## INSTAR"



VALUE BASED PAINTING SYSTEM

## FOREWORD

Thank you for downloading our first eBook, We really hope that you will gain some useful knowledge from this guide.

This book is not intended as a book of tutorials on how to paint things using a specific set of paints in a style set out by a high level painter. It is intended as a guide to help you understand your paints better and use them to their full potential in an easy to understand way (at least that's what we hope!) by using our experiences from making the ultimate in miniature paints.

Using lessons learned from paint production and how even the smallest changes can dramatically affect how a colour behaves, we were able to incorporate them into a system that allows you to use far less colours than you would normally need as well as being a fully repeatable exercise, allowing you to improve your painting skills without having to really do anything drastically different while gaining an understanding in how value plays a vital role in how your miniatures are painted and viewed.

Your feedback is always appreciated and we take on suggestions for improvement very seriously. If we feel that it would improve this guide even further, we will endeavour to incorporate it. Just drop us an email at contact@instarpaint.com with your ideas and suggestions and we'll take a look at them.

Again, thank you very much for downloading our first eBook, it has been a joy to write it and we look forward to seeing how much it helps you improve.

## WHAT IS A VALUE BASED PAINTING SYSTEM?

When we talk about "Value", we're not talking about how much the paint costs, but more how light or dark something is when it comes to painting. It's one of the most important factors to keep in mind, dictating how successful your piece is, rather than your colour selections which, as you'll see in this guide, is not that important.

Value in painting is a really easy concept to understand and grasp. It's application though can be a little tricky, which can make it seem a challenging concept. With our help, insight and this guide, you can begin to navigate this incredibly useful area of painting and improve your painting skills, almost overnight.

## WHAT IS A VALUE?

Value, as mentioned earlier, dictates how light or dark something is. To work this out, a Grey Scale set of colours is used, ranging from 0 to 10 with 0 being Black and 10 being White.


Some of you might have seen this if you've ever done zenthial priming, however that's only one part of the process and it goes a little deeper than that. The actual scale itself is pretty much infinite, but using a scale from 0 to 10 makes it much easier to visualise, every colour you use can be placed somewhere on this scale.

## "But wait!", I hear you say, "My colours are not greyscale, that doesn't make any sense..."

"Value" is more of a subjective thing when it comes to colour, as mentioned, it's just a scale of how light or dark something is. To give you a better idea, take these two colours below. Where would you put them on the above scale?


You might be surprised when we desaturate the colours and reveal their true values. Naturally we see yellows as brighter colours and purples as darker colours. Determining the value of a colour is something artists learn as a skill over time and involves an awful lot of squinting, however we have devised a method that can make this whole process much easier.


## WHAT IS THE RELATIONSHIP BETWEEN COLOUR AND VALUE

Before we get onto the system, it's important to first understand the fundamentals of the relationship. Once you understand this, the system will make more sense.

Lets take a look at our Primaries Colour wheel....

Every colour has a value attached to it as pointed out on the previous page and the colour wheel is no exception.
You can see all the colours and which ones are lighter and which ones are darker. When it comes to Value however, colours are not equal.


Notice how some of the colour groups have similar values even though they appear darker or lighter when viewed in full colour. It's a difficult skill to learn, but quite a valuable one at the same time. However, by using just a black and a white, you're able to tint and shade colours easily, so by using a limited palette, the possibilities are somewhat endless.

But notice how many different colour groups also share the same values. While visually they look different, when placed next to each other offer very little contrast and your eyes would find it difficult to identify which colour, or colours have more importance in what you've painted.


This is why value is the most important thing you can learn when it comes to painting. It's not just colour choice that determines how your models are perceived, it's the value. In fact, colour has very little importance in the technical elements of painting your miniature. That's not to say that it isn't important. Colour can have meaning, convey an expression or describe an emotion. A Red Demon could be seen as "Powerful" and "Angry" compared to a Queen dressed in a purple robe, portraying "Elegance" and "Royalty". But in the grand scheme of things, if the values of the colours are all the same, the miniature will have no life to it at all.

