

# An Insight into E25 Transmissions by Manolis of Greece.

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أروح لمين وأقول يا مين ينصفتني منك  
ما هو أنت فرحي وانت جرحي وكله منك  
أروح لمين

كلمة ونظرة عين والقسمه رياهم جمعوا سوا قلبين والحب مناهم  
وبين ليالي المنى خدني الهوى وياه وكان وصالك هنا وكنت بتمنى  
وبعد حبي شفت قلبي وقسيت عليه  
وكان منايا يدوم هنايا ما دمى ليه  
لوعني حبك واليوم في بعدك بيضوت سنين  
أروح لمين

\* \* \*

يطول بعدك.. وأعيش بعدك على شوقي وأشجاني  
ما بين ماضي.. ماهوش راضي يسسليني في حرمانني  
وأبات أنمي.. أنا ودمعي واخبي دمع العين  
واداري من اللايمين ليلمحوا عنه ويشمتوا فيه

ولحد امتي حبتقى أنت والشمتانين

أروح لمين

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أروح لمين ومين حيرحم أسايا وأقول يا مين ومين حيسمع ندايا  
طول ما انت غايب ما ليش حبايب في الدنيا ديه  
والفكر سارح والهجر جارح يا نور عنه  
شوف دمعي جاري سهران في ناري ولا انت داري بالسهرانين  
أروح لمين

## An insight into E25 transmissions.

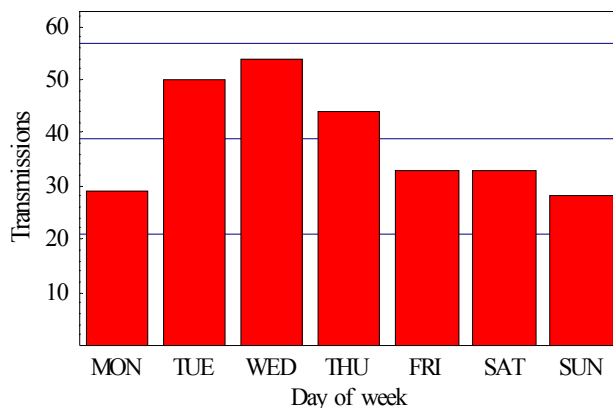
Until now E25 was one of the vague Numbers Stations probably due to the lack of a schedule and difficulties in reception. Structure begins to appear if we examine more carefully one of the few Enigmas who still use live broadcasts and a musical intro. When you know what to look for, chances are increasing to listen and interpret E25 transmissions.

### Logs used for the following analysis

I used mostly my personal logs while it was more difficult to recover older logs. When I was a novice Numbers listener my logbooks were untidy. Some logs from the Spy Numbers database<sup>1</sup> were used (those considered accurate & complete). Total logs used: 271 logged from 22/8/2003 since 25/2/2007.

### Schedule

There is a preferred time frame, when transmissions occur. Currently it is from 1200z to 1300z. Note also that nowadays (February 2007) some music-only transmissions appear in the mornings. All E25 transmissions are logged on 9450 kHz AM mode, the only known frequency. This is within the 31m Broadcast Band, so sometimes there is interference from “normal” shortwave stations. It appears to be a linkage between Agent ID and preferred broadcast times. We will discuss this issue later. Statistically there is no significant preference what day of the week a broadcast may occur as it can be seen in the following histogram:



The horizontal lines denote the  $\pm 3\sigma$  range; the middle horizontal line is the expected value. It is very important when making a histogram of the occurrence of numbers (or letters) an anomaly to have statistical significance, must be well outside the uncertainty Statistics allows. This “uncertainty” is greater as fewer samples (i.e. groups) we have. As an extreme example of a wrong usage of a histogram with low total counts, is throwing a dice six times, and if every number doesn’t appear only once (the expected value), we naively conclude the dice is unfair.

A trend appears with more transmissions on Tuesday, Wednesday, Thursday, but all count values are within the  $\pm 3\sigma$  range. So it is wise to keep looking for E25 transmissions every day and not misguided by this trend.

<sup>1</sup> <http://www.spynumbers.com/numbersDB/>

## Language

The calling session is always in English, but the messages can be in Arabic. There is a connection between Agent ID and message language. Operators have an Egyptian accent and it is interesting that the word “Repeat” used when a repetition of a message is going to start, sounds like “Rebeat”.

