From:

Hadi's Playground

The Website of DJ2PJ

DX is...

An Short Introduction to an Epidemic Form of Madness

by

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You know what DX is - are you sure?

No doubt, DX is much more than its definition can tell us. Moreover, it's not even easy to find a definition for what we really mean when talking about DX. In the early days of amateur radio, "DX" stood for "distance bridged by a radio contact". But what dimension of distance are we talking about? How far must a station be apart before we accept it as “DX”? 5, 50, 500, 5,000 kilometres - even more? When I told a UA6-station, who answered my CQ-DX call on 14 MHz, that he was no DX, he answered that he had replied to me being a station outside his country, this being "DX". I must admit, I'd have been extremely happy if a UA6 would have answered my CQ DX on 144(!) MHz - but on 14 MHz?

My elmer once taught me that everything outside my continent was DX - a very clear definition, as it seems. But how will a station from Cyprus react when his/her CQ DX was answered by - say - a Greek station? And is a radio amateur on the arctic island of Franz-Josef-Land no DX for somebody transmitting from the island of Malta, but DX for somebody operating from Libya? In short: the criteria of being DX are (a) continent and (b) distance, the latter roughly dependent on the frequency used. For shortwave contacts (3.5 - 30 MHz), here is my personal rule of thumb of what should be considered DX (at least from a European point of view):

DX is...

...a station in another continent AND at least 1,500 kilometres (900 miles) away

OR: ...a station in one's own continent AND at least 3,000 kilometres (1,800 miles) away

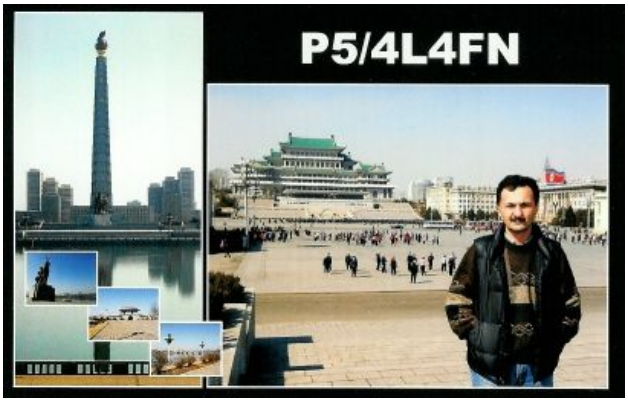
For very obvious reasons, on VHF and UHF belonging to a continent is not that decisive. A distance of more than 800 kilometres (500 miles) should be considered DX on VHF, more than 600 kilometres on UHF. It's nothing like a rule of thumb - take it as that!

DX objectives

Another aspect is called into play when we are talking about *DX objectives*. There are DXers who work DX at random. Their only aim is to contact as many far-away (DX) stations as possible, no matter how very far away they are and what zones, territories, countries, islands these stations represent. In most cases, however, DXers have decided to pursue a more systematic plan: they are hunting and collecting QSL cards for DX awards and try to systematically collect different countries or territories, with the final aim of "having worked them all". "Having worked them all" in most cases means: having contacted (and confirmed by QSL cards) all countries and territories - "entities" as the ARRL calls them - of the so-called DXCC List. As most DXers follow this line, they engage in competition with each other. For them,

everything they still “need” for their DXCC simply is "DX", although in many cases it is not DX by the definition above. An example: even for a European, 3A (Monaco) might be a rare DX entity which he or she still "needs" for a DX award - but it is not at all DX by (the above) definition! So please keep in mind: thriving for DX awards is just one variety of engaging oneself in DX, a subset, as it were, of working DX. There are many other versions of DXing, and everybody should respect them! The definition of what we mean when talking about DX, however, should be – at least nearly - the same for everyone.

