



**Technical Naval
Museum of La Spezia**



**Cultural Association
"Rover Joe"**



**A.R.M.I.
Marine Amateur Radio Association**



**A.R.I. Fidenza
Italian Amateur Radio League**

ENIGMA RELOADED

INTERNATIONAL EVENT

SIXTH EDITION – FROM SEPTEMBER 27TH TO OCTOBER 12TH, 2019

General summary

"Enigma Reloaded" started in the year 2014, as an idea jointly developed through the cooperation between the Italian Technical Marine Museum (La Spezia), the cultural association Rover Joe (Fidenza, PR), some Radio Clubs affiliated to the Italian Radioamateur League (A.R.I.) and the Association of the Italian Marine Radioamateurs (A.R.M.I.).

In its several editions over the years this event has involved the participation of a number of cultural associations and organizations both in Italy and abroad, and has gained wide recognition and much appreciation all over the world.

The main idea behind the Enigma event is to involve people all over the world, and specifically young people, in focusing their attention on the importance of the scientific research in general

and specifically on cryptography, as main driver of most of the crucial events at the end of World War II, even considering their impact both on history and on the present world's life. The tool chosen to make this event happen is Radio, operated by international amateur radio stations.

Project and implementation

Coordination and governance:

A.R.I. Fidenza Radio Club - Italian Amateur Radio League – Fidenza (Parma, Italy)

Organization:

Technical Naval Museum of La Spezia - Italy

Cultural Association Rover Joe – Fidenza (Parma, Italy)

A.R.I. Fidenza Radio Club - Italian Amateur Radio League – Fidenza (Parma, Italy)

A.R.M.I. – Marine Radio Amateur Association

Description of the Event

The organizers of the Enigma Event aim to promote the history of the Enigma cipher machine, its role in the Second World War and those who have contributed to its deciphering, through the participation of the maximum number of amateur radio activators around the world; the organization of dissemination activities related to the Enigma machine and to cryptography is also encouraged.

The Enigma Event will take place in two steps:

- **From September 27th to October 11th 2019** a “plain text” radio Award will take place, during which the “Activating Stations” will be On Air in order to allow the participants to gather their points for the final award's score (see “ Award's Rules).
“Activating Stations” are defined as :

- Radio stations located at the organizers' seats;
- Radio stations paired with a real (phisically existing) ENIGMA machine, located in museums or privately owned;

In this first part of the event, the Activating Stations will be as much active On the Air as possible, operating from their own QTH or seat, using the callsign of their Radio Club or a special callsign.

- **On October 12th,2019** , final event's day, the Activating Station will exchange each other “codified”, messages in clarified code, encrypted by means of the ENIGMA chipher machine, using CW emission mode (Telegraphy).

Whenewer possible and technically feasible the Activating Stations are reccomended to operate from the museum or private owner where the ENIGMA machine paired to the Activating Station itself is located, to make the operations openly visible to the general publicum.

During this final event's day the participation to the radio operations will be allowed also to

Radioamateur stations paired with a “virtual”, or emulated ENIGMA machine. They will be able to make radio contacts with the Activating Stations present On Air. This kind of participation requires previous registration via e – mail to the mail address :

info@enigma-reloaded.it

In compliance with the Code of electronic communications in amateur radio matters (Article 134 of Legislative Decree 259/2003 and subsequent amendments), the contents of the " encoded "message are published on the official website of the event (www.enigma-reloaded.it) in the section "General information for the participants in the Event ", as well as all the information necessary to decodify the message decoding.

The radio transmission is therefore only apparently encrypted (in "clarified code") and therefore fully intelligible to anyone listen to the broadcast.

ORGANIZATIONAL PROCEDURES

The official website of the event is www.enigma-reloaded.it, on which all information useful for the participation to the event will be available.

A.R.I. Fidenza Radio Club will coordinate the activating stations, defining the amateur radio procedures and, in general, the methods and the operational protocols.

A.R.I. Fidenza Radio Club will also manage the official website of the event and the log software, acting as a general information collector.

All activating stations will contribute to the event’s promotion and success, in close contact with A.R.I. of Fidenza Radio Club.

On request by the participants the "Rover Joe" Association, according to its own core competence, will be able to provide any further technical details and infos regarding the Enigma machine.

The A.R.M.I. will take care of the graphic realization of the participation diplomas and the posters of the event.