## SO IF VALUE IS MORE IMPORTANT, WHAT COLOURS $\operatorname{DO}$ I CHODSE?



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Henry Matisse, one of the founders of the Fauvism movement, recognised that Value was more important than colour. He intentionally used what would be considered all the "wrong" colours, to paint his pictures.

We've taken the same approach with this model, as illustrated on the previous two pages. Initially you may have looked at the first image and thought that it looked absolutely fine, only to find on the next image, that the colours were not the ones you were expecting.

The point is, that once you understand the values of your colours, it generally doesn't matter which colours you use. If they all portray the right values for shadows, midtones and highlights, you can use whatever colours you like and the results will still be pleasing on the eye.

For the main body we used:


Alpha Forest Green - Value 1

Alpha Deep Red - Value 4

RAL 7031 - Value 7


Alpha Dark Tan - Value 9


For the eagle and trims we used:
Alpha Electric Blue - Value 6


Alpha Acid Green - Value 9


Alpha Beach Sand - Value 10


You can see from the colours used, that your eyes are automatically drawn to the chest and shoulders, because they have a higher overall value, compared to the main armour. This reverts back to the point about colour choice not being the most important aspect. Although two colours may look different, they could share the same value and offer no contrast to the model. In this case, we have chosen colours based on their values rather than their hues to draw the attention of the observer to areas of a higher contrast rather than areas of a lower contrast.

So how did we find out the values of our colours, or indeed any colour, in a way that's easy to do?

## WORKING OUT THE VALUES OF YOUR PAINTS

On the last page of this guide, you will find a printable sheet that you can use to reveal the hidden value of your paint, it's extremely easy to use and will help you build a catalogue of colours that will help you with your painting choices.


STEP 1


STEP 2


STEP 3


Print off the "Paint Value Checker" from the back of this guide, you can use standard A4 paper, though A4 card is much better.

Make up 11 mixes of Pure Oxide Black and Pure White in the following order:

Pure Oxide Black Only |POB 9 : PW 1|POB 8 : PW $2 \mid$
POB 7 : PW 3|POB 6 : PW 4 |POB 5 : PW 5|POB 4 : PW $6 \mid$ POB 3 : PW 7 |POB 2 : PW $8 \mid$ POB 1 : PW 9 |
Pure White Only.
The reason for making them all separately is down the fact that if you took some of the Oxide Black to paint with and then add White to it, you get a false mixture as there is progressively less Oxide Black and far more White each time.

Making separate mixtures means that you make the correct shades of Grey.

Fill in the Value Bar at the bottom of the page with the values you made above with Pure Oxide Black being Value 0 and Pure White being Value 10. You'll need around 3 coats to make a nice opaque covering. Do not thin the paint, just paint it on neat, it doesn't have to be tidy.

Once all the squares have dried, cut it off the page making sure that the cut is flush against the top of the bar, this makes it easier when using it .

Taking your paints, paint a swatch in the middle of the circle with around 2-3 unthinned coats, again you don't need to be neat, just so long as the paper/card isn't showing from beneath. Then take your phone camera and change the filter to MONO. Hold your phone so it's over the swatch and place the Value bar underneath moving it until you find the value that's closest to the Swatch.

Then simply write the paint name and value underneath.

## THE TWO WAYS OF PAINTING WITH VALUES

Ultimately there are two approaches to painting using values only, this is by using "Pure hues" or "Intensity scales" Essentially both ways use the same colour, the only exceptions are that if you are just painting with "Pure hues", you are making no adjustments at all to the colours and use more colours on your miniature compared to painting using the "Intensity scales" where you use fewer colours, but get more natural looking tones.

PURE HUES
 INTENSITY SCALES


## PURE HUE PAINTING - HIGH VALUE COLOURS (7-10)

Painting in just high value colours results in a miniature looking like it is overexposed in photos. High value colours tend to be used for areas of interest or for highlighting. It's entirely possible to use colours that don't solely rely on White to achieve highlights, White alone should only be used for areas of extreme highlighting given that it is at the far end of the scale and will draw the observers eyes to those areas very quickly.


