

- What kind of image is each company promoting?
- Who do you think might be the potential customers of each company?

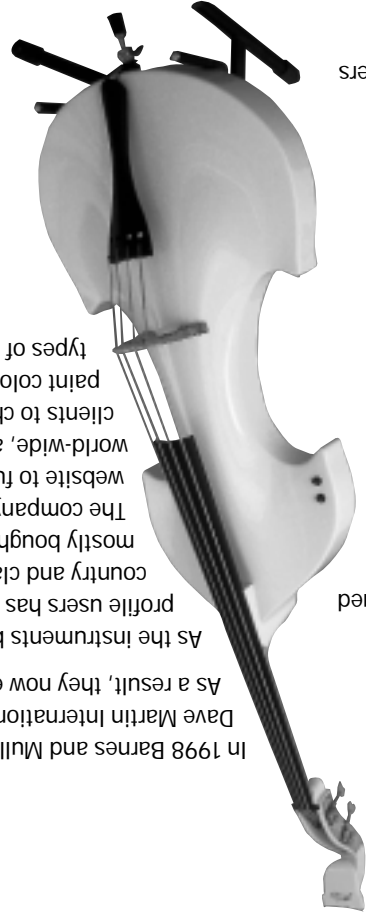
Look at the Bridge Instruments website at www.bridgeinstruments.com and then at another violin retailers, e.g. Derek Roberts Violins, at www.violins.demon.co.uk

research

Bridge Instruments was originally formed in 1995. Their first production models were shown at the British Music Fair in London and were well received by both trade buyers and musicians. Once interest had been established, Bridge continued to display their instruments at a wide range of exhibition venues. At one of these, they met Mark Knight, a player of classical, jazz, folk and rock and he became their demonstrator at exhibitions. The company recognised the need to attract high profile names to use their instruments.

3 how they are sold

In 1998 Barnes and Mullins became their UK distributor and Dave Martin International became their overseas sales agent. As a result, they now export widely. As the instruments become well known, so the list of high profile users has grown, to include jazz, folk, rock, blues, country and classical musicians. The instruments are mostly bought by professional musicians. The company has recently started their own website to further advertise and sell their products world-wide, and operate a 'custom shop', enabling clients to choose particular headstocks, fittings, paint colours and finishes, set up and different types of strings.



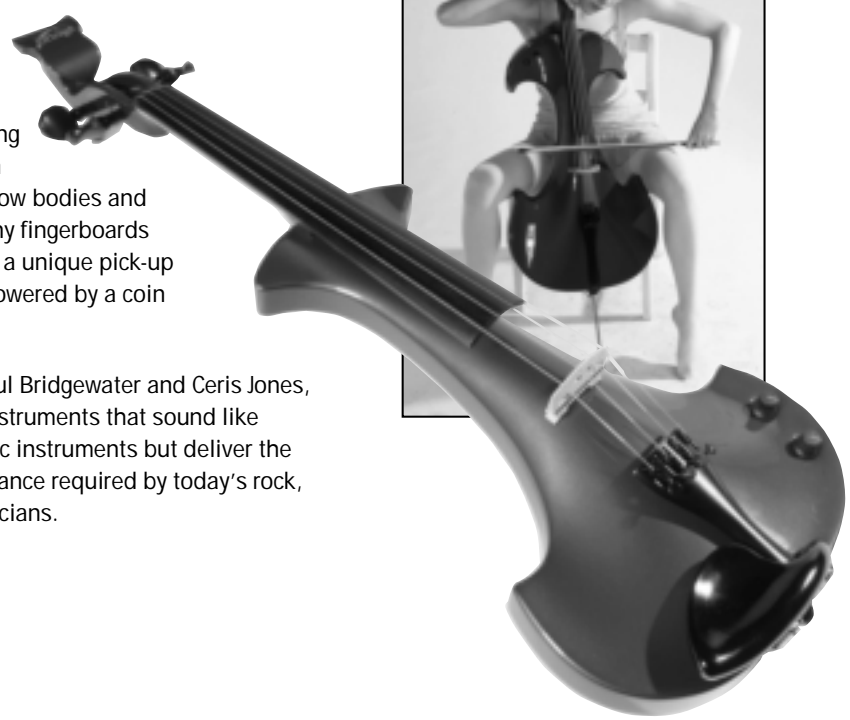
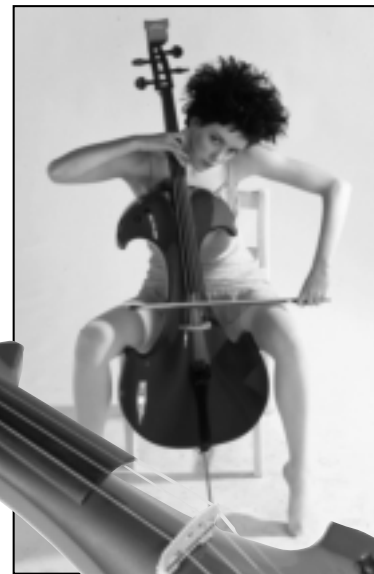
cs 11 bridge instruments

