M43

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Original texts were published in WUN newsletters in the period 1995-1998.

CJI - WJI link M4W - RK2 link C37A - 6XM8 link & related links



ENIGMA assigned M43 to three Israeli Intelligence links but did not assign the code to a number of other related links. The ENIGMA code has been deleted now but we will use it here for clarity sake. Note that these stations are history now, at least on HF.

M43 stations	Related stations
C37A Israeli Intelligence, Tel Aviv	RSB1
6XM8 German Intelligence, Bonn	TFB Israeli Intelligence, Tel Aviv
CJI Israeli Intelligence, Tel Aviv	CAM Israeli Intelligence, Tel Aviv
WJI Italian Intelligence, Rome	CIF9
M4W Israeli Intelligence, Tel Aviv	PTI2
RK2 Russian Intelligence, Moscow	KWO Israeli Intelligence, Tel Aviv

C37A & 6XM8

These two stations were the most active in the net. They had a daily schedule, 7 days a week, which normally started at 0430 UTC and continued nonstop until 1945 UTC (Mo-Fr) or until 1530 UTC (Sat & Sun). Modes used were ARQ-E 288 Bd and Baudot telegraphy at 100 Bd, which is used for operational procedures only. Traffic in ARQ-E was always encrypted, using a very effective combination of encryption and data compression.

C37A is located in Israel, not very far from Tel Aviv. This was checked out by locals in the outskirts of Tel Aviv (sig. rep. was 59+20dB and no fading on the signal during lousy conditions) and also confirmed with the help of professional grade DF-equipment.

6XM8, the other end of the link, is located in Germany, probably not more than 100 km from Bonn. Although we have no proof, all the data gathered hints at a station run by the German intelligence service (BND). Monitors in the Bonn area, living very close to the German MFA-building and the Israeli embassy, gave the station a rather weak ground wave signal. This more or less rules out involvement by either of the two installations, which both have huge HF antennae on the roof. However various attempts were conducted to DF the station and each time Bonn appeared to be the source of the signal. The most likely transmitter site is the region northwest of Bonn, bordering with Belgium. This region is packed with military and other dubious installations, and the ideal place for such a low profile operation. We think the site may be located near the town of Monschau, in a place called Hoefen. The BND is known to have a very large monitoring installation in Hoefen.

Although it would appear strange to use a monitoring station for transmission purposes, the BND seems to do just that (eg.the now closed DEA47 in Husum), using the name "Bundesstelle für Fernmeldestatistik" as a cover.

The 6XM8 transmitter site seemed to be used by the BND number stations (eg. "Kilo Whiskey"), as well as a couple of other ARQ-E outlets, running at 288, 192 and 96 Baud, always encrypted. Operational messages were sent in CW.

The German stations used the following frequencies: 13903 kHz, ARQ-E-96, 14950 ARQ-E-288, 15641 ARQ-E-288, 16327 ARQ-E-96, 16350 kHz, ARQ-E-288, 18768 ARQ-E-288, 18772 ARQ-E-288, 20950 ARQ-E-192

These links seem to be directed to other partner intelligence services of the German BND.

The messages sent by C37A to Germany consisted of encrypted English text or 5 LGs which are also encrypted using the online compression/encryption algorithm. You can tell C37A and 6XM8 apart by looking at the shift. The Israeli side used 330-340 Hz on both ARQ-E and Baudot, whereas the German side used a narrow 190 Hz. The Israelis transmitted at 100.87 Bd and the Germans used exactly 100 Bd Baudot.

C37A/6XM8 frequency list:

Frequency	Channel (Callsign	Mode
7569.50	(??)	C37A	ARQ-E-288/ITA-2 100.87
9208.00	(53)	6XM8	ARQ-E-288/ITA-2 100
10348.00	(54)	6XM8	ARQ-E-288/ITA-2 100
10749.50	(??)	C37A	ARQ-E-288/ITA-2 100.87
11434.50	(??)	C37A	ARQ-E-288/ITA-2 100.87
12224.50	(??)	C37A	ARQ-E-288/ITA-2 100.87
12276.00	(56)	6XM8	ARQ-E-288/ITA-2 100
13073.50	(25)	C37A	ARQ-E-288/ITA-2 100.87
13419.00	(57)	6XM8	ARQ-E-288/ITA-2 100
14379.50 al	ternate dur	ing QRM	1 C37A ARQ-E-288/ITA-2 100.87
14386.50 al	ternate dur	ing QRM	1 C37A ARQ-E-288/ITA-2 100.87
14390.50	(??)	C37A	ARQ-E-288/ITA-2 100.87
14398.00 al	ternate dur	ing QRN	1 C37A ARQ-E-288/ITA-2 100.87
15688.00	(59)	6XM8	ARQ-E-288/ITA-2 100
16312.50	(28)	C37A	ARQ-E-288/ITA-2 100.87
16457.00	(60)	6XM8	ARQ-E-288/ITA-2 100
17387.00	(61)	6XM8	ARQ-E-288/ITA-2 100
17422.50	(??)	C37A	ARQ-E-288/ITA-2 100.87
17427.50	(??)	C37A	ARQ-E-288/ITA-2 100.87
17437.50	(??)	C37A	ARQ-E-288/ITA-2 100.87
18547.50	(??)	C37A	ARQ-E-288/ITA-2 100.87
18557.50	(??)	C37A	ARQ-E-288/ITA-2 100.87
18275.00	(62)	6XM8	ARQ-E-288/ITA-2 100
20465.50	(??)	C37A	ARQ-E-288/ITA-2 100.87

