Parroċċa Santa Marija
Qrendi

Lill-Eċċellenza Tiegħu Reverendissima
Mons. Charles J. Scicluna
Arċisqof Metropolita ta' Malta

138/2025

Rikors ta' Dun Mario Said
Kappillan tal-Parroċċa tal-Qrendi
2164 9395 / 7957 4849

29 ta' April 2025

Jesponi bir-rispett,

Illi saret evalwazzjoni fuq iż-żewġ qniepen żgħar li jinsabu fil-kampnar tal-knisja parrokkjali mill-Kampanoloġista Kennetch Cauchi. Rapport dettaljat qiegħed jintbagħat ma' dan ir-rikors.

Illi skond il-kampanoloġista, dawn il-qniepen huma stunati u ma jidhirx li hemm possibilta li dawn jistgħu jitranġaw. Għalhekk qedgħin naraw li jkun aħjar jekk jinxtraw oħrajn ġodda.

Illi madankollu, l-qniepen preżenti jibqgħu mwaħħla fil-kampnar u jintużaw għad-daqq tal-arloġġ tal-ħin.

Illi l-ispiża għal dawn il-qniepen hija ta' ħamsa u għoxrin elf euro (€25,000) il-waħda, liema spejjeż se jiġu assorbiti minn żewġ benefatturi li jixtiequ jħallsu qanpiena kull wieħed bil-premessa li dawn jagħtu isem lill-qanpiena, liema isem għandu jiġi mnaqqax fuqha.

Għaldaqstant it-talba tar-Reverendu Kappillan rikorrenti hija li l-Eċċellenza Tiegħek Rev.ma tawtorizzah sabiex ikun jista' jimplimenta x-xiri ta' dawn iż-żewġ qniepen żgħar sabiex flimkien mal-kumplament tal-qniepen l-oħra, jipproduċu l-armonija li wieħed jistenna fil-kampnar tal-knisja parrokkjali.

Preżentat fil-Kurja Arċiveskovili
Illum 30 t'April 2025
Charlene Bezzina, Kanċellier

Nitlob il-Barka Pastorali Tiegħek,

Dun Mario Said
Kappillan

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Tel: 2164 9395 • Imejl: parrocca.qrendi@maltadiocese.org

ROYALEIJSBOUTS
ANNO 1872

Proposal for two bells with crown and 4 steel forged clappers for Qrendi church, Malta

The question was raised to replace the two bells C2 and E2 by two new bells to form an harmonic ensemble of bells.

Tuning analysis of the four existent bells

Given the historical relevance of the existing bells, in order to perform a well-informed intervention on the peal, we found appropriate to do analyse not only bell 1 (made by the Trigance brothers in 1788) and bell 2 (made by Gioacchino Trigance in 1796), but also Bell 3 made by Antonio Guierra in 1660 and Bell 4 from the year 1840.[1]

Figure 1 shows the tuning deviations in cents from the equal temperament tuning based on the reference pitch A_1=440Hz for the 4 existent bells.