## Tuning session

Operators sometimes use music from the late Egyptian singer Umm Kulthum<sup>2</sup>. Two songs are the most common, “Arouh Le Min” (Where Should I Go)<sup>3</sup> and “Inte Omri” (You Are My life)<sup>4</sup>. Songs are played from a random point and not from the beginning. The original songs are lengthy so it is unlikely to hear the whole of them. Variations in playback speed noted in the past suggests playback from tape. Recently the Microsoft Windows sound “ding.wav” heard twice and some jumps in the playback speed noted. Maybe E25 made a step towards the digital era.

A transmission does not always start with music. A 1000 Hz tone may be used alone, or followed by music. Sometimes the announcer just starts calling the agent(s). There is a connection between what song is used (if any) and the agent ID which we discuss later.

## Signal strength

There is a signal drop when Arabic messages are to be transmitted. Then the entire session has lower signal strength. A listener in Germany reports a drop from S9+ to S8 and in my location it is about 10 dB lower (not an accurate measurement). This suggests that messages in Arabic are beamed to different regions than messages in English.

At my listening location (Greece), E25 is the strongest of the Enigmas. Whatever the station is on 9450 kHz, E25 when present is always the most powerful. E25 can be heard in Germany, Sweden (via an Internet tuner), Spain, and UK and recently managed to reach USA. The most important factor affecting reception in W. Europe is interference from broadcast stations and the low audio level of the transmissions. (If your AM filter is wide or not sharp, you may hear E11 interfering from 9443 kHz!)

## Operators

The whole procedure is live, (no automated machine voice used) and the operators are male, having an Egyptian accent, as a fellow E25 fan indicates. Many operator voices have been heard so far. They are prone to errors, probably because of the confusion between English (left to right) and Arabic (right to left) style of writing/reading. While only one person is behind the microphone, in the past switching to another operator happened *during* the transmission.

## Calling session

The operator calls one or more agents with their 3-figure ID. If the ID is followed by 1 or 2 digit number(s), no message will follow for the agent. The string of numbers

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<sup>2</sup> [http://en.wikipedia.org/wiki/Umm\\_Kulthum\\_\(singer\)](http://en.wikipedia.org/wiki/Umm_Kulthum_(singer)), see also the site dedicated to Umm Kulthum, <http://almashriq.hiof.no/egypt/700/780/umKoulthoum/>

<sup>3</sup> <http://almashriq.hiof.no/egypt/700/780/umKoulthoum/Songs/aroooh.html>

<sup>4</sup> <http://www.shira.net/inte-omri.htm>

following agent's ID may play a "control" purpose. Of course there can be a mixed situation, 3-figure agents' ID then 3-figure ID followed by a "control" string. For example:

1. "780" repeated: Agent "780" will receive a message.
2. "780 788 12" or "555 557 12 13 14": A message will follow for Agent "555" but not for Agent "557". The string "12 13 14" for Agent "557" seems to serve a "control" purpose still unknown. Maybe is similar with E10 xxx2 and xxx1 calls. (No link with E10 is implied of course.)

It is possible two or more agents receive a control string. Also, the rare case *two* agents receive the same message. I wonder how this can be possible if every agent has his/her own decryption means.

The numbers are spoken one by one i.e. "780 788 12" is "seven eight zero, seven eight eight, one, two". Because it is a live transmission, the gaps between words are variable, so "12" can be confused with "1", "2".

### Agent IDs encountered

English messages:

222, 275, 440, 449, 555, 730, 780, 788, 906.

Arabic messages and less signal strength:

835, 837.

Control messages:

200, 209, 220, 227, 230, 270, 277, 430, 557, 559, 737, 785, 788, 905, 909.

Control messages and less signal strength:

830, 833, 837.

IDs marked in red have appeared a few times or only once. Agents 8xx may reside in a different location requiring different power/beaming.

### Messages

Usually the messages are short i.e. having low group count. The longest one logged consisted of 21 groups. Each group has four numbers. In a typical English message, the 3<sup>rd</sup> and last groups are the same. In Arabic messages the 2<sup>nd</sup> and last-minus-one groups are the same. The repeated group seems to have a special structure i.e. they are not random 4f numbers.

