

Avian Models for 3D Applications Characters and Texture Mapping by Ken Gilliland

Songbird ReMix Chickens

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Songbird ReMix Chickens

Introduction

Songbird ReMix Chickens includes five of the most popular chicken breeds; the Rhode Island Red, the Orpington, the Leghorn, the Australorp and the Cochin. The domestic Chicken (*Gallus gallus domesticus*) was domesticated from the red junglefowl species found in Southeast Asia 8,000 years ago. They then were partially hybridized with other wild species of junglefowl such as the grey junglefowl, Ceylon junglefowl, and green junglefowl.

Chickens have been domesticated for egg and meat production, although now, also for show and pets.

The chicken base model in this set includes well over 100 morphs and has the ability to create numerous chicken breeds including 5 breeds listed above as well as the Ameraucana, Andalusian, Brahma, Delaware, Dominique, Jersey Giant, and Maran. As with all Songbird ReMix bird models, there's a variety of easy-to-use controls and morphs in a central location which include complex movements such as folding wings automatically, spreading tail feathers, and neck bending.

This set comes with separate versions for DAZ Studio 4.2+ and Poser 11+ and supports Iray, 3Delight, firefly and Superfly Render Engines.

Overview and Use

The set is located within the **Animals : Songbird ReMix** folder. Here is where you will find a number of folders, such as **Bird Library**, **Manuals** and **Resources**. Let's look at what is contained in these folders:

- Bird Library: This folder holds the actual species and poses for the "premade" birds. Birds are placed into a "type" folder (such as "Birds of Prey (Order Falconiformes)" which for example would hold falcons, hawks and eagles). The birds for this set can be found in the following folder(s):
 - Gamebirds (Order Galliformes)
- **Manuals:** Contains a link to the online manual for the set.
- **Props:** Contains any props that might be included in the set
- **Resources:** Items in this folder are for creating and customizing your birds
 - Bird Base Models: This folder has the blank, untextured model(s) used in this set. These models are primarily for users who wish to experiment with poses or customize their own species of bird. When using physical renderers such as Iray and Superfly, SubD should be turned to at least "3". For DAZ Studios 3Delight renders, the SubD must be turned from the "High Resolution" setting to the "Base" setting (otherwise some areas will render incorrectly transparent).

Poser Use

Select **Figures** in the **Runtime** Folder and go to the **Animals : Songbird ReMix** folder. Select the bird from the renderer *Firefly or Superfly*) folder you want and simply click it to load. Some birds in the Songbird ReMix series may load with attached parts (*Conformers*) such as tail or crest extensions. Some of these parts have specific morphs. You will need to click on the attached part to access those controls. Associated poses can be found in the same folder- **Bird Library : (Type) : Poses**.

DAZ Studio Use

Go to the **Animals : Songbird ReMix** folder. Select the bird from the renderer (*3Delight or Iray*) folder you want and simply click it to load. Some birds in the Songbird ReMix series may load with attached parts (*Conformers*) such as tail or crest extensions. Some of these parts have specific morphs. You will need to click on the attached part to access those controls. Associated poses can be found in the same folder- **Bird Library : (Type) : Poses**. <u>Note:</u> Using the "Apply this Character to the currently selected Figure(s)" option **will not** properly apply the correct scaling to the bird selected. It is better to delete the existing character first and load the one you want to use.

Where to find your birds

Type Folder	Bird Species
Gamebirds (Order Galliformes)	All Chicken Breeds

Where to find your poses

Type Folder	For what species?
Gamebirds (Order Galliformes)	All Chicken Breeds

Physical-based Rendering

Iray and **Superfly** requires more CPU and memory horsepower than the legacy renderers because of ray-trace bounces and higher resolution meshes needed for displacement. Poser's **Superfly** renderer will require that the "Min Transparent Bounces" be set to **at least 16** and that the "Max Transparent Bounces" be set to **at least 32** in render settings. Superfly renders may show artifacts in the head area. This is a known Poser issue and may be addressed in the future. Increasing the SubD may minimize this issue.