The following traffic from C37A to 6XM8 shows that decisions are made on the Israeli side of the link: 1255 UTC 12 May 1995 13072.5 kHz. (C37A was having serious problems with encryption device/no synch. possible)

```
it is ok with me
no hard feelings
we will try again and if it wont work
i will a ask prommuission to grx
ok///zar
ok ok ok
(--- THEN TO ARQ-E-288 BUT NO SYNCH WITH '6XM8'---)
(--- BACK TO BAUDOT---)
ok ok ok,
ok ok
but pls pls as as as
i have to get aprovel
ok ok ok, pls as
tks tks tks
as 5 m
(--- PAUSING FOR A COUPLE OF MINUTES ---)
good news
we can close now
it was a pleasure working with you
ok ok
many thanks and regards
xxkk
i dont understand 88
(--- PAUSING FOR ABOUT 2 MINUTES ---)
ok
to you too
gb gb gb gb gb
(--- S. OFF ---)
```

The Israelis had problems with their equipment very often. In August 1995 the link was down for several weeks due to technical problems with the encryption device. They were back to normal on 23 August 1995.

CJL & WJI

CJL was a station which is listed in many publications as the Cypriotic MFA in Nicosia, however the user is again one of the Israeli intelligence services.

WJI, the other end of the link is a station located in Italy, probably somewhere in the north-eastern part of the country. This was indicated by rough DF-analysis and propagation characteristics. The user is probably one of the Italian intelligence services. There are normally 3 skeds per day, with limited weekend activity. From Monday to Friday you can hear both stations at 0700, 1130 and 1500 UTC. Saturday normally had 1 or 2 schedules only.

The regular frequencies in use were 16339.5 kHz (CJL) and 17526 kHz (WJI). Modes used are ARQ-E-96 with a 4 character rep. cycle and 100 Bd Baudot for the call-up procedure.

The following technical problems, operator errors, operator chatter, technical data and transmission characteristics gave away the real users of CJL and WJI, thus definitely ruling out the MFA Nicosia theory:

- 1. WJI signed off with "ciao @@@@@ shalom".
- 2. CJL uses Baudot with 100.87 and 340 Hz, whereas WJI uses Baudot with exactly 100 Baud and 850 Hz shift. Like on the link from Israel to Germany, these characteristics show the use of different equipment, indicating a multinational operation.
- 3. CJL transmissions often carried the audio of the MOSSAD-number-station transmitting on 17410 kHz.
- 4. The date-time group used by WJI is in Italian, the one used by CJL is in English. Cypriotic diplos would for sure not use Italian date time groups!
- 5. CJL was heard several times, accidentally transmitting in 3-channel VFT FEC-A-192, a mode used by several other Israeli intelligence outlets

The traffic sent on this link consists of 5 LGs, using the NATO encryption system called AROFLEX. Here is a sample of a message transmitted by CJL to WJI. You will notice that the first and the last group of the message are identical, and that groups 2/3/4/5/6 are identical as well.

```
i ga ga
nr05
170047z july 95'
bt
bsdwf arjun arjun arjun arjun arjun ylfvo loedb ngscm xmlcv
zldpk msppd rkqco ofksf ypecd ftzqc swopq mdkeq qsrox novey
(.....rest deleted .....)
page 2
olywv ctneo zzwąh zzcxa smyxs eioex goojh updvu fuhmw vpbkr
(.....rest deleted ......)
kjnax wunmr zybqw ngahc tovnl rioub tjaia xakbf dljap qtlqn
iglef bsdwf
bt
gr312
nnnn
```

Here is a sample message from WJI to CJL (note the Italian date-time-group and the similarity to the message-format used by Italian diplo-stations!):

```
nr. 06
o 110825z giu 95
gr364 bt
nwwvy Idonf Idonf Idonf Idonf Idonf dwuiw qofth vtyit mejok
(.....rest deleted ......)
page 2
glrcz arxzq zprzi epovd scsig hvnou bmulm nteix ansxx dkonh
(.....rest deleted ......)
bgnlh psygp bzene kwpmz hmelb tkquo toahk vnmjq zbbzf fvnud
evnmw unkad mmnhb nwwvy
bt 6921
nnnn
```