A great amount of info is contained in the group *before* the repeated group (the second in English messages or the first in Arabic messages). Take for example the message sent on 4/12/2006, 1242z to Agent "780",

9509 2001 0311 3516 3405 5834 2573 7621 1173 0311.

The 3<sup>rd</sup> group is the same as the last one (0311). Take the second group, 2001. The last two digits, if reversed, give the group count: 01 → 10 which is indeed equal to the group count.

The first 2 digits, if reversed, give something that looks like a message serial number *per agent*. So 20 → 02, meaning that it is the second message for Agent “780”. These counters start again occasionally, not necessarily when reaching 99.

In the following table you can see the logged messages for Agent “780”. Always the 3<sup>rd</sup> and the last group is the same (underlined). **The serial is extracted by reversing the first 2 digits of the 2<sup>nd</sup> group.** You can easily check that the last two digits of the second group, if reversed, give the group count. This statement holds for all the messages of the table.

Agent 780 (English Messages)				
Date	Time	ID	Serial	Message
22/2/2007	12:46	780 788	13	9211 3160 <u>6610</u> 3654 6216 <u>6610</u>
8/2/2007	12:44	780 788 27 28 785 29 30	12	As of 7/2
7/2/2007	12:41	780 788 27 28 785 29 30	12	1319 2160 <u>1111</u> 1754 2130 <u>1111</u>
6/2/2007	12:43	780 788 27 28 785 29 30	11	As of 31/1
5/2/2007	12:41	780 788 27 28 785 29 30	11	As of 31/1
4/2/2007	12:40	780 788 27 28 785 29 30	11	As of 31/1
1/2/2007	12:43	780 785 29 30 788 27 28	11	As of 31/1
31/1/2007	12:43	780 785 29 30 788 27 28	11	1310 1160 <u>1111</u> 1754 2130 <u>1111</u>
29/1/2007	12:42	780 30 29 788 28 27	9	9496 9080 <u>1831</u> 3673 1003 5721 2851 <u>1831</u>
24/1/2007	12:44	780	8	9609 <u>8012 4151</u> 4029 8839 1795 3888 6815 2405 6746 0401 4243 3705 0571 9987 0787 6001 4103 1635 2916 <u>4151</u>
22/1/2007	12:36	780	7	As of 21/7
21/1/2007	12:41	780	7	9609 <u>7012 4151</u> 4029 8839 1795 3888 6815 2405 6746 0401 4243 3705 0571 9987 0787 6001 4103 1635 2916 <u>4151</u>
17/1/2007	12:44	780 788 27	5	3909 5091 <u>5941</u> 5814 0798 7670 5335 7429 9312 9030 2737 7587 2909 0407 4494 6094 5598 9856 <u>5941</u>
9/12/2006	12:42	780	3	As of 7/12
7/12/2006	12:40	780	3	9919 3041 <u>3340</u> 1435 0174 4693 2918 3261 6456 8065 1745 8742 3774 <u>3340</u>
4/12/2006	12:41	780	2	9509 2001 <u>0311</u> 3516 3405 5834 2573 7621 1173 <u>0311</u>
3/12/2006	12:43	780	1	As of 30/11
1/12/2006	12:43	788 20 780	1	As of 30/11
30/11/2006	12:42	780	1	9509 1001 <u>0311</u> 3516 3405 5834 2573 7621 1173 <u>0311</u>
3/11/2006	12:42	780	13	2011 3101 <u>2790</u> 9476 1057 6217 7972 3875 7332 <u>2790</u>
4/10/2006	12:44	780	12	As of 3/10
3/10/2006	12:44	780	12	3805 2101 <u>6410</u> 2776 9818 9314 9661 8505 2273 <u>6410</u>
29/9/2006	12:51	780	11	<u>8290</u> 1111 <u>4890</u> 7363 6898 0988 1735 1804 0696 5808 <u>4890</u>
28/9/2006	12:45	780	11	<u>4290</u> 1111 <u>4890</u> 7363 6898 0988 1735 1804 0696 5808 <u>4890</u>
15/9/2005	11:47	780	1	9476 1001 <u>2210</u> 4463 3824 6493 5966 1725 9498 <u>2210</u>
11/10/2004	12:45	780	62	9855 2651 <u>3521</u> 0466 2552 5411 4990 7085 4519 5638 7734 0690 9773 4338 <u>3521</u>
17/2/2004	12:45	780	56	9549 6501 <u>0210</u> 3553 1254 7559 0481 6642 3755 <u>0210</u>
27/10/2003	12:43	780	53	As of 26/10
26/10/2003	12:41	780	53	9394 3531 <u>6210</u> 1467 6518 5690 2666 5481 4555 7854 3353 8560 <u>6210</u>