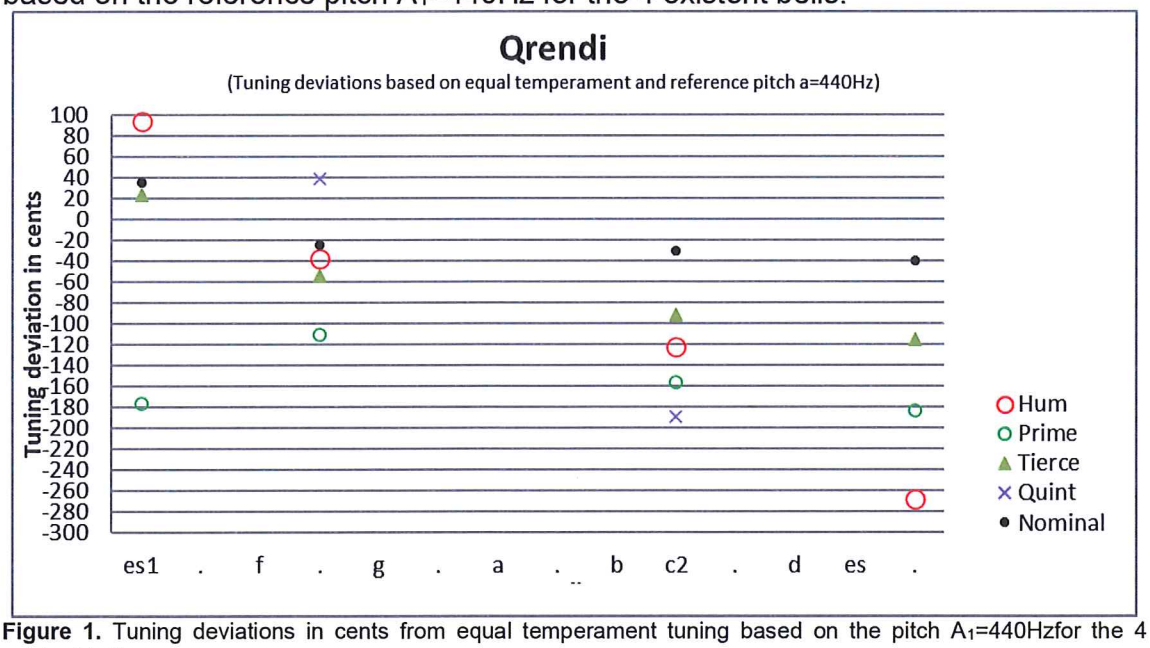

Figure 1. Tuning deviations in cents from equal temperament tuning based on the pitch A_1=440Hzfor the 4 existent bells.

If the bells were perfectly tuned in the equal temperament with reference pitch a^1 = 440Hz, all the dots representing the tuning deviations of the bell partials on Figure 1 would lay on 0 cents and the tuning of all bells would form a perfect horizontal line across the complete range. As we can see on Figure 1 this is far from being the case, with a large tuning dispersion reaching over 250 cents of tuning deviations in some cases. Taking into account that 100 cents corresponds to one semitone, that would mean that some partials have over two semitones of tuning deviation.

[1] Information provided by the campanologist Kenneth Cauchi.

Koninklijke Eijsbouts Klokkengieterij en fabriek van torenuurwerken B.V. / **Royal Eijsbouts** Bellfounders and tower clockmakers
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ING Bank 673863670, IBAN: NL65 INGB 0673 8636 70, BIC: INGBNL2AXXX, K.v.K. Eindhoven 17036972, VAT no NL003382035B01

Bell 3 (c2) and bell 4 (e2) show a particularly large tuning dispersion among all partials which contributes for their poor musical qualities.
Bell 1 has also large tuning deviations, namely for the important partials, Hum and Prime, and the strike note is an Es1 +36 cents.
Bell 2 (fis1) is the most harmonic bell of the set, and despite the partial Prime being very low (-96 cents relatively to the strike note), the partials Hum, Tierce and Nominal are reasonably in tune with maximum tuning deviations of less than 30 cents. The strike note of Bell 2 is Fis1 -24 cents.

Proposal for the two new bells

Bellow we present a proposal for two new bells in order to create a musical in combination with Bell 1 and Bell 2.
In order to keep the character of the peal, both visually and sonorously, we propose to use geometrical profile and tonal structure for the new bells, similar to the existent bells. Once bell 2, made by Gioachino Trigance is the most harmonical of the existent bells, we propose to use it as a reference for the new bells.
Because the strike note of bell 1 and bell 2 Es1 +36 cents and Fis1 -24 cents, we propose the musical notes As2 +6 cents and Bes2 +6 cents for the new bells, in order to compromise with the tuning of the existent bells.
Figure 2 shows the tuning deviations in cents from bell 1 and bell 2 and the tuning proposal for the two new bells.

