

WRTC 2018 Question and answer

Official WRTC2018 Competition Rules

Below are questions and answers, which might be asked for the WRTC competition in 2018.
Any further questions should be sent to competition@wrtc2018.de or to the [WRTC email list](#).

Qualification/ Enrollment

- 1. May a TEAM LEADER from one country select a TEAM MATE from another DXCC entity/country in WRTC 2018? Is this permitted?**

Yes, you can select a team mate from another DXCC country or even a different qualification area as long as he/she is qualified for the contest, i.e. for instance not disqualified in any of the relevant contests.

- 2. How will you make sure that buddying between team and referee is avoided?**

The judging committee will look closely into potential cases of buddying and cronyism, i.e. by careful assignment of referee to teams and especially taking into account their nationalities.

Operation

- 3. What happens if an operator identifies himself?**

The judging committee reserves all means, up to and including disqualification from the contest. If an operator accidentally utilizes his callsign, it shows of good ham spirit if he does not take any advantage and immediately QSYs from frequency.

- 4. What is regarded as 'unsportsmanlike behaviour' or 'illegal' in connection with frequency allocation or bandmap?**

It is regarded as unsportsmanlike, if operators work within the internationally assigned beacon bands.

It is illegal if operators operate out of band, even if part of their signal is out of band (e.g. dial setting on 14350 kHz) in SSB/USB.

Encouraging Cheerleading, i.e. QSOs in which supporters make QSOs with only a favoured team or spot that team exclusively on the DX-cluster, is regarded as unsportsmanlike behaviour.

'Stealing a frequency' or intentional interference is also regarded as unsportsmanlike.

- 5. What happens if a referee supports a team in an unfair or illegal way?**

The judging committee reserves all means against referee/judge or team. This may include disqualification of referee/judge and team and removal of additional benefits, such as invitations.

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6. You have provided bandplans. What is the intention?

Bandplans are part of ham radio regulations in Germany. Contest free segments should be obeyed.

IARU region 1 bandplan is a recommendation for contest operation. For example, your own "calling CQ contest" should take place preferable in the frequency segments which are indicated as "contest preferred" in the IARU Region 1 band plan.

7. In addition to bandplans, can you provide a list of acceptable frequencies?

Yes, we can.

80 Meters

CW operation between 3500 and 3600.

Note: CQing between 3500 and 3510 is normal operating practice by R1 stations during international contest events and will be considered acceptable for WRTC as well. During German Greyline there should be a priority for intercontinental operation.

SSB operation between 3600 and 3800. Split frequency operation is permitted, i.e. stations can receive above 3800. Transmission above 3800 is not allowed and may result in disqualification. During German Greyline there should be priority for intercontinental operation between 3775 - 3800.

40 Meters

CW operation between 7000 and 7100.

SSB operation between 7050 and 7200. Split frequency operation is permitted, i.e. stations can receive above 7200. Transmission above 7200 is not allowed and may result in disqualification

20, 15 and 10 Meters

CW operation 14000 - 14099, 21000 - 21149, 28000 - 28190

SSB operation 14112 - 14350, 21151 - 21450, 28225 – 29300

8. What happens if stations operate outside of the accepted frequencies, e.g. operate CW in SSB segments or vice-versa?

This is not accepted. CW is only accepted in the CW segments (from the accepted frequency list above), SSB is only allowed in the SSB segments from that list.

9. How often should I identify myself with my callsign?

German regulations ask for the own callsign in every QSO. Your callsign should be clear to someone listening to your operation and it is not a good practice to rely on DX-Clusters or other means to identify yourself. Unsportsmanlike behaviour might result in penalties, up to and including disqualification.

10. In SSB: Is it required to use the phonetic table (Alpha, Bravo, Charlie) or can callsigns be spelled in plain letters e.g. W1AW instead of Whisky One Alpha Whiskey?

You may use plain letters in SSB (e.g. W1AW) or phonetic table (e.g. Whisky 1 Alpha Whiskey). Any other form that might identify the team is not allowed (e.g. Whilhem Eins Anton Wilhelm).

11. Is it required to call CQ or can we call also "test de ..."?

You can call CQ any way you like, as long as it is a commonly accepted way to call CQ and is not used to identify yourself. "Test de" is OK.

12. I understand that the super check partial (SCP) database is not allowed for the WRTC competition. In Russia or Boston, this same rule was implemented but they allowed a filled database for use with headquarter exchanges. Will this be allowed?