DXCC is the abbreviation for the *DX Century Club* programme, issued as early as 1935 by the American Radio Relay League (ARRL). There are 18 different DXCC-awards**,** crowned by the DXCC Honor Roll, perhaps the most-yearned-for trophy in amateur radio. Contacting 100 of 337 listed DXCC entities, which you need for the basic award (*left*), does not seem to be extremely difficult. Even a not too experienced operator, a DX newbie, with a modest station setup (100 watts output, dipole or vertical antenna) can easily make it within one or two weeks. "Worked 'em all" (which takes for granted that all QSOs are verified by a QSL card), however, is more or less a life-long task, and most DXers never reach this goal. The main reason is, that a lot of DXCC entities are not permanently represented by radio amateurs, because there are no human settlements possible (secluded reefs or small islands like Scarborough Reef, BS7, or Peter Island, 3Y), or where amateur radio is simply forbidden or impossible (as in North Korea, P5). Entities of that category are the preferred target of so-called *DXpeditions*, with teams of operators who peacefully invade the "rare spot" for a couple of weeks to make some 80,000 contacts or more in most radio modes and on all frequency bands with, hopefully, everybody who "needs" this geographic entity. An adrenaline festival for both parties, the DXpeditionists and the masses of hams calling, fighting, and finally contacting them (hopefully...) for an ultra-short message: callsign, report, confirmation. Not more than a matter of seconds. Next one please! The resulting *pile-ups* - that is the clusters of stations permanently calling the rare DX - belong to one of the madnesses and, maybe, seamy sides of amateur radio. No doubt, it's a real shame how many DXers obviously lose their heads - their fairness, sportsmanship, and good manners! - until after a couple of days the great storm is over and life is back to normal.



A DX trophy to fall in love with: a QSL card from North Korea (P5)

Two other famous DX-awards are issued by the American CQ Magazine: the *CQ DX Award (CQDXA)* and the *Worked All Zones (WAZ) Award*. The *CQ DX Award* resembles very much the DXCC: 100 countries or entities to work for the basic award using the same ARRL DXCC Entity List, with one exception: since 17th February 2008 the Kosovo (Z6) is a new one for the CQ DX Award, but not for DXCC. There are a few further disparities. Unlike DXCC, deleted countries (entities not in the list anymore, e. g. German Democratic Republic, Y2) do not count at all. There are honour rolls for CW, RTTY, and SSB (not for the MIXED mode) for which a station qualifies with at least 275 entities confirmed. It is a matter of taste (and financial investment) for which award you decide. Read the rules of both awards carefully, and make your own choice.

The *Worked All Zones (WAZ)* award refers to the 40 zones in which the CQ Magazine has divided the world. The award is issued for having worked and confirmed all zones, but there are endorsements, as with all other mentioned awards, if you fulfil the rules of the WAZ in a special mode, on one and the same frequency band, or on each of the five standard frequency bands. Some zones are rather difficult to reach, especially on certain frequency bands.

Relatively new in the series of CQ awards is *The CQ DX Field Award*. 50 or more grid fields of the Maidenhead Grid Locator System (AA through RR) have to be worked for the basic award, and there are several endorsements available. Working 50 grids sounds easy - and maybe it is not that much difficult - but remember that many of the 324 grids are completely water... I think the CQ DX Field Award is another great challenge for every DXer.

Another awards program having become very popular among DXers is the *Islands On The Air (IOTA)* program of the Radio Society Great Britain (RSGB). They offer 21(!) separate certificates and two "prestigious awards for high achievement", as the handbook states. Have a look at the impressive manual yourself. It is a lot of fun to work as many of the islands or island groups listed, although you probably need more than a lifetime to contact them all. The basic award is issued for having worked and confirmed 100 island groups, followed by certificates for 200, 300, etc until 1,000, and there are specific continent-oriented versions of the award (IOTA Africa, Antarctica…), for which you have to contact 75% of the island groups listed for that continent.

Look it up in the WEB... Awards

DXCC (ARRL)

General information/rules:	www.arrl.org/awards/dxcc
DXCC Entity List:	www.arrl.org/country-lists-prefixes

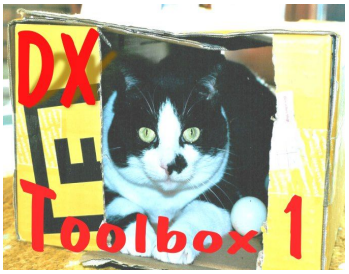
CQDX Award (CQ Magazine)	
General information/rules:	www.cq-amateur-radio.com/cq_awards/index_cq_awards.html
WAZ (CQ Magazine)	
General information/rules:	www.cq-amateur-radio.com/cq_awards/cq_waz_awards/index_cq_waz_award.html
Zone/Country-List:	www.cq-amateur-radio.com/cq_awards/cq_waz_awards/index_cq_waz_award.html
Atlas with CQ/ITU-zones etc:	www.dxatlas.com
CQ DX Field Award (CQ Magazine)	
General information/rules:	www.cq-amateur-radio.com/cq_awards/cq_dx_awards/cq_dx_field_award/cq_dx_field_award.html
Calculating grid fields:	www.arrl.org/locate/grid-squares
General information/rules:	www.rsgbiota.org/index.php?countthis=1
IOTA-List:	www.rsgbiota.org/info/advanced_search.php