The messages of 28th and 29/9/2006 differ only in the first digit. Maybe this is a mistake of my part since their audio and accent are not the best, or of their part. Note also the increase of the serial occurred on 24/1 *without* changing the rest of the message.

The serial number is a handy tool to check if a message was not logged. For example I may missed a new message for “780” on 30/1/2007 since the serial number jumps from 9 on 29/1/2007 to 11 on 31/1/2007.

On the other hand, let’s see what happens with Agent “835”, who receives messages in Arabic language. Now the *second* and the *group before the last* is the same.

Agent 835 (Arabic messages)				
Date	Time	ID	Serial	Message
17/2/2007	12:09	835	12	2180 <u>6870</u> 7068 3524 6834 1069 <u>6870</u> 7473
16/2/2007	11:56	835	12	<u>2180</u> <u>6870</u> 7068 3524 6834 1069 <u>6870</u> 7473
15/2/2007	11:59	835	21	<u>1280</u> <u>6870</u> 7068 3524 6834 1069 <u>6870</u> 7473
7/2/2007	12:07	835 830 15	9	As of 4/2
6/2/2007	11:53	835	9	As of 4/2
5/2/2007	12:11	835	9	As of 4/2
4/2/2007	12:17	835	9	9001 <u>9260</u> 4621 1410 6729 8917 6419 2339 <u>9260</u> 7479
7/1/2007	12:14	835 837 1	7	As of 6/1
6/1/2007	12:14	835 830 10	7	7050 5555 5555 5555 5555
26/12/2006	12:11	835	6	6011 <u>0540</u> 3806 5367 9511 8520 1662 4187 9667 <u>0540</u> 8778
21/12/2006	12:14	837 835	5	5001 <u>4811</u> 1017 8166 4842 7706 8301 7982 <u>4811</u> 7372
6/12/2006	12:13	835 837 7	4	4001 <u>1220</u> 8261 8388 6789 6280 0948 8308 <u>1220</u> 3152
29/11/2006	12:12	835	3	3001 <u>1210</u> 3674 1962 6953 6822 7045 3434 <u>1210</u> 7271
27/11/2006	12:14	830 2 835	2	2041 <u>1210</u> 6424 2224 8715 6246 1067 6262 3177 0138 7610 0682 <u>1210</u> 7751
23/11/2006	12:22	835	1	1001 <u>3211</u> 2048 1268 8776 7227 7888 7565 <u>3211</u> 6707

This table has some interesting facts. Let’s examine the latest messages. While on 7/2/2007, the serial number for Agent “835” was 9, the serial jumped to 21 on 15/2/2007. So somehow I missed 11 messages within 7 days! Either heavy traffic occurred (which somehow not logged) for Agent “835” or the operator did a mistake. Next day the operator repeated the same message, except from the 2 digits which gives the serial number. He reversed the order so a more reasonable serial number (12) can be deduced. After that change, it is more likely I have missed two messages within seven days rather than eleven! This correction further supports my theory for the role of the first two digits of the second group (one before the repeated group).

Another interesting message appeared on 6/1/2007. The group “5555” repeated four times. But even for this message, the first group still gives the correct group count and message serial number.

