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<th>Version</th>
<th>Date</th>
<th>On line</th>
<th>Updates</th>
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<td>V0.0</td>
<td>Aug. 2007</td>
<td>yes</td>
<td>Creation</td>
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<td>Oct. 2007</td>
<td>yes</td>
<td>Organology &amp; Neck assembly sheet</td>
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<td>V2.0</td>
<td>May. 2008</td>
<td>yes</td>
<td>Biblio update + advices by <a href="http://www.Khalafoud.com">www.Khalafoud.com</a></td>
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<td>V3.0</td>
<td>Apr. 2009</td>
<td>yes</td>
<td>Biblio update + turkish design making of</td>
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<td>V4.0</td>
<td>Mar. 2011</td>
<td>yes</td>
<td>Hatch soundbox</td>
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<td>V5.0</td>
<td>Mar. 2012</td>
<td>yes</td>
<td>Maker Pourshaghaghi, Iran</td>
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<td>V6.0</td>
<td>Jun. 2012</td>
<td>yes</td>
<td>Maker Nehmeh, Lebanon</td>
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Mashreki name of the components, according to syrian-born lutenist Seifedin Shehadeh ABDOUN
Malay name of the components, according to Larry Francis HILARIAN

- fingerboard / Leher
- beak / Kepala
- pegs / Telinga
- neck / Leher
- shoulder / bahu
- small rose / Lubang bunyi
- chest, soundboard / Muka (face)
- bridge / Gertak
- body, soundbox / Badan
DRAWING THE RIBS

Rib Masters of the lutemaker ASHARI, Bandar Qeshm, Hormuz straits.

SOUNDBOARD RIBS

Left: Patterns of the Lutemaker ASHARI, bazar Ferdowsi, Bandar Qeshm, Hormuz Straits

Right: clamping ribs on the pattern, by amateur homebuilt makers in Europe.
ASHARI used to cut the shaped ribs with an electrical cutter. Lutemaker ASHARI, bazar Ferdowsi, Bandar Qeshm, Hormuz Straits.

SHAPING THE RIBS

Left: An alternate technic is observed in Europe. Ribs are ironed after bath, then bended on the pattern by clamps or nails.

Right: ASHARI manufactured this shape pattern/heater. Each wet rib is shaped after 45 minutes. Lutemaker ASHARI, bazar Ferdowsi, Bandar Qeshm, Hormuz Straits.
Soundboard pattern. The usual technic consists in assembling each rib with a clamp.
Oud soundbox pattern. Thanks to his efficient shaper / heater, Lutemaker "ASHARI doesn’t use any clamp.

Assembly of the ribs. Maker ASHARI, Qeshm Isl.
Polishing the ribs after glued.

Toolbox of Maket Dursun Ali NISADIR, Unkapani, Istanbul Turkey.
For the hatch back ud body, the back of the oud is machined from plain wood with a 5 axis digital machinery. Lutemaker Inan KARAKIS, Tunel, Beyoglu, Istanbul.
The soundboard is made of two glued ribs of pinewood. Maker Dursun Ali NISADIR, Istambul, Turkey.
The soundboard is polished so that thickness doesn't exceed 2 mm. Dursun Ali NISADIR, Istanbul, Turkey.
Glued ribs are spaced and strengthen the soundboard. (www.khalafoud.com)

Clamps are needed, so that the inner ribs to be glued tightly. (www.khalafoud.com)
Shaping the soundboard (*Kumethra* variant, maker Mofid Nehmeh, Lebanon)

Strengthening a soundboard (*Kumethra* variant, maker Mofid Nehmeh, Lebanon)
Strengthening the soundboard with pinewood bars, according to ASHARI. Free area dimensions around string holder are very important for acoustic rendering.
Strengthening the soundboard with pinewood bars, according to Dursun Ali NISADIR, Istanbul, Turkey. Former advices by ASHARI in the holder area are not applied here.
Assemblying the Neck. Lutemaker in Doha, Qatar.
ASSEMBLING PEGBOX WITH NECK (1)

Cutting the Neck Head. Flat variant of the dovetail from Iran (maker POURSHAGHAGHI, Iran).

Cutting the Neck Head. Flat variant of the dovetail from Iran (maker POURSHAGHAGHI, Iran).
In this variant: the main thin beam is the guideline of the pegbox on the neck (www.khalafoud.com)

In this variant: the pegbox is glued on the neck (www.khalafoud.com)
ASSEMBLING PEGBOX WITH NECK (3)

Assemblying the pegbox on Neck. Flat variant of the dovetail from Iran (maker POURSHAGHAGHI, Iran).

Adjusting the peg holes with a conical gauge (maker POURSHAGHAGHI, Iran).
Assembling the Neck. Cylindrical variant of the dovetail from San’a, Yemen.

Thin variant of the dovetail. The main board is inserted in the central groove. (www.khalafoud.com)
Wooden incrustations are made by inserting glued layers of rose wood and pine wood. Maker Dursun Ali NISADIR, Deniz Müzik, Unkapani, İstambul, Turkey
Design patterns for fingerboard. Maker uses to shape a pallssander wood made fingerboard, and this is adjusted then on the neck.

Maker Dursun Ali NISADIR, Deniz Müzik, Unkapani, Istambul, Turkey
NECK ASSEMBLY

Assemblying the Neck (glued dovetail). (www.khalafoud.com)
Shaping the Neck dovetail according the geometry of the soundbox. Maker POUHAGHAGHI, Iran.
Adjusting the Neck on the soundbox. Maker POUSHAGHAGHI, Iran.
Adjusting the Neck dovetail. Maker Mofid NEHMEH, Lebanon.
Assemblying the Neck (glued dovetail). The picture shows off the step for soundboard.

Maker Dursun Ali NISADIR, Deniz Müzik, Unkapani, Istanbul, Turkey
ASSEMBLING NECK WITH BODY (6)

Original handmade fixture. (www.khalafoud.com)

Assemblying the Neck with clamp. Lutemaker in Doha, Qatar.
ASSEMBLING NECK WITH BODY (7)

Maker is adjusting the gap between neck and body (Maker POURSHAGHAGHI, Iran)
STRENGTHENING THE BODY – VARIANT OF KUMETHRA(1)

Strengthening a *Kumethra*-like body (Maker NEHMEH, Lebanon)
Lutemaker ASHARI, Qeshm Isl, Hormuzgan, Iran.
Adjusting sound board on body. (Maker Dursun Ali NISADIR, Deniz Müzik, Unkapani, Istambul, Turkey.)
Adjusting a rose wood made fingerboard on the neck  
(Maker Mofid Nehmeh, Lebanon).

Adjusting sound board on body .  
(Maker Mofid Nehmeh, Lebanon).
FINISHING THE SOUNBOARD (1)

Glued ornamentations occult the glue seal. (www.khalafoud.com)
Drilling the string holder. Maker POURSAGHAGHI, Iran.

FINISHING THE SOUNBOARD (2)

Shaping the rose by string-like saw. Maker POURSAGHAGHI, Iran

Ironing the finisher. (www.khalafoud.com)
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Nisadir, Dursun Ali, interview, lutemaker, Deniz Müzik, Unlu Is Merkezi, Atatürk Bulvari, Unkapani, Istambul, Turkey, 2009

Poushaghaghi, M. weblog, lutemaker, Tehran, Iran, 2011