Yes, you may have HQ exchange information filled automatically, or manually. You may have it available on paper or in a database. The paper or the database with the exchange information may be prepared before the contest.

The CALL SIGNS may NOT automatically appear in the entry field. You must enter them manually. However, just as with zone information the software can provide the HQ exchange information automatically.

Please see also Q47 on the recommended way of logging exchanges.

13. Rule 12.5 prohibits the use of callsign databases. Is a cty.dat (including prefix and country-information) allowed?

Yes, the typical cty.dat – with the intention to identify the country information of a callsign – can be used. The CTY.DAT can contain prefix and country information. The CTY.DAT can include ITU Zone information, which is then typically shown to the OP in the logging program.

14. What is meant by “time period” in this rule 16.2.4.? If Radio A is on 15M SSB, Radio B is not allowed on 15M SSB or 15M CW during the same time period.

Both radios cannot “flip flop” between bands. If Radio A makes a contact on 15M, Radio B cannot make a contact on 15M until radio A makes a QSO on another band.

Example:

RadioA	2305z	QSO:	21007
RadioB	2306z	QSO:	14250
RadioA	2307z	QSO:	21008
RadioB	2308z	QSO:	21250

RadioA	2309z	QSO:	21009	<<<<<<<<<<
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Not allowed! Radio A must change bands now.

This rule is also valid if Radio A or Radio B operate in an intermitted fashion on different bands, e.g. single op uses two VFOs (SO2V).

15. Is it permitted for Radio B to go the same band as Radio A to work multipliers while Radio A is running (assume they are interlocked so there is only one signal transmitted at a time)?

No, you cannot transmit on the same band as the other radio. If Radio B makes a QSO on the same band as Radio A, the next QSO on that band must be made by Radio B. Radio A must go to another band, or not transmit. Additionally, they may not share the same antenna. (No alternate CQing etc. on same band with same antenna.)

16: Is it permitted for Radio B to go the Radio A band just to tune around and fill up the band map on that band?

Yes, Radio B can listen anywhere at any time. However, it cannot use the same antenna as Radio A (no splitting of RX line). For this competition, the Tribander is considered as 3 separate antennas for 10/15/20 Meters. Radio B may also listen to the audio of Radio A if desired.

17: I understand, that rule 16.2.4. requires each radio to operate on a different band. Is it OK for Radio A to be on 15m and using 2nd VFO to work guys on 20m, while Radio B is on 40m and work guys on 80m using the 2nd VFO of Radio B?

Yes, this is allowed and it is not a violation of rule 16.2.4. as it basically is a fast and frequent band change. Both radios do not share the same band and do not flip-flop between band.

Of course only one receiver is allowed per radio, thus SO2V is allowed but not SO2R.

18: Do Maritime Mobile stations count for multipliers?

Maritime Mobile stations can be worked for QSO credit, but do not count for Multipliers.

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19: Can I smoke in the tent during the contest?

No. The tent may catch fire or be damaged. Many of the sites are in areas with a lot of grass and smoking materials could cause a fire. Smoking is generally prohibited in the tent, the restricted area around the tent, and in the toilet. This smoking ban applies to all persons in the restricted area, including referee and participants.

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20. Can I use another bandscope for monitoring a different band, with muted audio?

No, the bandscope may only operate on the current operating band of radio A or B. The current operating band is the band of the active VFO

21. Can we use VFO A or B at any time?

Yes, you can use VFO A or B or other 'stored frequencies' any time. Of course a second receiver is not allowed, even when using different VFOs. All signals need to pass the power-monitor in case of SO2V-operation.

Frequencies must be stored during the contest and may not be derived out of databases. That means that a database with frequencies of the HQ-stations is illegal.

22. Some logging programs have the possibility to combine bandmap and bandscope (=waterfall). For example N1MM+ provides this combination as 'spectrum display window'. Is this allowed? Can I control the radio using this Bandmap/Bandscope?

Yes, bandmap and waterfall can be combined and show callsigns. This assumes that all data (i.e. callsigns) has been typed by the operator. No automatic generation of callsigns is allowed.

23. Some radios or logging programs have integrated code reader. Is it OK to have those (or some other program for that matter) enabled to decode the passband?

No, you cannot decode the passband using a CW reader. If the radio or your software has this feature, it must be disabled.

24. Can we watch the scoreboard on our computers or smartphones?

No. Teams must not receive any information about the scoreboard from computers or other people at the site.

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25. Can I call or text my friends to tell them my callsign so they can find me easier and work me?