Bridge Instruments design and make electric violins, cellos and basses. Their innovative designs are based on the characteristic shapes of traditional instruments, but are manufactured using a wide range of materials, with modern kevlar and carbon-fibre composite hollow bodies and more traditional maple necks and ebony fingerboards and pegs. The instruments incorporate a unique pick-up system in the bridge and electronics powered by a coin cell battery.

The designers, Paul Bridgewater and Ceris Jones, set out to make instruments that sound like traditional acoustic instruments but deliver the amplified performance required by today's rock, folk and jazz musicians.



CASE STUDY



1 how they are made

Each instrument is handmade, most of the work taking place at the Bridge workshop in Sleaford, Lincolnshire. Some processes are carried out off-site by local companies.

The main stages of violin assembly include the following:

The bodies are cold-moulded off-site using 3 different fibres: kevlar, carbon and glass-fibre, and then brought to the workshop to be hand-finished.

The maple wood necks are machined to their initial shape in Germany. They are hand-finished in the workshop to a design based on a Stradivarius violin, before being glued to the body.

The violins are finished using paints and lacquers that adhere to both the wood and the resin materials used.

The traditional parts of the violins, the ebony fingerboard and pegs, are bought in and fitted using precision measuring and cutting tools.

The tailpiece, to support the end of the strings, is made of light alloy.

The bridge is made of wood. The top part is cut by machine to a traditional violin pattern to support the strings. The bottom is cut to house the pick-up.

Steel strings are fitted.

Finally, the electronics are connected, to join the pick-up and controls to a centrally mounted printed circuit board.

activity

For a musical instrument at home or at school find out:

- the name of the manufacturer
- where it was made
- the materials used in its construction.

2 how they perform

The violins are powered by a coin cell lithium battery providing 1000 hours playing time, and the cellos and base by a 9v battery, providing 3000 hours playing time. All have volume and tone controls, and operate via a 6mm jack connected to an amplifier.

The hollow body shape is strengthened by internal fins. The pick-up responds to the resonance of the body and the vibrations of the strings to give the instruments their distinctly acoustic sound, like that of a traditional violin or cello, rather than the sound associated with a synthesiser.

The violins are made in both 4 and 5 string versions. Normally, a violin is tuned to G, D, A and E and a viola to C, G, D and A. The bridge 5 string violin is tuned to C, G, D, A and E, allowing the violinist to play a C and therefore a bigger repertoire.

The instruments are used by a wide range of performers. In 'Riverdance', for example, Mairin Fahy plays a Bridge violin - 'Since I got my Bridge fiddle, I use it every night for the Riverdance gig. I'm delighted with it!' Jon Sevink of 'The Levellers' worked with Bridge for over 9 months developing the sound he was looking for - 'What I would call the first real electric violin on the market, from the start I was impressed we were working with a resonant hollow body'.

4 & 5 STRING VIOLIN TECHNICAL DETAIL	
MOULDED KEVLAR CARBON COMPOSITE BODY	
MAPLE NECK AND STYLISED HEAD	
TRADITIONAL EBONY PEG FITTINGS	
THOMASTIC STRINGS	
TUNER TAILPIECE	
EBONY FINGERBOARD AND NUT	
BODY LENGTH	
NECK STOP	358mm
BODY STOP	130mm
NUT WIDTH	195mm
STRING SPACINGS AT BRIDGE	4 STRING 24mm 5 STRING 27mm
STRING TUNINGS	4 STRING 34mm 5 STRING 38mm
'BRIDGE' PICK UP	4 STRING G D A E 5 STRING C G D A E
VOLUME AND TONE CONTROLS	PIEZO CONFIGURATION
OUTPUT VIA QUARTER INCH JACK SOCKET	
ACTIVE, SURFACE MOUNT PRE AMP	
INSTRUMENT OUTPUT	
LOAD RESISTANCE	200MV NOMINAL
BATTERY	10 Kohms MINIMUM
BATTERY LIFE PLAYING TIME	LITHIUM 3V CR2032
CUSTOM SHOP FACILITIES	APPROX 1000 HOURS

activity

Experiment by stretching a range of elastic bands across a small open box and listening to the sound quality produced

- Describe the different sounds that are produced
- Which rubber bands provide the highest notes?
- Is there a connection between the pitch and the type of rubber band used?