Forgive me for not mentioning the many other fascinating DX-awards. There are virtually thousands of them, and to describe them all would simply be beyond the scope of this booklet. Have a look into Ted Melinosky's The K1BV DX Awards Directory which - believe it or not - contains more than 3,300 different awards and diplomas from 119 countries. Another madness, but a friendly and a challenging one!

Knowledge, Tactics, and Tools...

Now, what are the prerequisites of becoming a successful DXer? No, it's not that much as you'd suppose a super-station with top-quality transceivers and linear amplifiers, multi-element directive antennas at a giddy height, and the like. A setup like that will no doubt provide you with a good and maybe outstanding signal everywhere in the world, and this certainly is an ideal basis for hunting the DX - but working rare DX-stations requires much more than efficient station hardware. It is, first of all, operation skills, the operator, not the station, that finally wins the battle. So, again, what are the prerequisites of becoming a successful DX-operator?

Have a look into **MinkaTheDX-Cat's** five DX-toolboxes which should make DX-life easier for you.



Things you should be familiar with:

Callsign Allocations - Frequency Allocations - Beam Headings - Propagation

How would you judge a language translator who is forced to look up in a dictionary every two words of his text, because he is simply not familiar enough with the vocabulary of the foreign language? The same applies to a DXer who is not in possession of his basic tools, the DX vocabulary, so to speak.

Callsign Allocations. One of these tools or prerequisites is to be (near-)perfectly knowledgeable, preferably by heart (!), as to which prefix (the first part of a callsign: e. g. "W4" in "W4BPD") - and sometimes also suffix (the second part of a callsign: e. g. "XO" in "FT5XO") - represents a certain country or entity. An experienced and serious DXer rarely needs a reference book, a list, or a logging program to tell which country, region etc the callsigns belong to. There are only a relatively few cases where the callsign of a station does not give a clue as to where it is located (example: if you hear E51GGT, you cannot say by reference to his callsign whether he is in North Cook or in South Cook, which are different DXCC entities). To make yourself familiar with the world of prefixes and suffixes, browse through the appropriate websites *(see the Look-it-up-in-the-WEB box below).*

Frequency Allocations. You will remember: knowledge of the frequency allocations of the amateur-radio service has been part of your licence examination. Radio amateurs should know rather precisely where they are allowed to communicate in a certain mode. In reality, however, things turn out to be a bit more complicated. The International Amateur Radio Union (IARU) has divided the world into three regions. Region I: Europe, Africa, the former USSR countries, Middle East (excluding Iran) and Mongolia, Region II: North, Central and South America including Hawaii, Johnston and Midway Islands, and Region III: the rest of Asia and Oceania. These regions felt obliged to define their own bandplans, on the basis of the worldwide general frequency allocations of the International Telecommunication Union (ITU) in Geneva. These bandplans are as a rule supplemented by special national regulations. For your daily DX-work see the band-plan publications of the IARU and of your national radio organisation *(see the Look-it-up-in-the-WEB box below).*

Beam Headings - the paths to the DX locations you have to point your directive antenna for maximum gain - are another example of what a serious DXer should know, preferably by heart, at least with an accuracy of, say, +/-10°. (It goes without saying, that beam headings do not play any role if you use non- or omnidirectional antennas.) Beam headings (in degrees) to a spot you want to contact depend on where you are located and have to be calculated or taken from an azimuthal map. Some antenna rotators have an azimuthal map integrated in their indicator/control units, which is fine if you have enough geographical knowledge as to be sure where