No. Teams are not allowed any kind of communication with anyone starting 15 minutes before the contest starts. Referees will ask you for your cellphone before they give you your callsign. The phones must be switched completely off. If we discover that you have used any mode of communication besides HF CW and SSB during the contest, you will be disqualified.

26: Can I bring a cellular device with a Wi-Fi hotspot to connect to the Internet?

No.

27. If I find a Wi-Fi or other wireless connection at the site, can I use it? Can I run a cable outside the tent to an Internet connection?

No.

28. Can CWSkimmer be used in Blind/Contest mode (meaning no call sign decoding)?

No, as still some decoding takes place. Even if callsigns are not decoded there is other information derived from CW-signals, such as frequencies.

29. Is it allowed to enter callsigns into the logging software, so that callsigns can be stored and appear in the check partial window? Is this a violation of rule 12.5 ? Both N1MM and Flex Software have the possibility to show the callsigns in bandmap or waterfall.

Yes, this feature can be used and is not in violation of rule 12.5 as long as these calls are heard and decoded by the operator.

30. What happens in case of cheerleading, e.g. resulting in excessive number of uniques?

An excessive number of unique calls will result in deletion of suspicious QSOs.

Station Setup

31. Can you explain the paragraph on 'sharing antennas' in more detail? Is the tribander considered the same antenna for sharing (triplexer)?

Our intention is to allow a triplexer as in 2014 (Boston), i.e. you can share the triband-beam and use it for the two radios (different bands).

Rule 17.1.11 (not sharing the antenna) refers to sharing the antenna on the same band. Any hardware past the T/R-Relays, which shares the antenna with the other radio - and allows flip-flop operation on the same or on two different bands - is not allowed. These are the same rules as in 2014.

The Tribander – together with the Triplexer – to be used in the WRTC 2018 competition is looked upon as representing 3 (three) individual antennas. You can think of it as having 3 monobanders for 10/15/20 Meters. There are a total of 5 antennas for use between radios, one at a time for each radio.

32: Will Duplex operation of a transceiver be allowed, i.e. simultaneous receive and transmit ?

No, by the intentions of these rules a radio can either receive or transmit at a given time. Duplex operation is not permitted.

33. Rule 16.2.5 and 16.2.5.4. speak about 'suitable devices' to display the spectrum. May a second PC per radio be used, e.g. solely for spectrum visualization? May the PC-Soundcard be connected to the Transceiver's Audio output?

Yes, an additional PC may be used for spectrum visualization and is regarded a suitable device. It can be connected to an audio-output or can be connected to an additional SDR. But it may only show current or past signal strength (spectrum, peak hold or waterfall). Other demodulation, analysis or decoding, e.g. for the purpose of content analysis, CW-decode, station identification, alarm generation, Skimmer, etc., is not allowed.

34. Rule 15.1. requests a file with stereo-signals but also suggests two different files. What is correct?

Both is correct. You may either provide a stereo file (with audio of radio A and B on left and right channel). Alternatively you can provide us separate files for both radios. In any case it needs to be clear which audio belongs to which radio.

35. Some transceiver (e.g. Hilberling PT-8000) have the possibility to disable the subreceiver by disconnecting the receiver input. Is that a valid method to disable the second receiver?

Yes, for subreceivers the rule 16.2.2. applies. The subreceiver needs to be clearly disabled. Removal of the antenna-connection for the subreceiver is satisfactory, as long as this connection cannot be easily restored.

36. What are the limitations to connect SDR-receivers for the scope-function? Can a separate SDR (such as the Perseus) be connected after the T/R-Relais of the transceiver?

It is acceptable to utilize an additional SDR-receiver (such as the Perseus) for bandscope and/or waterfall, provided that they are solely used for spectrum visualization. SDR-receivers can either be connected after the T/R-relais of the transceiver or be connected to the IF-output. Additionally it is OK to use internal SDR-modules, e.g. if the transceiver has the capability to show the spectrum.

It is not acceptable to have an additional connection to the antenna or triplexer network. All transmit- and receive signals must pass through the provided power monitors.

37. Is it allowed to use a QRP TX and a 100W amp to achieve 100W or does it have to be an all in one transceiver? E.g., Elecraft KX3 + KXPA100

Absolutely. Teams are allowed to bring any equipment they want or need to transmit 100W. The organizers will provide power monitors at the output of the transmitter or amp in this case. The only requirement is that you do not exceed the power limit. Any losses through bandpass filters, etc. must be accepted, since filtering must be connected between the power monitors and antennas.