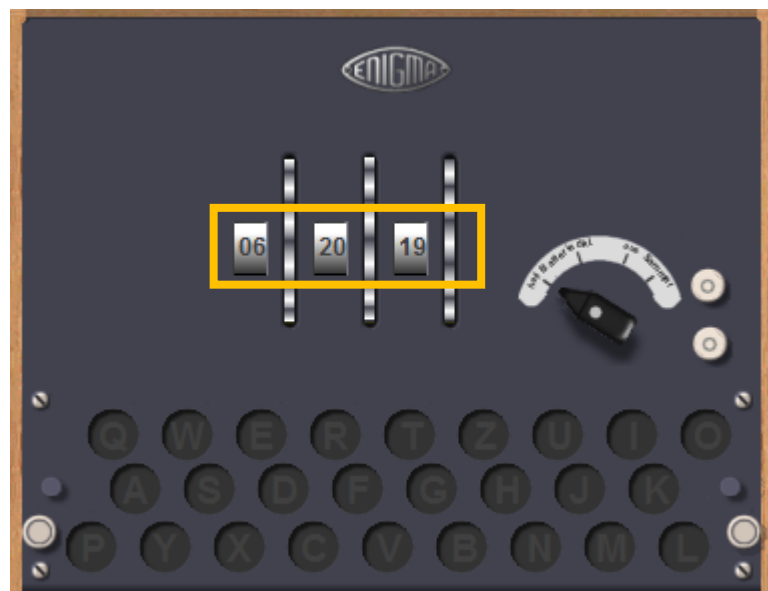
During the event all Activating Stations are kindly invited to give public evidence of the event on their institutional websites, and also to organize demonstrations to the general publicum on the Enigma machine, its history and cryptography.

GENERAL INFORMATION FOR THE PARTICIPANTS TO THE EVENT

SETTING OF THE ENIGMA MACHINE

There are a number of different ENIGMA machine's types. For the sake of simplicity and uniformity between the Activating Stations, we refer here to one of the most widely models : M3.

- **Rotors positions** (from left to right): **I – II – III**
 - “Ringstellung” of each rotor : positio **01** (or **A**)
 - “Grundstellung” of rotor **I** : **06** (or **F**)
 - “Grundstellung” of rotor **II** : **20** (or **T**)
 - “Grundstellung” of rotor **III** : **19** (or **S**)
- Reflector wheel : **B**
- “Stecker” (plug board): **not used**



If the Activating station is paired to different ENIGMA machine's mode, or if the machine is not functioning or accessible, the message codification is allowed by means of the ENIGMA emulating software referred to below.

EMULATING SOFTWARE

Among the many ENIGMA emulating programs available on Internet, the following is recommended :

<http://enigma.louisedade.co.uk/enigma.html>

using the same setting previously described.

The following picture resumes the correct start setting to be used for the ENIGMA event this year :

Enigma Type:	<input type="text" value="M3 (Navy/Army/Airforce)"/>		
Umkehrwalze:	<input type="text" value="--- B ---"/>		
Wheel Position*:	3	2	1
Walzenlage:	<input type="text" value="I"/>	<input type="text" value="II"/>	<input type="text" value="III"/>
Ringstellung:	<input type="text" value="A"/>	<input type="text" value="A"/>	<input type="text" value="A"/>
Grundstellung:	<input type="text" value="F"/>	<input type="text" value="T"/>	<input type="text" value="S"/>
Functions:	Save Settings Clear Settings Help!		

MESSAGE ENCODING

In the context of the event, message's transmission is performed for educational and didactic purposes only. For the sake of simplicity and uniformity between the Activating Stations, only procedures and conventions commonly used by the Radioamateurs during their standard operativity will be adopted, avoiding any specific military protocol.

The body of the message to be exchanged will contain, in the following sequence :

- Official website event's address;
- The acronym of used rotors (FTS) and reflector (B);
- The word "START", in plain text;
- The characters' sequence obtained by encoding through the ENIGMA machine the following standard sentence :

"ENIGMA EVENT INTERNATIONAL SIXTH EDITION ITALY"

- The word "END", in plain text;

Example :

www.enigma-reloaded.it – rotors FTS – refl B – start

< characters' sequence obtained by encoding through the ENIGMA machine the standard sentence>

end

The only pseudo – encrypted part of the message will be the bold face sentence in the example given above.

INTERNATIONAL ENIGMA RELOADED AWARD

SIXTH EDITION – 2019

From September 27th to October 11th 2019

DURATION PERIOD & DATES

- Start on Sept. 27th 2019 at 07:00 UTC, in conjunction with the “European Researcher’s Night”;
- End on Oct. 11th 2019, at 23:59 UTC;

The complete program of the event is available on the website: www.enigma-reloaded.it

AIM AND PARTICIPATION RULES

The award is worldwide.

All Radioamateurs in the world can participate, with the aim of contacting as many ENIGMA Activating Stations as possible according the rules described in this document.

The official list of the Activating Station will be published on the website www.enigma-reloaded.it.

