alpha 0 Set Faster Chase Speed.
- Alpha - Set Faster Chase Speed.
- Alpha = Set Faster Chase Speed.
- Alpha \ Set Very Fast Chase Speed.
- BackArrow Set Fastest Chase Speed.



## KEY FUNCTIONS WHEN USED WITHIN CHASE SEQUENCES

When you press any of these keys while creating a Chase, they will be entered into the Chase Sequence. When the Chase is played the following actions will occur:

- ScrollLock** Turn Merge Scene ON. Existing Channel Values >0 are Not Cleared. The Channel Values in the New Scene are Or'ed on top of existing Scene.
- Pause/Break** Turn Merge Scene OFF. All Channel Values of existing Scene are replaced with New Scene.
- End** When End is used as the Last Step in a Chase, the Chase to Stop and enter Scene Mode. The Chase Does Not Repeat.

### These Commands determine the amount of time for Scenes to Fully Appear. 'Ramp On'

- F1** Set Instant-On.
- F2** Set Fastest Ramp Speed.
- F3** Set Faster Ramp Speed.
- F4** Set Fast Ramp Speed.
- F5** Set Slow Ramp Speed.
- F6** Set Slower Ramp Speed.
- F7** Set Very Slow Ramp Speed.
- F8** Set Slowest Ramp Speed.
- F9** Play Reverse. Used as Last Step in Chase. Causes the Chase to Play in Reverse to the First Step of Chase.

### These Commands Affect all Channels Containing a Value 0 or 255.

- F10** Rotate Right DMX Buffer.
- F11** Rotate Left DMX Buffer.
- F12** Invert DMX Buffer.

### These Commands determine the amount of time Between Chase Steps. 'Speed'

- Alpha ` Set Slowest Chase Speed.
- Alpha 1 Set Very Slow Chase Speed.
- Alpha 2 Set Slower Chase Speed.
- Alpha 3 Set Slower Chase Speed.
- Alpha 4 Set Slower Chase Speed.
- Alpha 5 Set Slower Chase Speed.
- Alpha 6 Set Medium Chase Speed.
- Alpha 7 Set Slow Chase Speed.
- Alpha 8 Set Fast Chase Speed.
- Alpha 9 Set Faster Chase Speed.
- Alpha 0 Set Faster Chase Speed.
- Alpha - Set Faster Chase Speed.
- Alpha = Set Faster Chase Speed.
- Alpha \ Set Very Fast Chase Speed.
- BackArrow** Set Fastest Chase Speed.

## These Commands Start Another Chase.

PageUp Alpha ` Start Chase 15  
PageUp Alpha 1 Start Chase 1  
PageUp Alpha 2 Start Chase 2  
PageUp Alpha 3 Start Chase 3  
PageUp Alpha 4 Start Chase 4  
PageUp Alpha 5 Start Chase 5.  
PageUp Alpha 6 Start Chase 6  
PageUp Alpha 7 Start Chase 7  
PageUp Alpha 8 Start Chase 8  
PageUp Alpha 9 Start Chase 9  
PageUp Alpha 0 Start Chase 0  
PageUp Alpha - Start Chase 10  
PageUp Alpha = Start Chase 11  
PageUp Alpha \ Start Chase 12  
PageUp BackArrow Start Chase 13

## These Commands Play a Chase as a Subroutine and Return to the Next Step in Current Chase.

PageDown Alpha ` Play Chase 15 as Subroutine.  
PageDown Alpha 1 Play Chase 1 as Subroutine.  
PageDown Alpha 2 Play Chase 2 as Subroutine.  
PageDown Alpha 3 Play Chase 3 as Subroutine.  
PageDown Alpha 4 Play Chase 4 as Subroutine.  
PageDown Alpha 5 Play Chase 5 as Subroutine.  
PageDown Alpha 6 Play Chase 6 as Subroutine.  
PageDown Alpha 7 Play Chase 7 as Subroutine.  
PageDown Alpha 8 Play Chase 8 as Subroutine.  
PageDown Alpha 9 Play Chase 9 as Subroutine.  
PageDown Alpha 0 Play Chase 0 as Subroutine.  
PageDown Alpha - Play Chase 10 as Subroutine.  
PageDown Alpha = Play Chase 11 as Subroutine.  
PageDown Alpha \ Play Chase 12 as Subroutine.  
PageDown BackArrow Play Chase 13 as Subroutine.