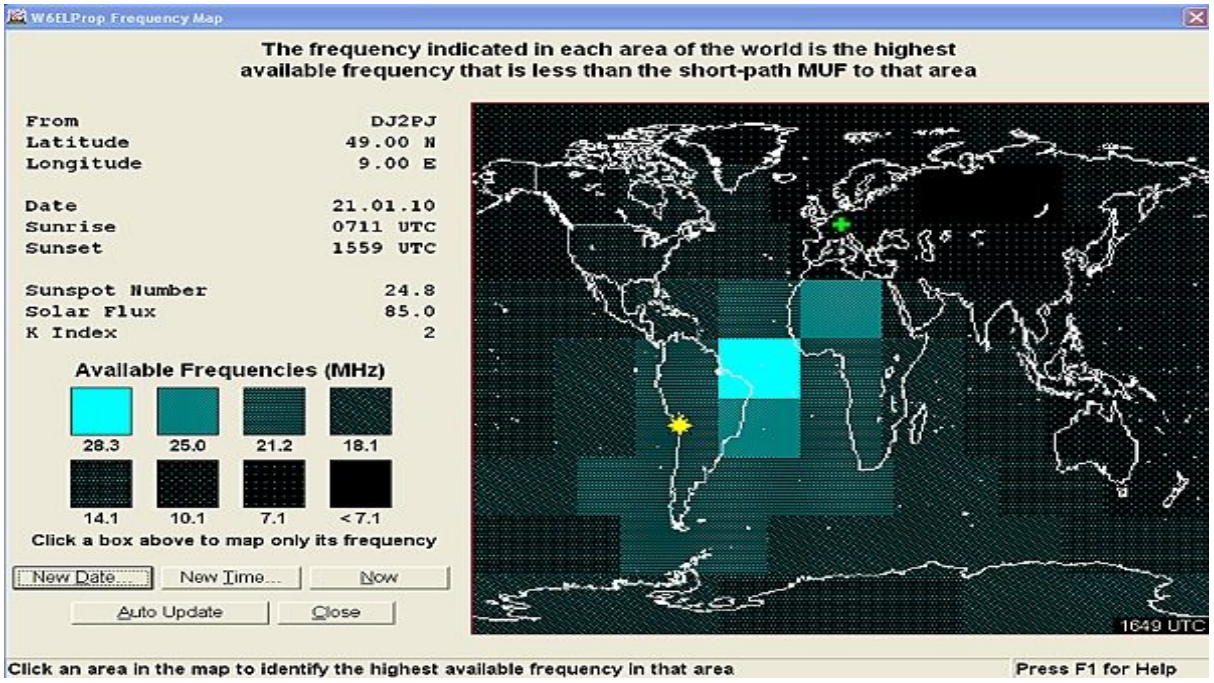
the location of your DX exactly is. If this is not the case, the superb DX-Atlasses mentioned below are a better tool.

Even if you do not want to become an expert in spherical geometry, you should know that the wave your antenna radiates, with certain very specific exceptions, follows the so-called great circles around the earth. These lines run through your location and those of your QSO-counterparts. Communication from one to the other location is theoretically possible in two directions ("headings"): one which results in a usually relatively short distance - therefore called the *short path* (SP) - the other one in a relatively long distance - the *long path* (LP). As the LP-direction is the opposite heading, it is easily calculated by just adding 180 degrees to the SP-direction (LP=SP+180). Long-path propagation is not always possible but, if conditions allow, sometimes considerably better than short-path propagation - depending on the state of the ionosphere. You can find out by trial and error and by relying on a (hopefully: long!) experience, but - very reliably so - by using one of the propagation-forecast programmes (see below).

Propagation. At least for long-haul DX, propagation plays an enormous, if not a decisive role. Before you start your DX-session, you should inform yourself how DX-conditions look like: What is the status of the solar flux (SFI) or relative sunspot number (R)? What do the A- and K-indices look like? If you are making use of a so-called DX cluster *(see Toolbox 2)*, this information will be delivered automatically and in regular intervals by WWV and/or WCY. As a very rough estimate, an A-index >25 and/or K-index of >4 indicate bad or less-than-average DX-conditions on most shortwave frequencies.

A perfect propagation indicator is offered by the International Beacon Project of the Northern California DX Foundation (NCDXF). They have 18 beacons installed in nearly every corner of the world, each of which transmits successively with 100 watts, 10 watts, 1 watt, and 1 milliwatt after a precise timetable on 14100, 18110, 21150, 24930, and 28200 kHz. The beacons use non-directional antennas; so you have a good estimate of how strong your signal will at least be in the region of the beacon. The only disadvantage, maybe: the beacons are transmitting in telegraphy... Good to have learned the code or to learn the code now…

If you intend to make sort of an exact multiband-prediction for a forthcoming DXpedition you would like to contact or undertake yourself, you better use one of the PC propagation calculators, the probably best one being the fantastic W6ELProp by W6EL. Have a look at the frequency map (opposite page) delivered by that programme for a certain date, a certain time, a solar flux of 85 (number of sunspots: 25), and a K-index of 2 for the geographical coordinates of DJ2PJ.