The message formats described above are the most common for both English and Arabic messages. Occasionally other types of messages appear, like the aforementioned, for Agent “835”. To be more specific, some messages can have the following structures:

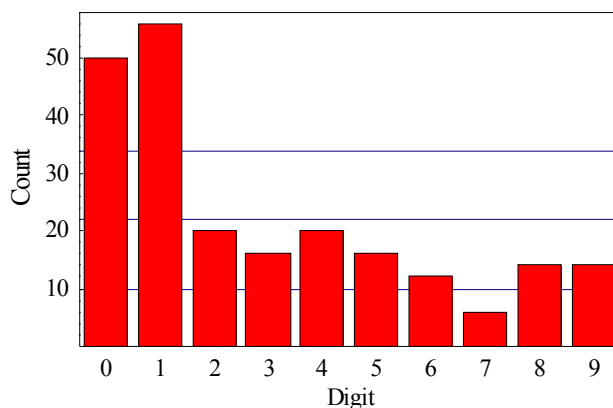
1. The first two are 4f groups and then a 3f group is repeated. Surprisingly, the rule which gives the group count and the serial holds for most of these messages. Example: 4415 1521 280x10. Group count test:  $10 \cdot 280 + 2 = 12$  (1521  $\rightarrow$  21  $\rightarrow$  12).
2. Repetition of a 3f group. Example: 280 repeated. 280 is an agent's ID.
3. One 4f group and then a 4f group repeated. Example: 7050 5555 5555 5555 5555 to Agent "835" sent on 6 and 7/1/2006 in Arabic, mentioned above.
4. A rare type of a normal message plus a 3f group in the end. Example: 3334 3011 8620 7022 8203 9664 9047 1732 1704 9437 8620 449 sent to Agent "440" on 25/2/2005. 449 again is an agent's ID. Such message logged only once.

## Repeated groups

Let's examine the structure of the repeated groups alone. They don't seem to be random, since one can see the pattern xx10, xx11, etc. There are 56 so far:

0210, 0311, 0410, 0540, 0690, 0831, 1111, 1210, 1220, 1510, 1680, 1831, 2110, 2210, 2310, 2311, 2380, 2790, 3010, 3211, 3310, 3340, 3510, 3521, 4151, 4410, 4421, 4440<sup>5</sup>, 4710, 4811, 4890, 5210, 5555<sup>6</sup>, 5941, 6110, 6150, 6210, 6410, 6610, 6870, 7510, 7951, 8110, 8210, 8580, 8620, 8831, 9010, 9020, 9110, 9160, 9260, 9410, 9431<sup>7</sup>, 9470, 9540.

Histogram: Occurrence of each digit within the repeated groups encountered so far.



The numbers 0 and 1 are well outside the  $\pm 3\sigma$  limits, so the repeated groups aren't random. After all most of them are like xxx0 or xxx1.

What is the purpose of the repeated group? A group appearing in one agents' message isn't found in any other message, except the rare case of 2 agents having the same message in one transmission (2 IDs call then only one message). So this must be a sort of the codebook to be used for decoding, along with the key, which might be the remaining group (not the repeated or the one which gives the serial and group count, and assuming the groups within the repeated groups are the "message"). So far I

<sup>5</sup> Extracted from a partial message.

<sup>6</sup> The repeated group in the message 7050 5555 5555 5555 5555 to Agent "835".

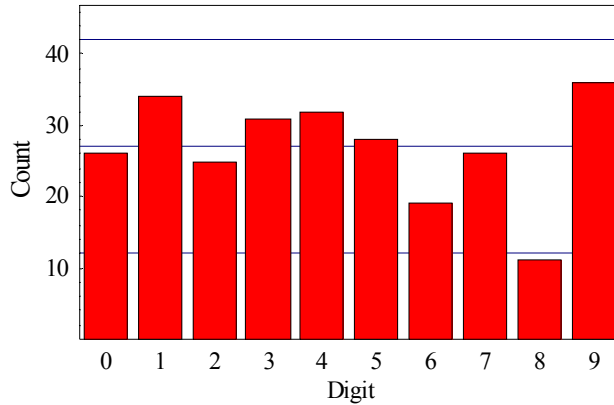
<sup>7</sup> Ambiguity: 9431 or 4131.



haven't got a reasonable explanation. The fact they have the form xxx0 and xxx1 may suggest a similar treatment with the group giving the group count and serial number per agent.

