



The Crimson Guitars information pack

Welcome to the Crimson Guitar design process where we deliver the highest quality bespoke guitars and musical instruments. Each instrument, by the very nature of the specific materials chosen, is unique and we wish to realise your vision for your dream instrument supported by our craftsmanship and technical know-how. This short document covers some of the basic parameters of material/parts selection and guitar construction to allow you to direct us in redefining the custom guitar.

This process opens a dialogue between client and maker that defines the character of the instrument and our Client Specification Sheets, included with this document, record your requirements. The aim is to capture your aspirations and vision for the instrument.

Whether it is the ultimate ergonomic guitar or something totally experimental, or traditional, Crimson Guitars are here to share the adventure and ensure delivery of a unique instrument of exceptional quality.

1.0 SCALE LENGTH

Guitar scale lengths can vary markedly. This is the first and most critical decision in the design of your guitar. The guiding factors are player comfort and resonance. The longer the scale length, the greater the resonance, but this raises the string tension and the distance between frets. Your personal experience with guitars will inform your preference and multiple scales can be used giving, typically, a longer scale on the bass side, this means you can use a thicker string there and get more effective tones.

2.0 NUMBER OF STRINGS

6 being normal and anything from 7, for a baritone, or 8 and over for extended range and tap instruments, not forgetting 12 string arrangements for guitar and any other combination you may feel you need. The number of strings also affects the nut width and you should bear in mind the distance between each string, and how much space you need for your fingers to be effective when playing multi-string instruments.

3.0 NUMBER OF FRETS

Nominally Stratocasters or Les Pauls have 22 frets. It is common now for an instrument to have 24 frets to extend its harmonic range to two octaves per string. This combined with the scale length and number of strings will set the harmonic and tonal range of your instrument and may inform your choice of materials and hardware.

Fretless or even partially fretted instruments are also possible for the more experimental out there.

4.0 FRETTING

Perpendicular to the centre line of the instrument for a defined scale length or radial for a multiple scale length instrument, the choice is yours.



5.0 NECK TYPE

A highly subjective matter that can make or break a guitar for many players. Whether it's a '59 Les Paul thick neck or a fast flat Parker profile, we seek to define your dream neck. This is achieved by taking the base measurements on the Output Specification sheet and then talking through the "feel" you want to see achieved, see section 8. Every handcrafted Crimson Guitar neck is unique and if possible we urge you to come down to the workshop during the build to try her while we carve the neck.

6.0 NECK CONSTRUCTION OPTIONS

One-piece timber construction: This is old school. We take a piece of specially selected timber and shape it into a neck. This preserves the character of the specific piece of tone-wood and all the benefits and risks that entails. The risks include less tuning stability and a susceptibility to temperature and humidity changes, while you have the benefit of a more straightforward construction technique and, arguably, more string to timber resonance. However, for some, staying true to the old ideals is a must and with modern two-way truss rods and/or carbon fibre strengthening rods all stability issues can be overcome.

Multi-laminate Single timber construction: Like it says on the tin using 3 or 5 strips of timber with grain in alternate opposing directions to construct a stable and more rigid neck to provide more strength and sustain.

Multi-laminate multi-timber construction: Again 3 or 5 strips of two or three selected timbers to develop a distinct neck tone with good sustain and marked aesthetic.

The addition of a contrasting veneer between laminate pieces adds dramatic pin striping to the look.

7.0 Plus Sections 15, 16 & 17.

NECK / BODY MATERIALS

NECK SET / BODY OPTIONS

Choose from :

Through Neck - where the neck woods continue right through the body of the guitar.

Set Neck Tenon Joint - where the neck is set into the body wood either partially or up to $\frac{3}{4}$ of the body length (known as deep set neck tenon)

Both the above methods provide better transfer of the neck tones to the bridge, promoting sustain. The neck wood strongly influences the tone of the guitar, because it occupies perhaps the most important part of the body: the centre.

This breaks the tonal resonance of the body wood and places the emphasis on



the neck wood selection. Your side woods make up far less of the tone than on a bolt on or set neck guitar. The effect is very different to the laminated top sound. A maple top on basswood is nothing like a maple neck through with basswood wings, which sounds more like a maple body. Generally, the softer woods excel as sides because they add back some low-end resonance missing in the construction method, while dampening the highs.

Bolt on - popular in mass produced guitars for obvious production reasons. Relies heavily on the tonal qualities of the body wood and can reduce sustain and produce a lighter tone generally.