38. Is it allowed to use a 200W transceiver (e.g. FT2000D or Hilberling PT8000A) to achieve 100W? E.g., operate the transceiver at lower drive.

Absolutely. Teams are allowed to bring any equipment they want or need to transmit 100W. The organizers will provide power monitors at the output of the transmitter in this case. The only requirement is that you do not exceed the power limit. Any losses through bandpass filters, etc. must be accepted, since filtering must be connected between the power monitors and antennas.

39. May I use my home made 150W amplifier with enough room on all bands?

Yes, you can use your homemade amplifier but actual output power needs to be limited to 100W. The actual transceiver needs to be commercially manufactured (rule 16.3.) but the amplifier can be home made.

40. Can I use a Relais or T-Connector to split RF-Signals between Radio and Power-monitor?

No, this is in violation of rule 16.2.1. as every transmission and reception must go through a single antenna connector of that Radio. But you may use signal-outputs (e.g. RX-out) of your radio if you like.

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41. Can I use an additional coax-line and run it to my SDR, so that I can use 'spare' antennas or triplexer outputs for the SDR?

No, this is in violation of rule 16.2.1. and rule 16.5.

42. At which distance will the generator be located from the tent?

We will locate the generator as far as possible, using 50m of cable.

43. How many power cables will power the tent?

We will use one cable and split inside the tent. We will split into two multi socket outlets with 6 sockets, each.

44. Will the organizers provide AC mains filter? If not: Can we bring our own filters?

Our measurements have shown that an additional AC power filter is not required. If you still want to bring your own filters: They are not allowed at the generator and must only be added in the wiring from the provided sockets to the loads/ transceiver.

45: Are we allowed to make modifications in the power supply, e.g. extend the cable, extend distances, have filters in the AC-lines or use different cables?

No, in the interest of liability and equality between teams there are no modifications allowed between the generator and the power outlets. Teams can connect loads to the power sockets as they wish, as long as it follows common safety regulations.

46. Is there a limitation w.r.t. PC monitors? Can we use 2 monitors for each of the PC?

There is no direct limitation w.r.t. the number of monitors. But there is an indirect limitation due to power- and space limitations.

47. Can we use the IF output (e.g. of the Elecraft K3) to connect external SDRs ? The intention is to connect SDRs like Afedri, softrock, QS1R, and use the SDR as panadapter.

Absolutely, the IF output of the transceiver can be used to connect an SDR-receiver.

48. In Moscow the organizers offered an external computer monitor to each team. Will those be available in Germany or should we bring our own?

You can bring your own monitor or purchase locally.

Additionally there is an offer from our local sponsor 'Funktechnik Dathe'. You can order your PC monitor with them and receive it when you register at the HQ hotel on July 11th.

The WRTC 2018 Organizing Committee is not a party to this offer.

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49. Rule 16.6 says "... External antenna tuners are allowed for all antennas. These devices must be connected after the power detector." What about internal antenna tuners inside the transceiver? Are they allowed?

Internal antenna tuners (in the transceiver) are allowed before the power detector.

50. Are control signals for the antenna switch allowed? For instance to control the Bandpassfilters or the antenna-switches.

Absolutely, the bandswitches, bandpassfilters and impedance matching can either be controlled electronically or manually.

51. If the referee likes to watch the logbook, is he allowed to connect his computer or display?

There is no requirement to allow additional connections. But under mutual agreement the referee can add his equipment to the computers of the team.

52. Is it allowed to setup the backup-radio already before the contest? Intention is to minimize the time after a potential failure.

If a radio fails and you want to replace the radio, you must request the permission of the referee. With that permission, you may install the backup radio into your station. Having a backup radio that is already setup in the station as a "hot standby" is not permitted.

53. Can a dedicated SDR PC be networked with the main RTX/logging PCs ?

Yes, the SDR PC can be networked. In this case it is the responsibility of the participants to organize or extend the network and assure compatibility with the remaining equipment, particularly the score collection computer (SCC). All other restrictions still apply. For instance, it is only OK if the SDR is not doing any receiving or processing on other than the current operating bands. The current operating band is the band of the active VFO.

54. Can you provide info about the WRTC Ethernet switch (i.e. brand/model, number of ports)?

We will use a standard Fast-Ethernet 5-Port-Switch from D-Link. The exact type is GO-SW-5E.

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55. Is it allowed to switch the dipole ends through relays (controlled by remote switch placed in the shack)?