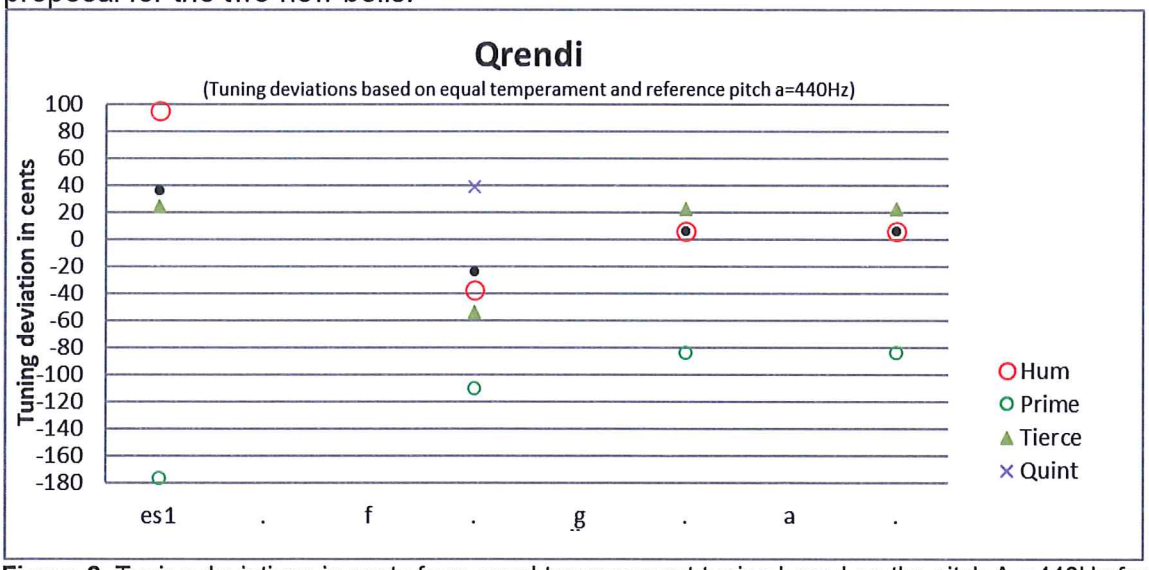

Figure 2. Tuning deviations in cents from equal temperament tuning based on the pitch A_1=440Hz for bell 1 and bell 2 and the tuning proposal for the two new bells.

ROYALEIJSBOUTS
ANNO 1872

Table 1 shows the tuning deviations in cents from bell 1 and bell 2 and the tuning proposal for the two new bells.

Bell	Strike note	Hum	Prime	Tierce	Quint	Nominal
1	Es1	95	-176	24		36
	E					
	F					
2	Fis	-37	-110	-54	39	-24
	G					
New	As	6	-86	22		6
	A					
New	Bes	6	-86	22		6

Table 1. Figure 2. Tuning deviations in cents from equal temperament tuning based on the pitch A_1=440Hz for bell 1 and bell 2 and the tuning proposal for the two new bells.

Taking as reference the strike note, for the new bells we propose to improve slightly the harmonical relation between the partial Hum and Nominal tuning them 2 octaves apart, and to tune the partial Tierce as a perfect minor third relatively to the nominal (i.e. 16 cents above the nominal). Given that all the existent 4 bells from the peal have a very low Prime, we propose to keep the Prime also low for the new bells in order to keep the character of the peal.

In Table 2 we can see the estimated diameters and weights for the new bells.

Bell	Strike note	Diameter (mm)	Weight (Kg)
1	Es1	1270	1346
2	Fis1	1090	805
New	As1	954	545
New	Bes1	850	385

Quotation:

1. Two swinging bells notes As1 and Bes 1 with steel forged clappers.

The bells shall be cast from eminent bell bronze, consisting of at least 20% tin, 0.5% lead in maximum and other impurities 1% in maximum (zinc, antimony, iron etc.), with the balance copper. The bells shall have a beautiful smooth, bright polished finish that shows off the purity of the casting and the high quality bell bronze. This also includes those parts of the bells having (optional) raised letter inscriptions, (optional) purchasers logo en relief, and standard decorations.

ROYALEIJSBOUTS
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Bells will have an Eijsbouts crown as shown.
The dimensions and notes of the bell will be:

Tone	Swinging bell with crown and steel forged clapper	
	diam (mm)	weight (kg)
As1	945	545
Bes1	850	385

2. Two new steel forged swinging clappers for existing bells Es1 and Fis1 Including suspension plates

Price for the above CIF delivered Valletta: EURO 49.980,--

Optional prices: Inscriptions: € 3,00 per character
Casting of a logo (we need to receive a high resolution picture in order to create the mould): €250,- each

General Conditions

- The bell is guaranteed for **10 years**, and the construction parts for two years, in normal use.
- Royal Eijsbouts agrees to be as flexible as possible to meet the construction schedule of the client. In mutual consultation, a timetable will be specified for fabrication, shipping. The delivery time ex works will be approximately 13 weeks.
- The terms of payment are 40% downpayment, and 60% before shipping.
- Prices are CIF harbour Valletta.
- Prices are valid for a period of 3 months from the date of submission 03-03-2025.

Yours sincerely,

Henk van Blooijs

Royal Eijsbouts

Il-Kurja tal-Arċisqof
P.O. Box 1,
Il-Furjana FRN 1520.
MALTA.

138/2025

DIGRIET

Lis-Segretarju Amministrattiv, lill-Vigarju Episkopali għall-Koordinament Pastorali, lill-Kummissjoni Patrimonju Kulturali Kattoliku biex jirrelataw.

Mogħti fil-Kurja Arċiveskovili ta' Malta, il-Furjana, illum 30 t'April 2025.

Fr. Charles Bugeja

Charles Bugeja
Kanċillier

+ Joseph Galea Curmi

✠ Joseph Galea Curmi
Isqof tit. ta' Cebarades
Vigarju Ġenerali