The LM Ericsson model N°380 – Biscuit Barrel

The Replica – In *Telephonetalk* Chapter 18, we have seen an interpretation of various terms for non-genuine telephones. The ***Replica*** is defined as "an exact copy that is not the original; something that has been copied – not necessarily meant to deceive."

This particular replica has been built using genuine LM Ericsson components retrieved from more common telephones and from various collector's/supplier's spare parts bins and after ***thoroughly examining a complete telephone***. The other parts have been made in accordance with the dimensions of the genuine article.

The finished item.

Building the telephone is a reasonably straightforward task for the handy person. The most challenging part is wiring the phone to the original circuit diagram. Obviously obtaining some the various parts can take time because they are not common, so some hunting will be needed.

- ***Genuine Parts***
  - The **generator** is the same size and mechanical construction as those found in the LM Ericsson Field phone. This is usually found in a leather protective bag. The horseshoe magnets though have a "flat" section on the top and they need to be replaced.

- The **bell motor** is the same size as that found in the ??????????
- The **turret/handset cradle** is the same as that found on the Skeleton
- The **handset** is available from a number of different sources and they are regularly seen "for sale" through Collector Club newsletters and other suppliers.
- Genuine **Bell gongs** (and brackets) are difficult to obtain, but reproductions are available.
- **Button feet** are the same as the Skeleton. Reproductions are available through Collector Club newsletters and other suppliers.
- **Miscellaneous screws,** nuts and bolts etc are available through Collector Club newsletters and other suppliers.

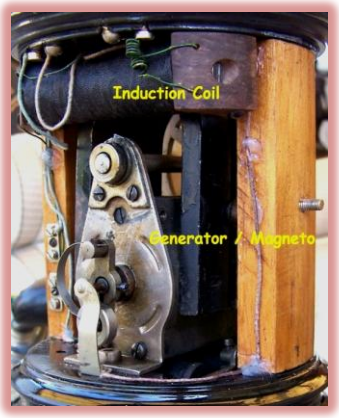
- ***Manufactured Parts***
  - The **timberwork** of the same dimensions as the genuine article.
  - The curved **metal covers** have been manufactured to the same dimensions as the genuine article.
  - The **induction coil** is a shape that is unique to the Skeleton so it has to be manufactured.
  - The **bell gongs and brackets** are available through Collector Club newsletters and other suppliers. —>

- The special shaped **dome nuts** that retain the curved metal covers in place are available through Collector Club newsletters and other suppliers.

Before painting or French polishing, drill all holes for wiring connectors on the wooden top and base plus the vertical pieces. Also make sure the curved metal covers fit neatly and the generator handle hole lines up correctly. The retaining screws for the curved metal covers hold via four semi-circular cut-outs in the covers. When the covers are wrapped around the body, these cutouts meet to form a raised mounting hole that looks somewhat like an inverted countersink depression. The maker of the covers would usually create these cutouts.
Then remove all of the contacts etc in preparation for painting.
Leave the finished painted articles for at least a week to allow them to thoroughly cure before assembly.

Ideally, before attempting the project, thoroughly examine a complete telephone – preferably an original if at all possible. Pay special attention to the track followed by the wires. Like a number of telephones of a similar era, there is no wiring "loom" and the individual wires are simply bent around inside the telephone following the (unsupported) shortest route between the relevant components. Small dabs of wax for the traditionalist (or even silicon) can be used to hold any wires that don't want to stay in place.

Assembly sequence is as follows –



1. Fit the bell motor inside the painted timber base —>
2. Fit the brass turret
3. Fit the contact pile into the timber top. —>
4. Fit the generator and its' slipping contact post onto the painted timber base and over the bell motor. —>
5. Screw all of the wiring terminals into place on the top, base, and the vertical timber supports.
6. Fit the induction coil —>
7. Fit the bell gongs, brackets and button feet onto the base
8. Next is the wiring using the diagram shown on the last page of this update document. Please, please use silk/cotton covered wiring, anything else will be an affront to the effort that is needed to build this phone.
9. Then apply reproduction water slide transfers to the black painted metal covers. These transfers have been found to be excellent quality but some of the colour needs help to achieve the Golden tint that the ornate line work has in a genuine antique phone. Somewhere between 10 and 20 coats of (unbleached) shellac will achieve the desired effect and at the same time provide a strong protective coating for the transfers.

Nickel plating – for more detail, see Chapter 21

The existing finishes should be cleaned and a brilliant shine achieved where possible. The initial cleaning is best using a fine grade steel wool. After cleaning, a cotton buffing wheel using "Green Chrome" or similar polishing compound will usually restore a brilliant shine. Alternatively, if a buffing wheel isn't available, polish with an auto cutting compound no 2.

If the Nickel plating is very poor, it may need to be replated as described in Chapter 23.

Painting –

This is very straightforward and has been explained previously but very briefly, common commercially available spray cans can be used. Only gloss black is required.
The curved metal covers and the top and bottom timber parts should be sprayed with gloss black. The vertical timber strips that house a number of the line connectors are French polished using unbleached shellac.

Transfers –

Excellent quality reproduction transfers are available and can be carefuly fitted to the metal covers. —>
After applying the transfers and removing all bubbles, allow to dry thoroughly and then apply protective coats of shellac.