CJL/WJI frequency list:

Frequency Channel Callsign Mode

14447.00	(44)	WJI	ARQ-E-96/ITA-2 100	
14780.50		CJL	ARQ-E-96/ITA-2 100.87	
15721.50		CJL	ARQ-E-96/ITA-2 100.87	
16217.00		WJI	ARQ-E-96/ITA-2 100	
16339.50		CJL	ARQ-E-96/ITA-2 100.87	
17526.00		WJI	ARQ-E-96/ITA-2 100	

M4W & RK2

M4W was the Israeli side of the link. It is probably identical with station CJL because:

- 1. It had crosstalk from a MOSSAD-number station on the carrier during the week that this was also experienced on CJL transmissions.
- 2. It is sometimes heard transmitting in ARQ-E-96 with a 4 char. rep. cycle, when signing on at 0820 UTC.
- 3. M4W has been heard using 16339.5 kHz (accidentally). As soon as the operator realized his mistake, he switched over to the regular working frequency.
- 4. CJL has been heard testing on the M4W working frequency of 16129 kHz.

DF-analysis on the station pinpointed it to the eastern part of the Mediterranean area, somewhere in the area of Northern Israel. M4W used Baudot telegraphy with 75 Baud, 1 stopbit per char. and the standard "Israeli shift" of 330-340 Hz.

M4W and RK2 had a daily sked at 0:30 UTC, six days per week on 16129 and 16247 kHz. Messages were encrypted using 5 figure groups. There was hardly any traffic on this link, the last message from the Israeli side to the Russian side was monitored in February 1995, yet still they had a daily schedule. After a few minutes of operational chatter, the link is normally closed.

Frequency	Callsign	Mode
16129,00	M4W	F1B-75
16247,00	RK2	F1B-75
19559,00	M4W	F1B-75

The question remains why an Israeli intelligence service would have a daily schedule with its Russian counterpart. One of our fellow DXers suggested a joint Russian-Israeli effort to help control Russian organized crime among the Russian immigrants entering Israel – an explanation which seems to make sense.

Here is a typical example of M4W traffic:

RK2 was located in or very near Moscow. It was probably an outlet also used for Russian diplo/intel. (M42) transmissions. The station used the standard eastern block 500 Hz shift and Baudot with 75 Baud and 1.5 stopbit. As in the M42-transmissions, the RY test-tapes are sent shifted as 4646......

Here is an example of an RK2 transmission:

RSB1, TFB, CAM, CIF9, PTI2

These were a bunch of stations using a 3 channel FEC-A-192 VFT system.

RSB1 was very active but disappeared in 1995.

CAM and possibly TFB seem to be identical with CJL. CAM has been heard on 16339.5 kHz at 0752 UTC in the morning and many times on 19243 kHz with crosstalk from the MOSSAD-lady. Both CAM and TFB have been heard running the same 100.87 Baud Baudot system used by CJL and certain operator characteristics are very similar to the ones seen on the CJL circuit. We never found out who and where the other end of the link was, but it may be another multinational operation, as operator chatter is always in English.

Traffic seen on these VFT-circuits consisted of 5 LGs and a little chatter. The sign off is the typical Israeli way with "ar va ar va".

Here are a few text samples from the VFT-stations:

494 091535 598 gr

Ihvno oyxut rksyp dgfet jodcc yexao enxgt gydpk iydbv boses ihrrj yeuon rzhwg omjąw wyngv nmoąc mtxkb mldai rzjsy xąwiw (.....rest deleted.....)

page 2

(....rest deleted....)

bsaml nzmet bmbth ogrfb puhgf qhzre cfoxo nziop nnnn

RSB1, TFB, CAM, CIF9, PTI2 frequency list:

Frequency Callsign

12179.80	TFB	daily sked at 1300 UTC
12544.80	RSB 1	
13404.00	???	
14594.00	???	
15852.30	PTI 2	
16099.80	???	
16286.20	RSB 1	
16339.50	CAM	
19227.10	CIF 9	daily sked at 0900 UTC
19243.00	CAM	daily sked at 0800 UTC
19406.20	???	
19911.00	PTI 2	

KWO

This station was a daily guest on 18568.5 kHz and was last heard in mid-1994. The mode used was ARQ-E-96 with a rep. cycle of 8 characters. We never managed to locate the other end of the link. The link was normally established at 1200 UTC, although KWO was often on the air about 30 min. earlier with idle signals. From the operational messages seen on KWO transmissions we would suggest that this was the Israeli side of the link.

Here is a typical KWO sample:

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