GREY BASECDAT


## VALUE 8 COLOURS APPLIED



VALUE 7 COLOURS APPLIED


## VALUE 9 COLOURS APPLIED

## COLOURS USED (RAL SYSTEM)

VALUE 7 COLOURS


VALUE 8 COLOURS


VALUE 9 COLOURS


## PURE HUE PAINTING - MID VALUE COLOURS (4-6)

Using mid value colours results in a miniature that lacks depth in any direction. It becomes difficult to make out where shadows are defined or where areas are reflecting the most light. It does however make for a great starting point and the biggest reason for using darker washes to make recesses stand out more, or to put it another way, the basis for most miniature painting guides.


GREY BASECDAT


VALUE 5 COLOURS APPLIED


VALUE 4 COLDURS APPLIED


VALUE 6 COLOURS APPLIED

## COLOURS USED (RAL SYSTEM)

## VALUE 4 COLOURS

CLAY BROWN - 8003 BASALT GREY-7012 OLIVE BROWN - 8008 VERMILLION - 2002


VALUE 5 COLOURS


VALUE 6 COLDURS

MOSS GREY - 7003
TELE GREY 2-7046
HONEY YELLOW - 1005 OLIVE GREY - 7002 SIGNAL ORANGE-2010


## PURE HUE PAINTING - LOW VALUE COLOURS (0-3)

Low value colours are at the lowest end of the value scale and create some of the darkest, most brooding colour schemes. Because every colour is very dark they are primarily used where you want to show areas of shadow. When used exclusively, they give miniatures a sense of foreboding, horror or stealth given the lack of highlights. This can make it difficult to stand out to an observer though.


GREY BASECDAT


VALUE 2 COLOURS APPLIED


VALUE 1 COLOURS APPLIED


VALUE 3 COLOURS APPLIED

## COLOURS USED (RAL SYSTEM)

## VALUE I COLOURS

VALUE 2 COLDURS


VALUE 3 COLOURS

SIGNAL BROWN - 8002 TARPAULIN GREY - 7010 BEIGE BROWN - 8024 BROWN GREY - 7013 CARMINE RED - 3002


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## PURE HUE PAINTING - CREATING A BALANLE

Pure hue painting benefits most when there is balance to the values that are used. This comprises of shadows, midtones and highlights. By choosing one colour from each value group ( $0-3$ for shadows, 4-6 for midtones, 7-9 for highlights) you can quickly paint up a standard model in no time at all. It won't have any major focus points but at the same time has enough definition to stand out and clearly show contrasts. Note that we omitted value 10, this should be reserved for extreme areas of highlighting as using this can instantly draw the observers eyes to the areas where it is used.


GREY BASECDAT


VALUE 5 COLOURS APPLIED


VALUE 1 COLOURS APPLIED


VALUE 9 COLOURS APPLIED

## COLOURS USED (RAL SYSTEM)



VALUE 5 COLOURS


VALUE 9 COLOURS


## PURE HUE PAINTING - CREATING A FOCUS

Value painting lends itself well to creating areas of focus on a miniature simply by using higher value colours to draw the attention of the observer to that area and take them away from areas you don't want them to look at in a detailed way.

This means that you can spend more time doing a more details in one area on a miniature and not worry about having to detail the entire miniature. Bear in mind though that the observer will look at other areas of the model, but with high value parts, the eyes will always be drawn back to that area. Take eyes as a good example, they're usually the first thing you see on a face.


FOCUS TO WEAPON


FOCUS TO BEARD


FOCUS TO WEAPON


FOCUS TO BEARD

It doesn't just have to be all dark colours though to create an impact using high value colours. Dark colours obviously create a higher contrast but high value colours can be used alongside mid tone colours that are used as a base too. Even using a pure white highlight on a Non Metallic Metal section that already has a high value paint scheme can still draw attention away from other areas by pushing the value in the area higher.

By being clever with your colour choices and paying attention to the values of them, it's entirely possible to get the look you want for your miniatures whether it is a diorama, display model, character model or just standard infantry. You can make them stand out more in certain places such as designation markings for horde infantry for easier reference or an ethereal weapon on a character to show how powerful it is are good examples of creating focus.