No, remote switching between CW/SSB is not allowed. No additional connections are allowed to any of the antennas. No modifications or extensions are allowed, neither for HF- nor for control purposes.

56. Is it allowed to re-orientate the 80m antenna? What shall we do in case we have doubts about the correct setup of antennas ?

No, a re-orientation is not allowed. Instructions for the antenna team will assure that all antennas are set up comparably.

In case participants want to complain about the correct setup of antennas, e.g. electrical faults, then they should escalate to the local site team/ referee.

57. Can I add additional mechanical devices to setup keyboards or monitors? An example would be a keyboard-stand or special mouse-pads.

Yes, you can bring any mechanical setups to setup HMI-devices such as keyboards, mice or monitors. They must serve ergonomic purposes and must not add any functionality in addition to the permitted functions.

58. I would like to use a portable 12Volt battery to power a headphone distribution amplifier to provide audio for the referee and for recording the audio from our WRTC stations. This would be a rechargeable 12V battery used for audio only to eliminate the possibility of interference with the audio from a shared 12Volt power supply. Can I use a battery for this purpose?

Yes, you can power the audio equipment from batteries. The batteries must not be shared with the radio's power supply, as no power backup for the radio is allowed.

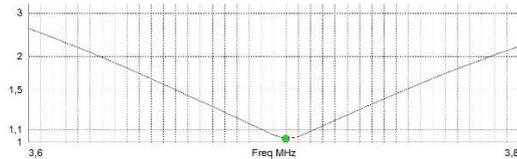
59. I understand that backup radios are not allowed in hot standby. How about backup computers? How do you distinguish between additional computers used for spectrum visualization (rule 16.2.5.5.) or used for backup purposes?

Additional computers are allowed in hot standby, i.e. they can be up and running. We do not distinguish between computers solely used for backup purposes or additionally serving spectrum visualization tasks. In case of modifications to the Ethernet -network the competitors need to assure full functionality. Especially the network connection of the SCC (Score collection computer) needs to remain functional.

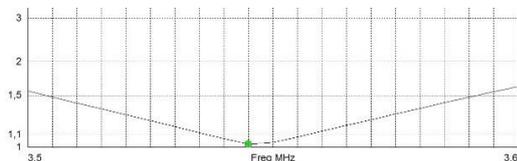
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60. Where can I find information more information about the antenna setup and SWR-curves of antennas?

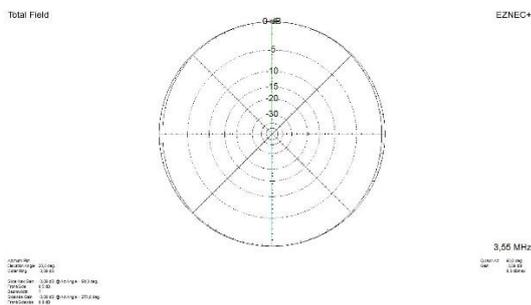
For 80m an inverted V-dipole will be used. The expected SWR-curve, derived from simulation, is here for SSB:



And this is the simulation for CW:



On 80m a pattern can be expected, which is basically omnidirectional:



On 40m a rotatable and loaded 40m dipole will be used, which is rotated together with the Spiderbeam-antenna. Additional information can be found here.

Paul, C., DF4SA: Spiderbeam Specification

www.spiderbeam.com/pdf_files/spider_specification_english.pdf

Paul, C., DF4SA: Spiderbeam Technical Data

www.spiderbeam.com/pdf_files/spider_specification_english.pdf

Westerman, R., DJ0IP, Add-On 40m Dipole Option <http://www.dj0ip.de/spiderbeam/the-spiderbeam/add-on-40m-dipole>

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61. Is the Triplexer required or optional?

The Triplexer is a recommended but optional part of the station layout. There is not requirement to use a triplexer.

Logging

62. What additional requirements exist for the Cabrillo-file and its logging?

The Cabrillo should follow version 3.0 (2.0 is accepted as well). The frequency should be provided with an accuracy of 1 kHz, i.e. CAT-control is mandatory.

At the beginning of the Contest the time and date should be accurately set in UTC. The clocks of the computers should be sufficiently accurate for the 24 hours of the contest and – if in doubt – the better computer should be used as time-reference.

Participants should download the latest CTY-data before the contest in order to provide correct claimed scores for public viewing. This is valid for Radio A and Radio B.

63. In terms of contest-Numbers: Should I log what is sent?

IARU member society HQ stations always send signal report and official IARU member society abbreviations. All others send signal report and ITU zone.