Look it up in the WEB... Toolbox1

Callsign Allocations

Table of Allocation (ITU):	www.itu.int/online/mms/glad/cga_callsign.sh
Table of Allocation (ARRL):	www.arrl.org/international-call-sign-series
AC6V's Mega Prefix List:	www.ac6v.com/prefixes.htm

Frequency Allocations

IARU Regions and Zones:	www.iaru.org/regions.html
IARU Region 1 -3 band plans	www.iaru.org/bandplans.html

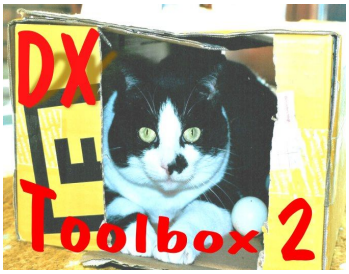
Beam Headings

DX-Atlasses:	www.dxatlas.com
	www.hamatlas.eu/index.php?setlang=ENG&lang=ENG

Propagation

Solar Ham page by VE3EN:	solarcycle24.com
Space Weather DKØWCY:	www.dk0wcy.de
Live Magnetometer:	dk0wcy.de/magnetogram/
Aurora.	www.aurora-service.eu

For your remarks:



The DX Stage

What's going on? - What will be going on?

Becoming a super-informed insider...

It is as simple as this: the better informed you are, the more efficient your DX efforts will be. Try to know precisely what's on the DX stage today, get to know what's on it tomorrow and after tomorrow. On the basis of this knowledge, organise your very personal planning, your personal calendar, for working the DX you "need": a new DXCC-entity, a new IOTA-group, a new zone: on this or that frequency band, in this or that mode.

Informing yourself with the help of the good old DX corners in monthly radio amateur magazines might be helpful and good as a first step, but their degree of actuality can by no means compete with other, more up-to-date and more flexible information channels which you can readily tap nowadays: e-mail information, the Internet, and so-called DX clusters. The more sources you make use of, the better and the more thoroughly you will be in the picture.

Email information ("reflectors"). Subscribing to DX newsletters are in no case a new invention; DXers had always felt the need for undelayed, up-to-date information. New is *how* the news reach you today. It is electronic mail that provides the possibility to spread DX news within seconds or minutes.

The email publication which is by far the most actual, is Bernie McClennie's (W3UR) *Daily DX* which, as the title proclaims, is issued daily (except on Saturdays/Sundays). Beside comprehensive DX- and IOTA-news, it contains QSN-reports (reports on DX-stations worked quite recently with times and frequencies and other necessary information), a DX-forecast in the form of a DX-calendar, QSL-information for DX-stations on the air, and a very useful propagation forecast.

This is nearly all a DXer would need to become a super-informed insider, but you should show some understanding that subscribing to a publication like that, which swallows the working capacity of a man, cannot be provided free of charge (it's a bit astonishing - I cannot help saying this - that the majority of radio amateurs are ready to invest a lot of money in hardware like transceivers and antennas, but turn out to be real skinflints when confronted with relatively minor expenses for written material and all sorts of PC software...).

If you feel you are not dependent on daily information, there are a lot of other very good and comprehensive DX newsletters which, if you subscribe, will be emailed to you every week, like the famous and very reliable *425 DX News* edited by Italian DXers, available in English, Italian, Japanese, Portuguese, and Russian. The 425DX-people offer a fantastic website which is a rich source of information *per se* on the past, present, and forthcoming DX scene.

Another very good source of DX information similar to the 425 DX News is the German DARC *DX Newsletter (DXNL)* which is in English, too, the *ARRL DX News*,

and Carl Smith's, N4AA, *The QRZ DX Weekly Newsletter*, which can also be delivered by snail mail if you want. All these publications are free of charge, except the last one.