8.0 NECK DIMENSIONS

There is a lot of information out there on the dimensions of guitar necks so starting from what you are comfortable with we ask for width and depth at nut and 12th Fret and general shape description. ie. (C D or V etc), or in an ideal situation you can visit the workshop and have your neck carved with you there to supervise!

9.0 DISTANCE OF STRINGS FROM BODY AT BRIDGE

Again a personal preference to the player from an inch to a couple of millimetres but the choice of bridge will have a bearing. A standard tunematic bridge, if not recessed, stands around 17mm from the body and gives a more pronounced neck break angle. A standard twin pivot tremolo, however, is only around 10mm high giving less of an angle, and thus less room between the strings and the pickups.

10.0 TRUSS ROD

We tend to use two-way truss rods wherever possible and we will build a custom truss rod for the more esoteric scale lengths out there. The rods we use have as low a profile as possible to reduce the amount of timber lost from the neck during construction.

11.0 FRET BOARD MATERIALS AND RADII

Fret Board Timbers: some examples -

Rosewood - stronger fundamental note, less overtones

Ebony - crisp with more attack and sustain

Hard Maple - favours high overtones for a more attacking, brighter sound

Purple heart - similar to hard maple, and purple..

These are just a few of the myriad timbers available to us and their basic characteristics.

Radii – we tend to advocate a compound radius with a tighter curve at the nut broadening out to an almost flat curve at the last frets. A tight radius at the nut helps with comfortable chord playing and the flatter radius up the neck keeps string ‘choking’ to a minimum and helps speed up lead work.



12.0 NUT

Although secondary in resonance to the bridge the nut can contribute to the overall tonality of the instrument, its playing style and aesthetic.

Common materials are:

Bone – this is often cow bone bleached white or when unbleached is referred to as vintage. Bone does produce a classic guitar sound.

Corrian or Micarta – reconstituted stone. Good tone transfer without colouring the sound.

Polymer composite (Tusq) – high density polymer, with good uncoloured tonal transfer. Also available with a Teflon coating (Black Tusq , Graph Tech) to facilitate string movement in conjunction with a tremolo unit.

Aluminium – Bright tonal qualities with some sustain benefits.

Brass – Strong mid-tones with sustain.

Mother of Pearl – often used on banjos gives a particularly bright tone

Locking Nut and Tremolo systems – provide a fixed scale length, within a tensioned tremolo system, to maintain tuning during dive bombing and string wrenching. From Kahler to Steinberger or a Crimson Guitars original system we can meet your requirements.

The most important aspects of the guitar nut are its seating and the carving for the strings. This relies on our experience and craftsmanship, and an idea of what sort of action and feel you require from your custom guitar.

13.0 INLAYS & EDGE MARKERS

We have a broad range of exciting materials for you to choose from, and there are many many materials that can be used that we haven't thought of yet, over to you.

14.0 FRETS

Nickle or stainless steel, wide, medium, narrow, tall, medium or low your chosen option will define the feel of the guitar and your playing style whether jazzer or shredder and often this is decided by what you are used to playing.

The basics are that big, high frets will give a high action and low frets a low one. What you do with her from there is down to you and your fingers. The good quality nickel/silver frets we use last as long as any other standard frets and sound, well, standard, while stainless steel frets sound a bit brighter and tend to last up to three times longer

15.0 HEAD STOCK

The guitar's crowning glory. Functional and a key design element. Feel free to pay homage to the classics or a Crimson original or something altogether new. Please bear in mind that straight string-pull in the design is very important for good tuning stability!



16.0 GUITAR BODY AND CAP

Solid, chambered or semi-acoustic, Crimson Guitars will explore thickness, weight, balance, shape, tone woods, contour and the latest in ergonomic guitar design. Crimson guitars will sculpt the guitar to fit you, your sound, your playing and most importantly your body. Set down as much information as you can on the specification sheet and allow Crimson Guitars to transform it into reality.

There are a lot of opinions out there on what a particular timber will sound like and there simply isn't the space to set it all down here, harder timbers like maple and bubinga will have a brighter tone while softer woods like the mahoganies and spruce will, in general, be warmer with more sustain. When thinking about woods we urge you to think about the aesthetics first, if you love the look of bubinga then lets use bubinga, it's up to us to use other choices in the build process to get the particular tone you need. The choice of brass over aluminium in a bridge or the number of winds and placement of a pickup have as much, or even more, effect on the tone than the choice of timbers. It may be that a choice of top wood that you like the look of will mean needing to spec a less pretty body wood to gain the overall tones needed, but we will walk you through this process in person.

17.0 BINDING

None, false binding, classic ivory, white, multi-laminated black and white or something else? Front only? Front and back? Neck? Headstock? Again you can have pretty much anything that it is possible to make.