Therefore you should do the right thing and not necessarily log the received exchange. For instance, if a DL-Station sends 001, 14 or 73, then good participants should know that DL-stations should send ITU-Zone 28. Accordingly this should be reflected in the log. It is good practice to inform the other station about the wrong exchange.

We expect that participants know the common IARU member societies and –zones and log the correct exchange, not necessarily the one received.

Please see also Q10 on the usage of SCP-files.

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64. Is it allowed to log cut numbers?

Please do not log cut numbers. We will have additional effort to detect these cut numbers and make the necessary correction, thus there is a risk of losing these QSO-points.

65. What should I do if I am uncertain about a QSO-exchange or if an exchange is incomplete?

Please make a note and specify the QSO in Cabrillo – after the contest – as X-QSO. There is no penalty for X-QSOs. Skipping QSOs is not good operating habit and shall be avoided.

Safety & Security

66. What are the directions for severe weather, e.g. thunderstorms or hail?

Will competitors receive central directions?

Safety is first priority. Potential thunderstorms are usually a local weather condition at this time of year in Germany. Therefore it is the responsibility of the competitors to react responsibly, stop operation and/or seek shelter if weather conditions require (e.g. in vehicles out of metal or fixed buildings). Competitors cannot rely on central guidance by the judging committee, but can consult with referee and local site manager. Additionally the WRTC 2018 e.V. will operate a central Headquarter (HQ), which will observe actual and forecasted weather. The HQ might thus issue additional instructions, helping the safety and security of participants. WRTC HQ additionally has the right to stop operation for all, in case there is a severe weather condition.

WRTC 2018 e.V. cannot and will not assume any kind of responsibility for death, personal injury and damage to equipment. It is up to the discretion of each and every member of the team to decide on the level of risk they are willing to take.

67. How can my family reach me if there is an emergency?

We will have an emergency phone number at HQ during the contest. We can then relay messages to your site. The telephone number is: +49 152 51020879

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Revision history

20 Aug 2017	Initial version	DL8OBF
19 Dec 2017	Added Q2, and Q16 Provided a more elaborated answer on Q6	DL8OBF
26 Dec 2017	Added Q11 and provided a more elaborated answer on Q11	DL8OBF
17 Mar 2018	Corrected frequency in to 14350 Q4 Added Q27 to Q30 Wording change Q17	DL8OBF
05 May 2018	Added additional FAQs on power supply, station setup and its modification as well as logging. Added Q19 on the combination of band-scope and bandmap incl. the possibility to show callsigns. Clustered questions in a new order. Moved the 2 nd bandscope-question to Q17 (operation) and changed the answer	DL8OBF
08 May 2018	Wording changes in Q12 and Q17	K5ZD, DL8OBF
13 May 2018	Added Q40 on hot standby and extended Q17	K5ZD, DL8OBF
21 May 2018	Added Q41 to 44 on SDR-PCs and antennas, re-enumerated the logging-chapter, corrected a typo in Q48	DL8OBF
21 June 2018	Added material on hot standby computers and antenna setup	DL6MHW, DL8OBF

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29 May 2018	Added Q45 on ergonomic devices and a new chapter on safety & security	DJ3WE, DL8OBF
05 June 2018	Added additional questions about internet-connection under 'operation' Added a question on battery-usage for audio under 'station setup'	DL8OBF
09 June 2018	Added a clarification on rule 12.5 and the usage of check-partial ■ Released	K5ZD, DL8OBF
16 June 2018	Added a question about backup computers In station Setup Added a question on SWR-curves Added possibility of a central stop in case of emergency	DL6MHW, K5ZD, DL8OBF
24 June 2018	Added a list of acceptable frequencies	DK4VW, K5ZD, DL3DXX, DL8OBF
26 June 2018	Wording changes in thunderstorm guidelines Changed the response on monitor provision	DJ2YA, DL1MGB, DL8OBF
28 June 2018	Allowed ITU-zone explicitly for CTY.dat Included the emergency telephone line number ■ Released	K5ZD, DL6KVA, DL8OBF
05 July 2018	Added a question w.r.t. unique calls resulting From Cheerleading and on working outside the accepted frequencies	DJ2YA, DL5AXX, DL3DXX, DL8OBF
08 July 2018	Added a question on triplexer ■ Released	DL5AXX, DL8OBF
10 July 2018	Added questions on frequent band changes and Radios with duplex capability ■ Released	DL5AXX, K5ZD, DL8OBF