### The "Third" group

Well, this is actually the *first* group of the message or the *last* in the cases when the second group is the repeated. There is *only one* occurrence of an agent having the same such group with another agent. A histogram of the digits appeared in the "third" group follows:



The number "8" is just below the  $-3\sigma$  limit and raises some questions. More messages needed to see if that anomaly persists. Cryptanalysis is greedy regarding data! No good explanation for the purpose of this group, maybe it is used along with the repeated group, as a decode key.

### Message statistics

I have collected 56 unique messages so far, *excluding* the special cases mentioned before, to avoid inserting outliers. A "message" is defined as the stream of groups within the repeated groups, which are marked in green in the following examples:

Serial: 51 → 15  
 ↓ Group count: 11 → 11  
 ↓ ↓  
 5221 5111 7951 **8900 0687 1345 7825 4144 4570 3026** 7951

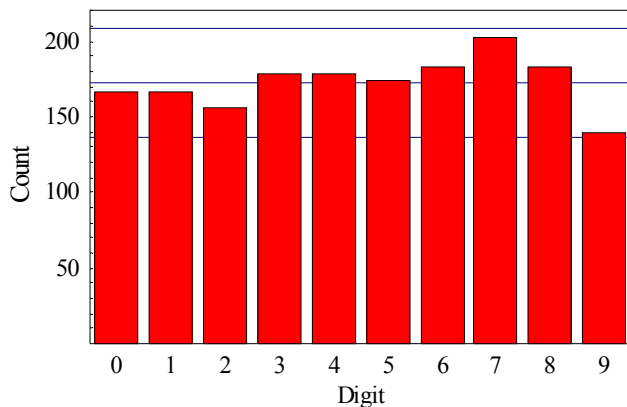
to Agent 555 sent on 26/12/2006 in English.

The other case is:

Serial: 30 → 03  
 ↓ Group count: 01 → 10  
 ↓ ↓  
 3001 1210 **3674 1962 6953 6822 7045 3434** 1210 7271

to Agent 835 sent on 29/11/2006 in Arabic.

A digit count histogram from the 56 unique messages gathered so far:



Things look random except number 9 which is just above the  $-3\sigma$  limit. Again, more unique messages required to see if the number 9 will continue having low count. I encourage the more experienced cryptanalysts to continue my simple analysis.

### Messages in Arabic

Arabic messages are spoken in a different manner. Info regarding translation of numbers from Arabic to English can be found at several websites<sup>8</sup>. The operator first says the digits in pairs, and then one-by-one. The message recovered from the digit-by-digit format, have the typical appearance of the English messages, except that *the second group* is the same with *the group past the last*. So now someone can extract the group count and serial from the first group, and the last group is probably the “third” group of the English messages.

This is the 29/11/2006 message sent to Agent “835”:

3010/3001 2110/1210 6347/3674 9126/1962 9635/6953  
 8922/9822 7054/7045 4343/3434 2110/1210 2717/7271

6347/3674 is sent as "63", "47" and repeated as "3", "6", "7", "4". Note the reversals: 63 → 3, 6 and 47 → 7, 4. In Arabic language, letters are written from right-to-left but numbers are written from left-to-right. Probably that's why every group is spoken twice; first in pairs and then digit-by-digit to avoid confusion and increase redundancy. For example 6347/3674:

thalatha wa-sittun	sab'a wa-arba'un	thalatha	sitta	sab'a	arba'a
63	47	3	6	7	4

On the other hand there is the case 2110/1210:

wahed wa-'ishrun	wahid	sifr	wahid	ithnan	wahid	sifr
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<sup>8</sup> Visit [http://arabic.speak7.com/arabic\\_numbers.htm](http://arabic.speak7.com/arabic_numbers.htm) with details regarding speaking/writing Arabic numbers and <http://www.zompist.com/numbers.shtml> with a massive database of the numbers 0-9 in over 5000 languages.

21	1	0	1	2	1	0
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...and the 7th group 7054/7045:

sab'a	sifr	arba'a wa-khamsun	sab'a	sifr	arba'a	khamsa
7	0	54	7	0	4	5

This variation might happen to avoid confusion whenever the number 0 (sifr, from which the word *cipher* came) appears. The digits stay in the same order. One exception of the rule was 4/2/2007. The procedure was reversed, every group first delivered digit-by-digit and then in doublets.