Posing & Shaping Considerations

This volume has various breeds of chickens, so when using generic poses not every pose will work perfectly with every bird. You may find that often some minor alteration on the stock poses may be warranted.

Here are some of the most common alterations you may need to make:

- Birds will not be flat on the zero plane (ground level) due to the variety of leg sizes and overall scale of the breeds.
- Sometimes artifacts can appear in Physical-based renders (Iray and Superfly). Hiding the transparency places can correct these issues. Some of the transparency planes can be hidden via the "Correction Controls" section.
- In the case of the Australorp, Brahma, Cochin, Delaware, Dominique and Orpington (which are far bulkier than the default chicken). The Wing Fold morph may tuck in the wings a little at their base. Using the Twist dial of the shoulder part will correct this.
- Rooster Tails can vary significantly even in the same breed. In the poses folder, there is a "Partial Poses for Chickens" subfolder. This contains several shape variations on rooster tails.
- Wattles in many poses will probably need to be adjusted depending on the breed. You'll find the dials to so this in "Action Controls / Wattle & Ear Flap Controls"

IK Concerns

Some poses may go askew when IK is turned on. By default, Poser's IK feature is turned off when loading a bird. To turn it on, select the "Figure" category from the main tool bar and "Use Inverse Kinematics" from the submenu.

By default, DAZ Studio's IK feature is turned on when loading a bird. This will cause the thigh and shin rotations change when the character is moved. The **CTRL K** keypress will turn IK on and off in DAZ Studio. IK doesn't work that well in Studio, so I suggest selecting the character in the **Scene tab** and simply deleting the two IK body parts to remove IK.

All About Domestic Chickens

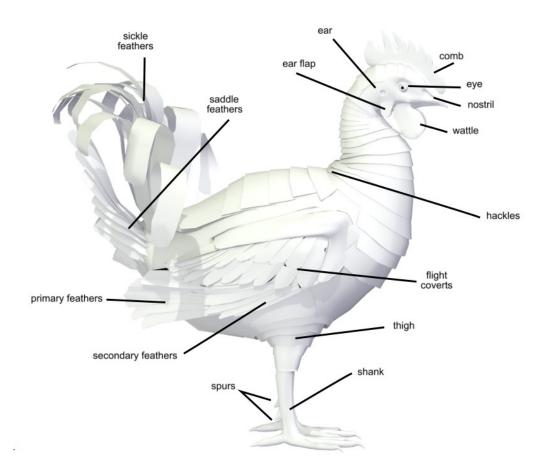
The chicken (*Gallus gallus domesticus*) is a domesticated red junglefowl species that is originally from Southeast Asia. They have also partially hybridized with other wild species of junglefowl (the grey junglefowl, Ceylon junglefowl, and green junglefowl).

- Rooster or Cock are terms for adult male birds. A younger male may be called a Cockerel. A male that has been castrated is a Capon.
- An adult female bird is called a Hen, and a sexually immature female is called a Pullet.
- A Chick is a young chicken of either sex.

Description and Natural History of the Domestic Chicken

Chickens have a squat and rounded appearance. They stand less than 70 cm (27.6 inches) tall and weigh approximately 2.6 kg (5.7 pounds) on average. They are known for their fleshy combs, lobed wattles hanging below the bill, and high-arched tails. With some roosters, the tail can extend more than 30 cm (12 inches) in length.

Chickens breed in the spring and summer months when hens egg laying is stimulated by the longer and warmer stretches of daylight. Farms often use artificial lights placed in chicken coops to trigger a hen's egg laying response



throughout the year. The time between ovulation and egg-laying is approximately 23–26 hours. Subsequent ovulations may occur within an hour after the previous egg was laid, allowing some hens to produce as many as 300 eggs per year.

To initiate courting, some roosters may dance in a circle around or near a hen (a circle dance), often lowering the wing which is closest to the hen. The dance triggers a response in the hen and when she responds to his call, the rooster may mount the hen and proceed with the mating.