## PURE HUE PAINTING - DBJECT SOURCE LIGHTING (DSL)

By now you should be starting to understand how value painting works, so it shouldn't come as a surprise that it helps in a big way with a subject that some people find very tricky to execute and this is Object Source Lighting or OSL for short.

Object Source Lighting, in case you don't know, is where an object on the miniature or diorama becomes the source of light in the scene rather than the sun, which itself is an object and source of light. But one thing that is overlooked and possibly one of the main barriers to OSL is that the colours on the miniature don't actually change, it's the light that provides the change and the light only comes in one value. A visual example:


Natural light tends to be forgotten about as a light source. Our Sun for example, radiates white light and is an object itself brightening any colours it interacts with.

Because it's very powerful though and because white light would be considered a high value colour, it does create very dark shadows that contrast with the surface colours that the light hits.

This is the usual way that miniatures are painted. Without realising it, every single shadow and highlight you apply to your miniature, you are doing Object Source Light painting.

## NATURAL LIGHT



Still the same hand, but this time with a blue hued light. All that we have simply done here is add a filter to the incoming sunlight, but the same principal applies to overhead lights or a PDA. The actual light itself is white, but it passes through either a coloured plastic or colours on a screen meaning that the only light being emitted would be the colour of the filtering medium.

However, the actual colours of the hand in this example remain exactly the same, the coloured light is just temporarily adjusting hues and giving them all a blue tone. Depending on the strength of the light source, this effect can be brighter or darker and also dependent on the conditions that your scene is based around. If outside in the sun, the colours would be a higher value. If inside a cave and the blue light was the only source, it would vary depending on how strong you want the light source to be.

## COLOURED LIGHT

Unless you're a very skilled artist and can incorporate the colour of the light into your paint mixes, Object Source Light painting can be easily achievable using the methods from the previous pages with the use of a heavy filter or glaze to incorporate the light source. As mentioned, the actual colours of the model don't change, they just appear to be different under a different light source, take that light source away and the original colours come back.

Lets look at a painted example...

## PURE HUE PAINTING - OBJECT SOURCE LIGHTING (OSL)

We've adapted this model with a flame effect instead of a spear tip to represent it standing guard outside at night. We're using all the same colours as in the previous examples going from Value 0 to Value 7. To determine where the colours need to go, we need to visualise in our mind where the various values are going to land, It doesn't need to be exact when it comes to painting it, but it's good to have an idea before you start.


The torch light would be, for a better term, called a "point" light. This means that all the light radiates from this point and hits everything in the scene.

To represent this in our mind, we visualised expanding circles coming from the torch and assigned values to each one. Everything closest to the light would be painted with colours with a value of 7 and everything in the shadows painted with colours with a value of 0 . In each of the other circles we are using colours with a decreasing value as the distance increases from the light.

The colours with a value of 0 will also be used solely where the light would not reach. Ares such as, from our viewpoint, the right side of the beard and a large amount of the right side of the dwarf as well as the areas underneath it.

Once you have the areas visualised, it makes painting the model much easier


The flame on this miniature is the only part of the model to have colours that go beyond value 7 since it is the hottest and brightest part of the entire model.

To start with we painted the entire model in Value 1 colours, not value 0 . The reason for this is placing the shadows afterwards is much easier and also retains some of the underlying hues. Inversely, by not starting with value 0 colours makes applying subsequent colours much easier as applying colours on black or very dark basecoats is more difficult and requires more layers.

Each subsequent value layer will move closer to the light source to represent the brightness that the light is giving off, it all makes sense once you apply the filter.

Once all the colours have been applied, the last part is to create the filter to give the lighting effect. As mentioned on the previous page, the original colours are all still there, the light is just changing the hues slightly of the underlying colours.

As we are using a torch, the light that tends to come off these is a warm yellow light, so we made up a 1:1 mix of Pure Mid Yellow and Water+ and then applied it all over the miniature up to the Value 1 colours. As it dries you can see the effect of where the different value colours affect the brightness of the Pure Mid Yellow colour and gives that OSL feel to the whole model by adjusting to surface colours accordingly.