The only award’s participation categories are: OM and SWL.

The two categories are distinct and independent, each with their own ranking.

As previously defined, basic requirement for an Activating Station is to be "paired" with an original Enigma machine, even if not necessarily functioning.

By the time of the registration application of the Activating Stations, the name of the museum or owner group hosting the machine will be made known.

For amateur collectors or private owners, the province where the machine is located will be considered as a sufficient information. Any additional detail if given will be welcome, but not mandatory.

QSO / HRD RULES

QSOs and HRDs are allowed on all HF bands: 10-12-15-17-20-30-40-60-80-160 meters using the emission modes Phone (SSB), CW and all admitted digital modes (E.g. : RTTY, FT8, JT65, JT9, PSK).

Contacts by means of repeaters, trasponders or similar systems and means are not permitted.

The contact will be valid once mutually exchanged the standard RS(T) reports, provided the

following “Dupe Rule” is observed:

For the entire duration of the award, each Activating Station can be contacted only once per day on the same band and with the same emission mode: any contact between the same stations on the same day, on the same band and using the same emission mode will be considered as a “DUPE”, and its score will be set to zero.

Packet Cluster spotting is allowed, with the only limitation that “self - spotting” by the Activating Stations for themselves : this is NOT allowed.

“Self - spotting” is defined as a spot on the packet cluster posted by a given callsign on the same callsign.

Example of a NOT permitted spot: **II4GRM** sends a spot for **II4GRM**

Example of an allowed spot: **IK4PKK** sends a spot for **II4GRM**

AWARD’S CERTIFICATES

There are two award’s certificate types :

- A) Score Ranking Award Certificate: it will be assigned to all radio stations having reached the minimum required score, according to the rules described in this document;
- B) Participation Certificate: it will be assigned to all radio stations having collected at least 12 valid QSOs/HRDs with Activating Stations, even contacting more than once a same activating station, independently on the obtained score.

QSO/HRD SCORES AND MULTIPLIERS

The following scores will be assigned to each valid (NOT dupe) QSO or HRD:

- A) For QRP stations (Power ≤ 5 W): 2 points;
- B) For NOT QRP stations (Power > 5 W): 1 point.

Each callsign of an Activating Station counts as a multiplier.

Examples of score calculation :

- QRP station: for 10 contacts with “Activating Station 1”, 25 contacts with “Activating Station 2” and 7 contacts with “Activating Station 3” (three stations in total) the total QSO score is : $(10)(2) + (25)(2) + (7)(2) = 84$ and 3 multipliers, so the total score is : $(84) \times (3) = 252$ points;
- NOT QRP station: for 10 contacts with “Activating Station 1”, 25 contacts with “Activating Station 2” and 7 contacts with “Activating Station 3” (3 stations in total) the total QSO score is : $(10)(1) + (25)(1) + (7)(1) = 42$ and 3 multipliers, so the total score is : $(42) \times (3) = 126$ points;

MINIMUM SCORE REQUIRED TO ACHIEVE THE SCORE RANKING AWARD'S CERTIFICATE

The minimum score **P** is calculated as follows:

- For Italian stations: $P = 32 * N$
- For European, NOT Italian stations: $P = 16 * N$
- For Extra European stations: $P = 8 * N$

where **N** is the total number of the Activating Stations who participated to the award, going on the air.

This number N will be officially published on the website [//www.enigma-reloaded.it/](http://www.enigma-reloaded.it/)

SCORE RANKING AND PRIZES

Since November 5th 2019, accessing to the website <http://arifidenza.hamlogs.net/> each participant will be able to check his/her QSOs put in log and the corresponding obtained score, simply inputing his/her callsign into the field named "Check Your QSOs".

Once obtained the minimum score required for getting the Score Ranking Award's Certificate, this will be automatically made available for download as a PDF file.

The same holds for the Participation Certificate, which will be made available for download on the website given above as soon as the condition B) described above under paragraph "AWARD'S CERTIFICATES" is fulfilled.

The complete list of the award's certificates already issued will be available in real time by clicking the button "LIST OF ISSUED AWARDS".

Any participant not adhering to the rules defined in this document will be liable to squalification, according to the irrevocable judgement of the A.R.I. Fidenza's Award Committee.

Any decision made by the A.R.I. Fidenza Committee appointed for the log check, regarding the ranking score and the assignment of the award's certificates, will be final and unappealable.

FINAL REMARKS

Anything not specifically mentioned in this Regulation and its amendments, as well as any additional information related to the award, will be published on the official web site www.enigma-reloaded.it, to which any question or request for additional information should be addressed.

As a general behavior code, the common Ham Spirit practices, customs and conventions usually adopted within the frame of Radioamateur activities and competitions hold.