## Agents and their habits

Instead of presenting the entire series of logs for each agent, I'll summarize what I found most common for each agent, in a "fuzzy" manner. Note that the operators not necessarily start the session instantly. A blank carrier may be present several minutes before the operator starts calling or playing music. The notation xx45z means the operator started at the last quarter of the hour, etc.

### Agent 200

Only one log, no tone/music, control message 200 5 209 4 sent on 12/3/2005, 1245z

### Agent 209

Same as above.

### Agent 220

Only 2 control messages, likes music, near xx45z.

### Agent 222

No control messages, only full messages in English, probably likes "Arouh Le Min", xx45z.

### Agent 227

Only control messages, probably likes "Arouh Le Min", xx45z.

### Agent 230

Only control messages, probably likes "Arouh Le Min", xx15z.

### Agent 270

Only control messages, tuning tone, xx00z.

### Agent 275

No control messages, normal messages and some special ones like 4f, 4f, 4f repeated, 4f, 3f repeated (280), 3f repeated (also 280) all in English. Currently uses tuning tone and no music, xx00z. In the past no tuning tone/music.

### Agent 277

Only control messages, tuning tone lately, plus music, xx00z.

### Agent 430

Only one control message logged, 430 11 on 23/1/2006 1220z, no further info.

Agent 440

Messages in English, last quarter of the hour, special message 3334 3011 8620 7022 8203 9664 9047 1732 1704 9437 8620 449 sent on 25/2/2005, 1248z. No further info.

Agent 449

Partial log of message sent on 23/1/2006 1240z also to 440 (call 440 449).

Agent 555

Normal messages only, probably likes “Arouh Le Min”, near xx30z and a few logs as early as ~1100z back in 2004.

Agent 557

Only control messages, likes “Arouh Le Min”, near xx30z.

Agent 559

Only one log on 26/3/2004 1155z starting with “Arouh Le Min”, control message 559 7 557 8.

Agent 730

Only one log, 30/7/2004 1146z, no tone/music, with the message in English 5495 9501 2310 4455 0101 6656 8860 6207 4287 6057 which has no 2310 in the end but group count test holds.

Agent 737

Only one transmission logged, 31/10/2004 at 1244z, no tone/music, control message 737 17.

Agent 780

Messages in English only, probably likes... tone, xx45z.

Agent 785

Only control messages, likes... tone, xx45z.

Agent 788

Control messages, only one message in English together with 780 on 22/2/2007 (call 780 788) on 1246z, 9211 3160 6610 3654 6216 6610. Probably likes... tone, xx45z

Agent 830

Only control messages with reduced power/different beaming, likes “Inte Omri”, xx15z.

Agent 833

Only one control message logged on 1/7/2006 1122z, calling 833 66, with reduced power/different beaming. No further info.

Agent 835

Normal messages in Arabic with reduced power/different beaming, likes “Inte Omri”, xx15z. Two messages of the type 4f, 4f repeated: 7050 5555 5555 5555 5555, consistent with serial number and group count test.

### Agent 837

Control messages with reduced power/different beaming, probably likes “Inte Omri”, xx15z, only one message in Arabic together with 835 on 21/12/2006 1214z: 835 837 message: 5001 4811 1017 8166 4842 7706 8301 7982 4811 7372.

### Agent 905

Only control messages so far, xx30z, probably doesn't likes tone/music.

### Agent 909

Only control messages (together with 905), probably doesn't likes tone/music, xx30z.

Some observations:

- Agents 55x likes “Arouh Le Min”.
- Agents 83x probably likes “Inte Omri”.
- Agents 73x and 90x probably have no intro at all.
- Agents 78x have test tone.
- Agents 83x have messages in Arabic with reduced power/different beaming, in the first quarter of the hour.
- Agents 555, 557 and 90x have messages in the half of the hour.
- Agents 22x and 7xx have transmissions in the last quarter of the hour.

Nowadays “in the hour” is 1200z. In the past that was 1100z or 1300z. Probably the time shift occurred to fit the transmissions into a time frame with less BC QRM or to accommodate the variations of the solar cycle.