Fertilized embryos develop quickly, and chicks hatch approximately 21 days later. Chicks are born covered in down, but they mature quickly, becoming fully feathered after four to five weeks. At about six months, males produce viable sperm, and females produce viable eggs. Members of free-ranging flocks may live for six to eight years under the best conditions. Chickens in captivity have been known to live for up to 30 years.

Social Hierarchy

Each flock of chickens develops a social hierarchy that determines access to food, nesting sites, mates, and other resources. A flock usually includes one dominant adult male, a few subdominant males, and two or more females that are carefully watched over by the dominant male. Social hierarchies in chickens are segregated by sex and manifest as a pecking order, in which individuals of higher social rank may strike out at individuals of lower rank with their beaks (pecking) to ensure access to food and other resources. Altercations, however, may also include pummeling with wings and scratching with claws.

Domestication

According to one early study, a single domestication event of the red junglefowl in present-day Thailand gave rise to the modern chicken with minor transitions separating the modern breeds. The red junglefowl is well adapted to take advantage of the vast quantities of seed produced during the end of the multi-decade bamboo seeding cycle, to boost its own reproduction. In domesticating the chicken, humans took advantage of this predisposition for prolific reproduction of the red junglefowl when exposed to large amounts of food.

Exactly when and where the chicken was domesticated remains a controversial issue. Studies estimate that the chicken was domesticated 8,000 years ago in Southeast Asia and spread to China and India 2,000 to 3,000 years later. Archaeological evidence supports domestic chickens in Southeast Asia well before 6000 BC, China by 6000 BC and India by 2000 BC. A landmark 2020 Nature study that fully sequenced 863 chickens across the world suggests that all domestic chickens originate from a single domestication event of red junglefowl whose present-day distribution is predominantly in southwestern China, northern Thailand and Myanmar. These domesticated chickens spread across Southeast and South Asia where they

interbred with local wild species of junglefowl, forming genetically and geographically distinct groups. Analysis of the most popular commercial breed shows that the White Leghorn breed possesses a mosaic of divergent ancestries inherited from subspecies of red junglefowl.

A word for the domestic chicken, *"manuk*", is part of the reconstructed Proto-Austronesian language, indicating they were domesticated by the Austronesian peoples since ancient times. Chickens, together with dogs and pigs, were carried throughout the entire range of the prehistoric Austronesian maritime migrations to Island Southeast Asia, Micronesia, Island Melanesia, Polynesia, and Madagascar, starting from at least 3000 BC from Taiwan. These chickens might have been introduced during pre-Columbian times to South America via Polynesian seafarers, but evidence for this is still putative.

Middle Eastern chicken remains go back to a little earlier than 2000 BC in Syria. They reached Egypt for purposes of cockfighting about 1400 BC and became widely bred in Egypt around 300 BC.[69] Phoenicians spread chickens along the Mediterranean coasts as far as Iberia. During the Hellenistic period (4th–2nd centuries BC), in the southern Levant, chickens began to be widely domesticated for food. This change occurred at least 100 years before domestication of chickens spread to Europe.

The first pictures of chickens in Europe are found on Corinthian pottery of the 7th century BC.

Chickens reached Europe circa 100 BC. Breeding increased under the Roman Empire and reduced by the Middle Ages. Genetic sequencing of chicken bones from archaeological sites in Europe revealed that in the High Middle Ages chickens became less aggressive and began to lay eggs earlier in the breeding season.

Three possible routes of introduction into Africa around the early first millennium AD could have been through the Egyptian Nile Valley, the East Africa Roman-Greek or Indian trade, or from Carthage and the Berbers, across the Sahara. The earliest known remains are from Mali, Nubia, East Coast, and South Africa and date back to the middle of the first millennium AD.[69]

Domestic chicken in the Americas before Western contact is still an ongoing discussion, but blue-egged chickens, found only in the Americas and Asia, suggest an Asian origin for early American chickens. A lack of data from Thailand, Russia, the Indian subcontinent, Southeast Asia and Sub-Saharan Africa makes it difficult to lay out a clear map of the spread of chickens in these areas; better description and genetic analysis of local breeds threatened by extinction may also help with research into this area

Breeds

There are hundreds of chicken breeds in existence. Domesticated for thousands of years, distinguishable breeds of chicken have been present

since the combined factors of geographical isolation and selection for desired characteristics created regional types with distinct physical and behavioral traits passed on to their offspring.