HARDWARE

The selection of the hardware will govern the tone, aesthetics and functionality of the instrument. So draw on your experience and our best advice to ensure the best fit, functionality and aesthetic.

18.0 MACHINES HEADS

A matter of personal choice, whether locking Spertzel type, gearless or rotomatic. Balanced with the headstock shape and set out for player comfort and maximum resonance, innumerable configurations exist. Crimson Guitars can also adapt and customise your choice to ensure the whole design sings as one.

19.0 BRIDGE TYPE

This is another fundamental element in the character of the instrument. From a telecaster flatbed to Kahler tremolo this will determine the tone transmittance to the body. When choosing the form of bridge, think about your playing style and the tonal quality of your wood choices. E.g. a brass bridge on a mahogany body will enhance the mid tone sustain and diminish the highs and clarity. Again we are on hand to guide you through your choice, and the choice is wider than you could imagine, as well as everything that is commercially available we will quite happily undertake to build you a completely custom bridge or tremolo.



21.0 PICKUPS

Single coil pickups : for a clean bright sound.

P90 single coil pickup : for brightness and clarity with a bit more punch. Also available in coil tap humbucker mode for greater versatility and a bit more oomph!

Humbuckers : Pafs, Pups and overwounds, everything imaginable. Giving more power, sustain and richness.

Piezo bridge : taking the tone direct from the string and either providing an acoustic output to complement the magnetic pickups or out to a midi connector.

Hexaphonic pickup to drive a MIDI synth such as the Axon or Roland models.

There are many different pickup makers out there and we have used a lot of them, if you have a certain pickup in mind we'll find it for you, or if you have a certain sound, and aesthetic, we will build a custom pickup for you from the ground up!

22.0 CONTROLS

Apart from the practical issue of volume and tone control, pickup selection and kill switches, the placing of these elements will be determined by the ergonomics best suited to the player's style. The look is critical whether brushed stainless steel, classic rotary dials or Crimson Custom hand turned knobs, the choice is yours. Crimson have a source of very fine capacitors to ensure transmission of your selected tonal qualities to the jack.

23.0 JACK SOCKET

Where, recessed, flush, stereo, mono, midi or radio transmitter? Barrel Jack sockets tend to be more stable but whatever your choice we use the best available components.

24.0 STRAP BUTTONS

Traditional, strap lock or custom recessed with custom carved timber cover, even spring loaded for your pleasure.

25.0 FINISHING

The general aesthetic our clientele want precludes the standard thick painted solid colour finishes of yesteryear, though we will do this if you want. We tend to try to show off the timbers to their best with the use of transparent stains and either thin lacquer or oil finishes. Lacquer tends to give a slightly brighter tone to the instrument than oil and we can achieve a flawless high gloss with it. Oil on the other hand allows the instrument to breathe more and has a more natural, low gloss shine, it also takes much much longer to apply and is not as forgiving and hardwearing as the lacquer.



26.0 CONSULTATION

Online, by telephone or email or even a free initial design consultation at Crimson Guitars HQ.

Crimson Guitars is dedicated to exploring your ideas using our extensive technical knowledge and creative flair. You have come to us because what you need has yet to be created. This is where, together, we forge ideas that will lead to something new and specific to you, we will take these ideas and use our expertise and knowledge to bring them to life, and if necessary we will go away and learn new skills along the way! That is, after all, how we've gained our experience so far!

27.0 CASE

Crimson guitars come as standard in a hardcase manufactured for us in the UK, we can also arrange for custom hard or flight cases to be manufactured should the design make this necessary.

28.0 DELIVERY OR COLLECTION

Crimson Guitars deliver worldwide, though you are responsible for any charges that may be incurred by your customs department.

29.0 OTHER INFORMATION

This Information Pack and Specification Sheet outline the considerations needed to define your guitar, but it is in no way exhaustive. Use the sheet to expand upon your requirements. Rely on our expertise as much or as little as necessary, we are here to ensure delivery of instruments exceptional quality.

30.0 SIGN OFF

In the interests of clarity we ask clients and ourselves to sign off on the instrument specification with a deposit prior to commencement of the build. This ensures definition of your requirements and assists with cost management and projected build period. We recognise that finalisation of the specifications form may require several attempts and discussion of options. Once both parties are clear that the details of the brief have been defined, sign off and deposit signify the confirmation of the commission.

We trust this basic information is a helpful starting point to assist you in completing the attached Specification sheets. Do not hesitate to contact us at the following number and email to discuss your vision for your unique instrument.

This is redefining custom.

Regards

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