## Escape Commands

These Commands are entered into the Chase by pressing, then Releasing Esc then F1-F12 or A-Z

|              |  |
|--------------|--|
| Esc then F1  | Wait for Trig Low.   |
| Esc then F2  | Wait for Trig Hi.  |
| Esc then F3  | Wait for Pot Low. <50.   |
| Esc then F4  | Wait for Pot Hi. >200.   |
| Esc then F5  | Use Pot Value/32 as the Scene Number in 1st bank.  |
| Esc then F6  | Use Pot Value/32 as the Scene Number in 2nd bank.  |
| Esc then F7  | Use Pot Value/32 as the Scene Number in 3rd bank.  |
| Esc then F8  | Use Pot Value/32 as the Scene Number in 4th bank.  |
| Esc then F9  | Use Pot Value/32 as the Scene Number in 5th bank.  |
| Esc then F10 | Use Pot Value/32 as the Scene Number in 6th bank.  |
| Esc then F11 | Use Pot Value/2 as the Chase Speed.  |
| Esc then F12 | Start Chase 1 to 15 based on Pot Value/16.   |
| Esc then A   | Skip Next Step if Trig=0.  |
| Esc then B   | Skip Next Step if Trig=1.  |
| Esc then C   | Skip Next Step if Pot<50.  |
| Esc then D   | Skip Next Step if Pot>200.   |
| Esc then E   | Set Trig Line Lo.  |
| Esc then F   | Set Trig Line Hi.  |
| Esc then G   | GoTo the Sequence Step Number Contained in Channel 217<br>2 is added to this value. 0=GoTo 2 <sup>nd</sup> step, 1=GoTo 3 <sup>rd</sup> step, 2=GoTo to 4 <sup>th</sup> step.<br>To GoTo First Step of Chase use the Play Chase Command. |
| Esc then H   | Hold/Pause Value of Channel 218 Number of Sequence Step Times.<br>1 is added to this value.  |
| Esc then I   | open   |
| Esc then J   | Machine Jump to the Address in Channels 219=Upper Address, 220=Lower Address.  |
| Esc then K   | open   |
| Esc then L   | open   |
| Esc then M   | open   |
| Esc then N   | open   |

## Counters and Incrementing/Decrementing Values in Channels and Branching.

Esc then O thru Z

There are 12 commands that can be used to control up to 6 different loops at the same time.

6 of the commands Increment the value in a specified channel.

6 of the commands Decrement the value in a specified channel.

Each Loop using these commands requires 4 of the top 24 Channels.

The Values contained in the 4 Channels are used to determine what Channel to Affect, Start, Stop, GoTo.

### 4 channels are used for each of 6 counters.

The 1st Channel Contains the Channel Number to be incremented or decremented.

If this value is 0 then a value of 1 is used.

The 2nd Channel Contains the Start or Minimum value for the counter.

The 3rd Channel Contains the Stop or Maximum value for the counter.

The 4th Channel Contains the Step Number to GoTo on Max or Min count. 0-127.

If this value is <128 then the value is the Chase Step Number to GoTo when Min/Max is Not Reached.

If this value is 128 then the next 1 or 2 if Esc, when Min/Max IS reached.

If this value is > 128, No branch, the Next Step is Always executed.

