



# Catch Coquelet-8 Before It's Too Late

This month's column continues our focus on increasingly complex HF digital transmission systems with a look at Coquelet-8 and its two chief users — the Ministry of Foreign Affairs (MFA) and Customs agencies of Algeria.

The reasoning behind the urgency in this month's column title is that both of these organizations have recently been heard experimenting with new and considerably more complex modes. MFA Algiers has been spotted using the Racal MSM1250 "SkyFax" modem on a number of embassy circuits, and Algerian Customs have specially modified commercial PacTOR modems. In all likelihood, as in many other recent cases, a gradual migration to the new equipment will take place sooner rather than later. First, let's take a look at each of this month's guests...

### Algeria's Diplomatic Service

MFA Algiers, or to use its ITU callsign, 7RQ20, can be heard nearly every weekday (except Fridays) and at weekends on a variety of frequencies (see Table 1) with messages to many embassies across the world.

**Table 1: Commonly logged MFA Algiers frequencies**

10993.64 10993.78 10996.37 13425.69 13428.40 16146.64 16272.40  
16273.64 16278.64 16315.40 16315.74 16316.30 16318.40 16318.50  
17411.10 17412.43 18180.65 18183.64 18421.40 18528.40 18529.35  
18754.55 18756.20 18757.27 18758.90 18761.00 18787.00 18943.68  
19028.62 19031.41 19036.44 19123.60 19141.36 23127.50

Messages, nearly always in plain text, are most often sent in French, but the ATU-80 Arabic alphabet is also used on occasions. Coquelet-8, at the higher speed of 26.67 baud is most often used, switching to 13.33 baud if the going gets tough. Messages follow a standard format and also contain a header which readily identifies both the sender and recipient of the message. Here's an example:

**Table 2: Example Algerian Embassy Dakar to MFA Algiers**

vci off dakar nr 782 le 9/11/96 a 1230z I/10  
exp ambalg dakar  
dest mae/dgac/dcee/sdvqam alger

Note the "vci off," short for "voici office" or "here is the office of." The second line contains the sender, "expediteur," and the last line, the destination.

Generally, the Algerians use dual-frequency operation on their networks. MFA Algiers broadcasts to a number of embassies on a single frequency, with embassies sending replies or return messages on a different frequency. Once the MFA completes the broadcast, embassies are asked by the MFA operator to reply from their own frequencies in turn. The MFA's operators often use nicknames to identify the remote embassies during such exchanges, e.g., "dkr dkr dkr pse qsl" when asking Dakar to confirm receipt. Most embassies use the same reply frequency when sending their confirmations or messages to Algiers.

### Algerian Customs

Our other commonly logged Coquelet-8 user is the Customs headquarters in Algiers and its various outposts across this large country. Traffic has been noted on the following frequencies:

**Table 3: Algerian Customs Frequencies**

4757.00 6911.38 7418.70 7808.62 7813.38 10011.39 10467.39  
11251.38 11527.40 13853.70 13898.65 13933.64 13934.80 13936.39

Messages are usually long lists of imports and exports at various checkpoints, or impounded goods. The procedures used in these networks are virtually identical to those in use on Algeria's diplomatic service. Here's an example header:

**Table 4: Example from Customs Office Ouargla to Oran**

zczc ctr209 qyh06 09.05.96 efb  
pp ala ctr hrf efd  
off ouargla to nr 1291 le 12/11/1995 a 16h00hl  
exp:mr.le chef de l'inspection divisionnaire des douanes a ouargla  
des:mr.le chef de l'inspection divisionnaire des douanes a oran

Note the use of the "off" keyword to identify the sender of the message. As can be determined from the "pp" line or copy list in the example of Table 4, operators at each of the 30 or so towns, whose customs offices are equipped with Coquelet-8, identify their locations with three letter abbreviations. HQ in Algiers is identified by "alg" or "dgd" (Directeur General des Douanes).

### Decoding Coquelet-8

As its name suggests, Coquelet is an MFSK (multi-frequency shift-keyed) system using eight tones. The tones are spaced by a meager 30 Hz which demands a narrow filter and a receiver capable of tuning in 10 Hz steps or better, as well as a steady tuning hand for satisfactory results.

The Wavecomm and Hoka decoders are all capable of handling Coquelet-8; in the case of the Hoka this sometimes requires the purchase of a "special" package. Decoding Coquelet-8 is relatively simple with one of these decoders. All that's required is to tune the center frequency of the decoder to the mid-point of the 4th and 5th tones, and the decoder will do the rest.

In all but a few cases, this will quickly produce French or ATU-80 Arabic text. Those that aren't decoded or produce garbage on screen are usually a rarely used Mark II version of the system, supported only by the newer Wavecomm units and the Hoka Code 30.

Coquelet-8 is also easy to identify by ear. Try one of the MFA Algiers frequencies listed, and you will soon hear the characteristic key-up, short idle, and traffic sound of the system. It goes something like daaaaaah, diddle-liddle-liddle, followed by the rhythmic, flute-like sound of the main traffic.