## **Test transmissions**

Since February 2007, music-only transmissions appear in the mornings (0700z-1000z) out of nowhere. Logs so far:

Date	Day	Start	End
24/2/2007	SAT	7:09	7:35
14/2/2007	WED	7:26	7:49
10/2/2007	SAT	7:27	7:34
11/2/2007	SUN	7:35	7:39
7/2/2007	WED	7:49	8:00
23/2/2007	FRI	7:50	8:14
22/2/2007	THU	7:50	8:08
6/2/2007	TUE	7:54	8:10
13/2/2007	TUE	8:15	8:33
9/2/2007	FRI	10:08	10:20

Umm Kulthum's songs are very popular and 9450 kHz is within 31m broadcast band, so these transmissions may not relate to E25. I have identified “Arouh Le Min” in one of these transmissions, and parts of the music played as intro by E25 in several others. What makes me sure that these are indeed related to E25, is the way the blank carrier jumps out of noise, the sound it makes and brief op chat heard in the background.

Operators chatting have also heard in the beginning of the usual E25 transmissions. Sound samples of adequate quality can be found in my blog<sup>9</sup>.

That concludes my short analysis of E25. I hope it answers some questions and provides the first steps for further understanding the structure of. I thank all of the E25 fans and other members of Enigma2000 group for providing their knowledge and suggestions. Unfortunately due to limited time available, as a supplement, only logs from Spy Numbers used since they were readily available. My older logs needed “recovery” from my old notebooks, so a lot of time spent. Good logging habits and a common language for exchanging our logs are a must.

*The front page depicts the lyrics in Arabic of the song “Arouh Le Min”.*

*The last page depicts the lyrics of the song “Inte Omri”.*

*These images taken from the web pages regarding Umm Kulthum.*

*Salam,  
Manolis*

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<sup>9</sup> <http://hfsurfing.blogspot.com/>

أغنية  
أنت عمري  
تأليف أحمد شفيق كامل  
ألحان محمد عبد الوهاب  
مقام كرد  
التي أنشدتها  
أم كلثوم

رجعوني عنيك لأيام اللي راحوا علموني أندم على الماضي و جراحه  
اللي شففته قبل ما تشوفك عنيه عمري ضايح يحسبوه إزاي علي؟

انت عمري اللي ابتدى بنورك صباحه

قذ إيه من عمري قبلك راح وعدّي  
ولا شاف القلب قبلك فرحة واحدة  
ابتديت بلوقت بس أحب عمري  
كل فرحة اشتاقها من قبلك خيالي  
يا حياة قلبي يا أغلى من حياتي  
اللي شففته قبل ما تشوفك عنيه  
يا حبيبي قد إه من عمري راح  
ولا داق في الدنيا غير طعم الجراح  
ابتديت بلوقت اخاف لا العمر يجري  
التقاها في نور عنيك قلبي وفكري  
ليه ما قابلني هواك يا حبيبي بدري  
عمر ضايح يحسبوه إزاي علي؟

انت عمري اللي ابتدى بنورك صباحه

الليالي الحلوة والشوق والحبّة  
دوق معايا الحب دوق حبه بحبه من  
هات عنيك تسرح قي دنيتهم عنيه  
يا حبيبي تعالي وكفاية اللي فاتنا  
اللي شففته قبل ما تشوفك عنيه  
من زمان والقلب شايلهم عشانك  
حنان قلبي اللي طال شوقه لحنانك  
هات ايديك تريح للمستهم ايديه  
هو اللي فاتنا يا حبيبي الروح شويه  
عمر ضايح يحسبوه إزاي علي؟

انت عمري اللي ابتدى بنورك صباحه

يا أغلى من أيامي  
خدني لحنانك خدني  
بعيد بعيد أنا وانت  
ع الحب تصحى ايامنا  
صالحت بيك ايامي  
نستني بيك آلامي  
يا أحلى من أحلامي  
من الوجود وابعدني  
بعيد بعيد واحدينا  
ع الشوق تنام ليالينا  
سامحت بيك الزمن  
ونسيت معاك الشجن

رجعوني عنيك لأيام اللي راحوا علموني أندم على الماضي و جراحه  
اللي شففته قبل ما تشوفك عنيه عمر ضايح يحسبوه إزاي علي؟

انت عمري اللي ابتدى بنورك صباحه