To push the contrast further, we then applied the Value 0 colour, or in this case Pure Oxide Black, first off by making a mix in the same way as before and applying it all over the shadow side of the miniature, stopping about halfway into the Value 1 colours. We then took the Pure Oxide Black and painted it neat where the shadows would be deepest and furthest from the light source.

## INTENSITY PAINTING - A BRIEF OVERVIEW AND SETUP

Intensity painting introduces a different style of painting a miniature. Instead of painting with saturated value colours, Intensity painting focuses on de-saturating initial colours to a desired value level to create more natural looking colours by combining them with a set of greyscale paints. This results in a more muted look to the miniature, but more natural looking shadows and highlights.

A good way to show this is with the following forest images. Under Full Sun, the greens of the leaves and yellows of the flowers are fully saturated, vibrant and bright. In the Overcast image, the hues are still discernible, but all the saturation of the colours has been lost leaving a very muted scene. In the Night/Heavy Shadow image, the hues are still discernible, barely, while the whole scene is completely de-saturated.


FULL SUN


OVERCAST


NIGHT/HEAVY SHADOW

This image shows all three elements in the same image, the bright sun on the mountains, the heavy shadow of the rock face in the middle and the overcast area of the flowers.


## INTENSITY PAINTING - A BRIEF OVERVIEW AND SETUP

To work with Intensity Painting, you need to create a grey scale set of colours using Pure Oxide Black and Pure White. There's a good reason for using Pure Oxide Black over Pure Black, Pure Oxide Black gives a more neutral set of grey scale colours rather than Pure Black which gives the grey scale a blue tint.

The colours are created as simple ratios from Pure Oxide Black counting as zero to Pure white counting as ten. Using our 50 ml Refill Bottles and mixing containers, you can create the other nine stages with some left over to top up the Pure Oxide Black and Pure White when they start getting used. If using 10 ml bottles, the filling amounts should be fairly easy to work out and equally so if using 5 ml or 20 ml bottles.


The idea of this set is that these colours are added to standard pre-mixed colours to change the Value of the colour while decreasing the saturation of the colour as it's moved up or down the Value scale to create more natural looking colours.

To help understand how the system actually works, we have created a chart that lists the changes these colours make when added to other colours.


## INTENSITY PAINTING - THE BIG CHART



## INTENSITY PAINTING - THE BIG CHART EXPLAINED



The chart is an easy visual reference to the value level a colour will finish up with when the greyscale paints are added to the initial colour. Over time, we will be incorporating Value figures to our colour mixing formulas for easy reference.

To help understand this chart more, we'll use Deep Orange from the previous examples which has an initial value of 8.


The top droplet is the Deep Orange colour, as previously stated, has a value of 8 on the Value scale and is indicated on the chart in the very left column as an " 8 ", this is where your initial value colours start.

Underneath that, we've added a drop of Value number 2 which will be mixed into the Deep Orange. This will have the effect of shifting the value of the colour to Value 6 as shown on the chart where adding a drop of Value 2 to a colour of Value 8 results in a final value of 6 .

The final droplet set has a drop of Pure White next to it that represents value 10, when this is mixed into the Deep Orange it will result in a final value of 9 .

You can see that once they are mixed, the values of the colour have darkened/lightened accordingly but It's still the same hue. All that has changed is the Value of where the colour now sits, but notice how it has lost saturation when it has been combined. This is a perfectly normal thing to happen.

Intensity painting doesn't allow for fully saturated colours as it's near impossible to adjust the value of a colour without losing saturation of the original colour.

You can use Yellow in some cases to increase luminosity, but this can have an unwanted effect of tinting your colours to a different hue. Yellow should only be reserved if brightening Greens and Oranges ideally.

## INTENSITY PAINTING - THE BIG CHART EXPLAINED



But once you've moved a colour to a new value, you can continue to adjust it to get to the value you need, lets see what happens when we take our Deep Orange, now Value 6, from the previous example and adjust it again.