The physical traits used to distinguish chicken breeds are size, plumage color, comb type, skin color, number of toes, amount of feathering, egg color, and place of origin. They are also roughly divided by primary use, whether for eggs, meat, or ornamental purposes, and with some considered to be dual-purpose. Difference between the sizes of a Brahma Blue rooster and a bantam rooster

In the 21st century, chickens are frequently bred according to predetermined

breed standards set down by governing organizations. The first of such standards was the **British Poultry** Standard, which is still in publication today. Other standards include the Standard of Perfection, the Australian Poultry Standard, and the standard of the American Bantam Association. which deals exclusively with bantam fowl. Only some of the known breeds are included in these publications, and only those breeds are eligible to be shown competitively. There are



additionally a few hybrid strains which are common in the poultry world, especially in large poultry farms. These types are first generation crosses of true breeds. Hybrids do not reliably pass on their features to their offspring, but are highly valued for their producing abilities.

Breed: Rhode Island Red (American)

Description and sexing: The color of the plumage of the traditional Rhode Island red ranges from a lustrous deep red to almost black. The tail is mostly black. The comb is a vivid red, as are the earlobes and wattles. It is commonly a single-comb bird, although some do have the rose-comb. The beak is a reddish horn color. The eyes are a reddish bay. The feet and legs are yellow, and often have some some red on the toes and sides of the shanks. Industrial farm strains may be smaller and paler in color than the old-styled breed.

The Rooster has a larger comb than the hen and is is also a more vibrant red color. His legs are also longer and thicker than the hen. Males also have large spurs (though this doesn't guarantee it is a rooster).

Use: The Rhode Island Red was developed as a dual-purpose breed; to provide both meat and eggs. Since about 1940, it has been selectively bred predominantly for egglaying qualities. The traditional dual-purpose "old-styled" Rhode Island Red lays 200– 300 brown eggs per year, and yields rich-flavored meat.



Breeding History: The Rhode Island Red was bred in Rhode Island and Massachusetts in the second half of the nineteenth century. It was created by the selective breeding of Asian chicken breeds (Cochin, Java, Malay and Shanghai) with the brown Leghorn chicken from Italy. Its iconic deep red plumage is believed to be derived from the Malay breed.

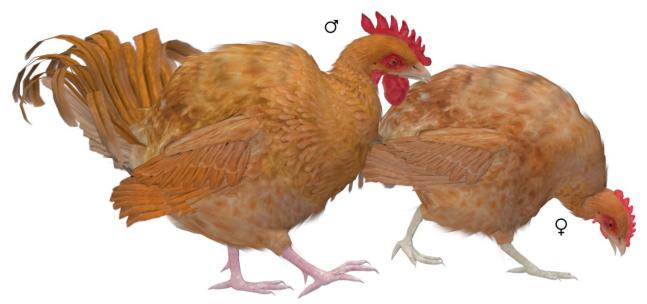
The name of the breed is ascribed either to Isaac Champlin Wilbour of Little Compton or to Mr. Jenny of the Southern Massachusetts Poultry Association around 1880. In 1891, Nathaniel Borden Aldrich exhibited some as "Golden Buffs" in Rhode Island, and in Philadelphia four years later, they were first exhibited under their present name. The first breed standard was drawn up in 1898, and was approved by the American Rhode Island Red Club in Boston in 1901. The single-comb variety was admitted to the Standard of Perfection of the American Poultry Association in 1904 and the rose-comb in 1906.

Cool Facts: Rhode Island Reds were previously also known as "John Macomber fowls" or "Tripp fowls."

Breed: Orpington (Great Britain)

Description and sexing: There are two similar but different standards for Orpingtons. These standards were set by the Poultry Club of Great Britain. The bird should be heavy, have a broad body with a low stance. Its feathers are fluffed-out, making it appear even larger. The down from the body covers most of the legs. Other characteristics of the Orpingtons include a curvy shape with a short back and Ushaped underline, and a small head with a medium single comb.