Handset Restoration –

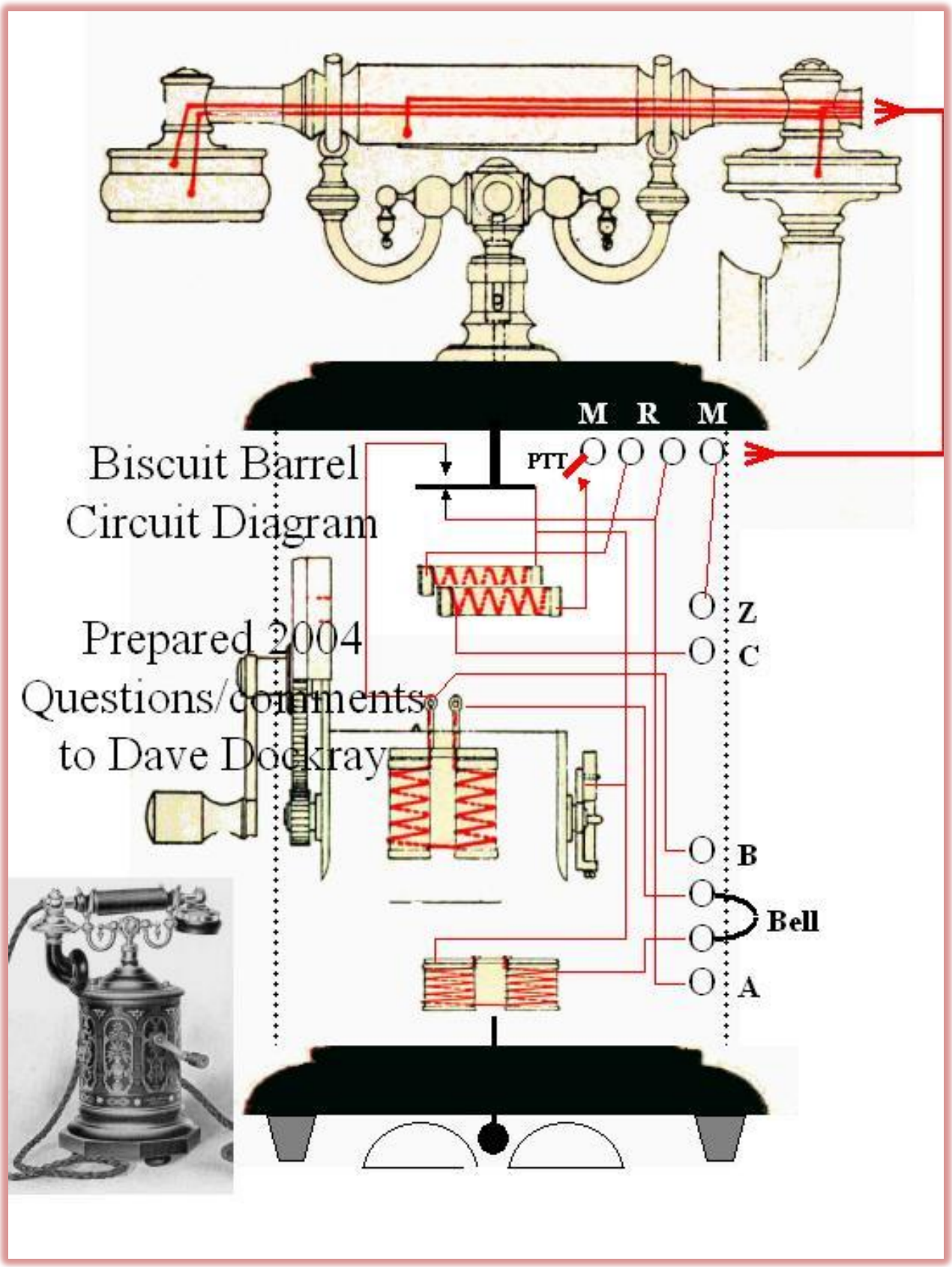
Handsets can be quite a challenge, particularly when the cord has to be removed and also when the transmitter has to be dismantled. Unfortunately if the handgrip is damaged and needs repair or replacement, then it will need to be dismantled. Unless repairs are needed to the transmitter though, it may be able to be left assembled and just removed with the module intact – this removes the need to dismantle the module and possibly lose some carbon granules, or more likely break the very fragile carbon diaphram.

Handset Disassembly –

1. Firstly, remove the mouthpiece horn and store it somewhere safe because they are very fragile.
2. Disconnect the two receiver wires by removal of the fixing nuts.
3. The receiver module can then be removed by unscrewing the retaining nut
4. Similarly the transmitter module can be removed by unscrewing its' retaining nut. There will be a second nut inside that holds a wiring connection to the centre post on the transmitter.
5. Remove the press switch from the handgrip. When the retaining screw is removed, another screw that holds a wire connection will be fund underneath the switch lever.
6. The remaining screws can be removed from the handgrip and the components can then be separated for repairs.

Handset Repair –

Repairs are then carried out using the same principles outlined for similar materials ie Bakelite, Nickel plating, brass etc. Reproduction parts are available for those common breakages of transmitter horn and handgrip.
Caution is needed when reinserting the transmitter and receiver end tubes into the handgrip. If it is a tight fit, carefully file out the inside of the handgrip with a "rat tail" (round) file. This will reduce the risk of the Bakelite handgrip breaking due to excess pressure, where it narrows at its' ends.



Circuit diagram

Check the links page of my web www.telephonetalk.com.au for parts/transfers