Now that we have our Deep Orange changed to Value 6 (top) from the last example, lets see what happens when we use the same value colours again (2 and 10) to change the values.


You can see that by adding Value 2 to the colour reduces the value of the colour again to Value 4 (one part initial colour value $6+$ one part of value $2=$ New colour value 4).

However, adding Value 10 to the colour does take it up to Value 9 , but it doesn't give the same result as the previous example where it was clearly seen to be more Orange. The Orange hue is still there, but Intensity painting works better when working in one direction. If you move down the value scale from the origin colour, you should continue to move down the scale and vica versa if moving up from an origin colour.

This is because Black colours still contain a tint to some degree of either Blue or Brown depending on the type you choose. When attempting to move a value higher from a modified value colour (Initial+Value), some of the original colour information is lost.

You can think of it like cooking, you could accidentally put too much spice into a dish which is impossible to remove once added and no matter how hard you try to cover it up with other flavours, the spice will still be there.

## INTENSITY PAINTING - SIMPLE SHIFTING EXAMPLE

In these examples painted up for us by AgentMeeple, she has taken an origin colour and added an equal number of drops of Values 0 (Pure Oxide Black), Value 5 (1:1 mix of Pure Oxide Black and Pure White) and Value 10 (Pure White). This has the effect of giving natural shading and highlighting to colours while retaining the majority of the original Hue. Bear in mind, these are the same colours used throughout, all that's adjusted is the value.

## ORIGIN COLOURS USED



FLESH - SALMON PINK

DENIM - DARK SLATE BLUE


MIDTONES - ORIGIN COLOURS WITH VALUE 5 (PURE OXIDE BLACK + PURE WHITE 1:1 MIX) ADDED, l:1 RATIO

BASE/SHADOW - ORIGIN COLOURS WITH VALUE 0 (PURE OXIDE BLACK) ADDED, I:1 RATIO.


HIGHLIGHTS - ORIGIN COLOURS WITH VALUE 10 (PURE WHITE) ADDED, l:1 RATIO

## INTENSITY PAINTING - DESATURATED EXAMPLE

In this example painted up for us by AgentMeeple, she has taken the origin colours and pushed them all to the same value group utilising the value colours. This creates a fully desaturated look to the paint that can lend itself to different approaches for different styles of environments and lights easily. In this example, the miniature is based in Victorian England so this would lead to gloomy, dirty, dark lighting conditions. Either that or the gun was loaded with too much powder.

## ORIGIN COLOURS USED



TROUSERS, HAT AND STOCK - CAMO BROWN


GUN - ARMY GREY

SHIRT - OYSTER WHITE (RAL 1013)
SKIN - DARK TAN


## BASE/SHADOW - ORIGIN COLOURS ALL PUSHED TO

 VALUE 3.
## MIDTONES - ORIGIN COLOURS ALL PUSHED TO VALUE 6.



HIGHLIGHTS - ORIGIN COLOURS ALL PUSHED TO
VALUE 9.

## INTENSITY PAINTING - MORE EXAMPLES



DESATURATED PAINTING


VALUE PAINTING


SIMPLE SHIFTING

## PAINT VALUE CHECKER

A simple way to work out the value of your paints, just paint a swatch inside the circle and then using a webcam or phone, either live or as a photo, set the Saturation level to -100 or use a Monochrome filter to reveal the value of the paint, then just simply assign the closest number.

| Paint name | Paint name | Paint name | Paint name |
| :---: | :---: | :---: | :---: |
| Value | Value | Value | Value |
| Paint name | Paint name | Paint name | Paint name |
| Value | Value | Value | Value |
| Paint name | Paint name | Paint name | Paint name |
| Value | Value | Value | Value |
| Paint name | Paint name | Paint name | Paint name |
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Paint name


We hope that you've enjoyed reading this guide and we really hope it has helped you understand the concept of Value in painting better. We look forward to seeing if it helps your improve your painting and if it does, please let us know!

We're always interested in seeing what people create with our products or guides and sharing them with other people across social media.

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