Its original colors were black, white, buff, blue and splash. Today, the Buff color is the most common.



Use: The Orpington was intended to be a dual-purpose breed, to be reared both for eggs and for meat, but soon became exclusively a show bird.

Breeding History: The Orpington was bred in 1886 by William Cook of Orpington, Kent, in south-east England. The original Orpington was black in color and was created by crossing Minorcas, Langshan and Plymouth Rock breeds to create a new hybrid bird. He reason for selecting the black bird was that would exhibit well-hiding the dirt and soot of London. When the breed was shown in Madison Square Gardens in 1895, its popularity soared.

Cool Facts: They can lay about 175 to 200 medium to large light-brown eggs a year, but were once capable of laying as many as 340. The decline in egg production was due to breed selecting for looks over egg-laying abilities.

William Cook also bred the Orpington Duck.

Breed: Leghorn (Italy)

Description and sexing: Most Leghorns have single combs; a rose comb is permitted in some countries, but not in Italy. Commonly, they are white in color and the legs are bright yellow, and the ear-lobes white. The Italian standard gives a weight range of 2.4–2.7 kg (5.3–6.0 lb) for cocks and 2.0–2.3 kg (4.4–5.1 lb) for hens. According to the British standard, fully grown Leghorn cocks weigh 3.4 kg (7.5 lb) and hens 2.5 kg (5 lb).

In Italy, ten color varieties are recognized. There is a separate Italian standard for the German Leghorn variety called the "Italian". The Fédération Française des volailles (the French poultry federation) divides the breed into four types: the American white, the English white, the old type (golden-salmon) and the modern type, for which seventeen colour variants are listed for full-size birds, and fourteen for bantams. Both the American Poultry Association and the American Bantam Association recognize a number of Leghorn varieties including white, red, black-tailed red, light brown, dark brown, black, buff, Columbian, buff Columbian, barred, and silver. In Britain, the Leghorn Club recognizes eighteen colors: golden duckwing, silver duckwing, partridge, brown, buff, exchequer, Columbian, pyle, white, black, blue, mottled, cuckoo, blue-red, lavender, red, crele, and buff Columbian.



Use: Leghorns are good layers of white eggs, laying an average of 280 per year and sometimes reaching 300–320. White Leghorns have been much used to create highly productive egg-laying hybrids for commercial and industrial operations.

Breeding History: The origins of the Leghorn are not clear, but it appears to derive from breeds originating in rural Tuscany, Italy. The date of the first exports is variously reported as 1828 and they were initially known as "Italians". The name "Leghorns" came about in 1865, in Worcester, Massachusetts.

The Leghorn was included in the American Standard of Perfection in 1874, with three colors: black, white and brown (light and dark). Rose comb light and dark brown variants were added in 1883, and rose comb white in 1886. Single comb buff and silver followed in 1894, and red, black-tailed red, and Columbian in 1929. In 1981 rose comb black, buff, silver, and golden duckwing were added.

The breed was first introduced to Britain from the United States in 1870, and from there re-exported to Italy. White Leghorns that had won first prize at the 1868 New York Show were imported to Britain in 1870, and brown Leghorns from 1872. These birds were small, not exceeding 1.6 kg in weight; weight was increased by crossbreeding with Minorca and Malay stock. Pyle Leghorns were first bred in Britain in the 1880s; gold and silver duckwings originated there a few years later, from crosses with Phoenix or Japanese Yokohama birds. Buff Leghorns were first seen in Denmark in 1885, and in England in 1888.

Cool Facts: The name comes from "Leghorn", the simplified English language version of the Tuscan port from which the first birds were exported to North America, Livorno.

Breed: Australorp (Austrailia)

Description and sexing: The Australorp is similar to the Orpington and the breed has both bantam and standard sized birds. It has three recognized colors according to the Australian Poultry Standard: black, white and blue. White Australorps have been recorded since 1949 but they were only recognized in the second edition of the Australian Poultry Standards in 2011. The Poultry Club South Africa recognizes four further colors: buff, splash, wheaten laced and golden.