### The First 3 counters use Page 20, Channels 229-240.

Esc then O Increment Value in Channel. Use Channels 229,230,231,232

Esc then P Decrement Value in Channel. Use Channels 229,230,231,232

Esc then Q Increment Value in Channel. Use Channels 233,234,235,236

Esc then R Decrement Value in Channel. Use Channels 233,234,235,236

Esc then S Increment Value in Channel. Use Channels 237,238,239,240

Esc then T Decrement Value in Channel. Use Channels 237,238,239,240

### The 2nd 3 counters use Page 21, Channels 241-252.

Esc then U Increment Value in Channel. Use Channels 241,242,243,244

Esc then V Decrement Value in Channel. Use Channels 241,242,243,244

Esc then W Increment Value in Channel. Use Channels 245,246,247,248

Esc then X Decrement Value in Channel. Use Channels 245,246,247,248

Esc then Y Increment Value in Channel. Use Channels 249,250,251,252

Esc then Z Decrement Value in Channel. Use Channels 249,250,251,252

Page 20 O P----- Q R----- S T-----  
Chan Min Max GoTo Chan Min Max GoTo Chan Min Max GoTo  
F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12

Page 21 U V----- W X----- Y Z-----  
Chan Min Max GoTo Chan Min Max GoTo Chan Min Max GoTo  
F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12

## SCENE NUMBERS

| KEY   | Alone | Shift | Ctrl | Alt | Wind | Menu | KEY | Alone | Shift | Ctrl | Alt | Wind | Menu |
|-------|-------|-------|------|-----|------|------|-----|-------|-------|------|-----|------|------|
| A     | 00    | 35    | 70   | 105 | 140  | 175  | T   | 19    | 54    | 89   | 124 | 159  | 194  |
| B     | 01    | 36    | 71   | 106 | 141  | 176  | U   | 20    | 55    | 90   | 125 | 160  | 195  |
| C     | 02    | 37    | 72   | 107 | 142  | 177  | V   | 21    | 56    | 91   | 126 | 161  | 196  |
| D     | 03    | 38    | 73   | 108 | 143  | 178  | W   | 22    | 57    | 92   | 127 | 162  | 197  |
| E     | 04    | 39    | 74   | 109 | 144  | 179  | X   | 23    | 58    | 93   | 127 | 163  | 198  |
| F     | 05    | 40    | 75   | 110 | 145  | 180  | Y   | 24    | 59    | 94   | 129 | 164  | 199  |
| G     | 06    | 41    | 76   | 111 | 146  | 181  | Z   | 25    | 60    | 95   | 130 | 165  | 200  |
| H     | 07    | 42    | 77   | 112 | 147  | 182  | [   | 26    | 61    | 96   | 131 | 166  | 201  |
| I     | 08    | 43    | 78   | 113 | 148  | 183  | ]   | 27    | 62    | 97   | 132 | 167  | 202  |
| J     | 09    | 44    | 79   | 114 | 149  | 184  | ;   | 28    | 63    | 98   | 133 | 168  | 203  |
| K     | 10    | 45    | 80   | 115 | 150  | 185  | '   | 29    | 64    | 99   | 134 | 169  | 204  |
| L     | 11    | 46    | 81   | 116 | 151  | 186  | ,   | 30    | 65    | 100  | 135 | 170  | 205  |
| M     | 12    | 47    | 82   | 117 | 152  | 187  | .   | 31    | 66    | 101  | 136 | 171  | 206  |
| N     | 13    | 48    | 83   | 118 | 153  | 188  | /   | 32    | 67    | 102  | 137 | 172  | 207  |
| O     | 14    | 49    | 84   | 119 | 154  | 189  | Tab | 33    | 68    | 103  | 138 | 173  | 208  |
| P     | 15    | 50    | 85   | 120 | 155  | 190  | R   | 17    | 52    | 87   | 122 | 157  | 192  |
| Enter | 34    | 69    | 104  | 139 | 174  | 209  | S   | 18    | 53    | 88   | 123 | 158  | 193  |