Use: This breed was created with a focus on egg laying and is famous for laying more than 300 light brown eggs per year. It achieved world-wide popularity in the 1920s after the breed broke numerous world records for number of eggs laid and has been a popular breed in the western world since.



Breeding History: The original stock used in the development of the Australorp was imported to Australia from England out of the Black Orpington yards of William Cook and Joseph Partington in the period from 1890 to the early 1900s with Rhode Island Red. Local breeders used this stock together with judicious out-crossings of Minorca, White Leghorn and Langshan blood to improve the utility features of the imported Orpingtons. There is even a report of some Plymouth Rock blood also being used. The emphasis of the early breeders was on utility features. At this time, the resulting birds were known as Australian Black Orpingtons (Austral-orp).

The origin of the name "Australorp" seems to be shrouded in as much controversy as the attempts to obtain agreement between the States over a suitable national Standard. The earliest claim to the name was made by one of poultry fancy's institutions, Wiliam Wallace Scott, before the First World War. From 1925 Wal Scott set to work to have Australorp recognised as a breed with the Poultry Society as he developed the breed. Equally as persuasive a claim came in 1919 from Arthur Harwood who suggested that the "Australian Laying Orpingtons" be named "Australs". The letters "orp" were suggested as a suffix to denote the major breed in the fowl's development. A further overseas claim to the name came from Britain's W. Powell-Owen who drafted the British Standard for the breed in 1921 following the importation of the "Australian Utility Black Orpingtons." It is certain that the name "Australorp" was being used in the early 1920s when the breed was launched internationally. In 1929, the Australorp was admitted to the Standard of Perfection.

Cool Facts: The Australop is the most popular of the eight breeds of chicken created in Australia. A new world record was set when an Australop hen laid 364 eggs in 365 days.

Breed: Cochin (China)

Description and sexing: The most distinctive feature of the Cochin is the excessive plumage that covers leg and foot. The skin beneath the feathers is yellow. The comb is a vivid red, as are the earlobes and wattles. It is a single-comb bird. Most Poultry Associations recognize 9 colors for adult birds. The colors are: barred, black, blue, brown, buff, golden-laced, partridge, silver-laced, and white. Bantams have significantly more color variations.

Use: The Cochin has been bred principally for exhibition, at the expense of productive characteristics. It is a good layer of very large tinted eggs, and lays well in winter. The meat tends to be coarse in texture and excessively dark. Capons slaughtered at an age of 12–16 months and can provide a good large table bird.



Breeding History: The Cochin derives itself from very large feather-legged chickens brought from China to Europe and North America in the 1840s and 1850s. These were at first known as "Shanghai" birds, and later called "Cochin-Chinas". Its large size and striking appearance contributed to a sudden large increase of interest in poultry-breeding in Western countries.

The Cochin was included in the first edition of the "Standard of Excellence in Exhibition Poultry", prepared by William Bernhardt Tegetmeier for the first Poultry Club of Great Britain in 1865. The Cochin, both full-sized and bantam, was included in the first edition of the Standard of Excellence of the American Poultry Association in 1874. The original colors were white, partridge, buff and black. Other colors were later added.

Cool Facts: Cochin hens are considered "good egg sitters" and are often used to incubate turkey and duck eggs as well as their own.

Special Thanks to my Beta-Testing Team...

Alisa & FlintHawk

Species Accuracy and Reference Materials

The author has tried to make these species as accurate to their real life counterparts as possible. With the use of one generic model to create dozens of unique bird species, some give and take is bound to occur. In addition, chickens vary considerably, even within their own breeds-- there can be dozens of color and size variations. The author has selected the most iconic coloring of each breed from with set. The texture maps were created in Painter with as much accuracy as possible.

Field Guide Sources:

- Wikipedia https://en.wikipedia.org
- Learn Poultry <u>https://learnpoultry.com</u>
- Know Your Chickens <u>https://www.knowyourchickens.com</u>