Internet. Major DXpeditions will announce and in exhaustive detail describe their activities on a website of their own, the clickable URL of which you will very probably find in one of the DX newssheets. Make a bookmark of their webpage before they are on the air. This will keep you informed straight from the horse's mouth until the DXpeditionists have left the rare spot. Howsoever, have a regular look on *NG3K's webpages* which belong to the most important URLs I know for DXers and contesters. Bill Feidt, NG3K, offers a special site for announcing DXpeditions which you can use as your perpetual DX- calendar. The page is not only nice to look at, but also well-cared-for and absolutely reliable. You can also read or download some of the above-mentioned DX newssheets there (in case you have not made a subscription), and you can make use of a lot of additional DX-related information. The bookmark for NG3K's pages should have a prominent place on your desktop!

The same goes for the late AC6V's webpages which, if not one of the first addresses as a DX dictionary, are a cornucopia of DX information. If in trouble or in doubt - try AC6V as a starter, and click yourself through the information jungle!

Another very informative website is Marek's (DH9SB's) *Weekly DX-Calendar* (including a monthly overview) which, if you are looking for something special, provides a search by DXCC, continent, and date. With a click on the DXpedition's callsign you even retrieve the latest DX-cluster spots for them. Really fantastic! It's worth bookmarking this page on your PC screen!

DX Clusters. It all began in the late eighties when Dick Newell, AK1A, developed the so-called PacketCluster software to enable radio amateurs to exchange DX information via the packet radio net on UHF. One station using this software is linked to other stations using the same software. They are so-called nodes which form a cluster, and clusters can connect other clusters, which then form an extensive network.

DXers who are connected to a cluster acquire the benefit of so-called DX spots (callsign of the DX-station, frequency, additional information) other connected stations have "spotted". Connected stations can also send spots and announcements, talk and mail messages, and they have an easy access to data in databases, e. g. QSL addresses etc. Users of the system can set personal filters to avoid information they do not need or desire, even set an (acoustic) alarm for a particular DXCC entity. The commands, mostly *dx-, announce-, show-* and *set-* commands, if not sent out automatically, are quite easy to learn, so that this system seems to be a must for every serious DX amateur.

But, as most things in this world are nice-looking at first sight, the DX-cluster system also suffers considerable disadvantages. Above all: While searching for DX, you should never wholly rely on DX-cluster spots or announcements. When making your own regular band observations, you will come across and work rare DX stations BEFORE they are spotted and BEFORE even the DX greenhorns "join" the pile-up. "You hear and work them before the lower class people are on frequency", as a prominent DX-friend has put it. DX clusters can represent both: blessing and pest!

They should be seen from a certain critical distance. Make your own experience! You'll bang into the many disadvantages and "attending ills" which such a system brings along.

In the meantime, sufficient cluster software has been developed, like ARCluster, CC Cluster, CLX (only for the LINUX operating system), DxNet, DXSpider, DXHeat and a few others. In addition, the TELNET system, an Internet-protocol of its own, can be applied to access one of the many DX clusters. I'd very much recommend you to use TELNET if you are connected to the Internet anyway and have no UHF-station at hand or generally have no intention to work on 435 MHz. The only thing you have to do, is installing cluster software specially developed by and for hams, as there are CC User by Lee Sawkins, VE7CC, and RXCLUS by Robert Chalmas, HB9BZA. I myself prefer Lee's fascinating program, but this might be a matter of taste. Each one has its advantages and disadvantages; decide yourself by testing the different programs for a while. Both are free of charge and can be downloaded at the sites shown in the Look-it-up-in-the-WEB box below. From the list of TELNET clusters given in every cluster software you can easily select the one that suits your purposes. They are very similar anyway...

Fans of the more exotic modes like OLIVIA, DOMINO, CHIP, HELL, JT9, JT65, SIMPSK etc should - at least additionally - try W6RK's special digimodes (DX) cluster that allows you to announce your own CQs, not to forget PSKReporter, although it is quite different from the tools mentioned before and not chiefly DX-specific.

Before actively using a DX cluster for the first time, please intensively read up everything about how the system is used and - very important! - which sandtraps you have to avoid. First of all, you are expected to solely spot DX(!) stations. Before you spot, decide whether your message is of enough value to others. Never spot everyday DX or stations spotted only a few minutes ago. DX is what it is for you, the spotter (*see DX definitions above*). That means it is at least taboo to spot your own callsign. Decide whether a message should be a spot or an announcement. You are expected to *only spot what you definitely hear* on a certain frequency - with no exceptions! For instance, you cannot spot stations you would simply *like* to hear. Non-spot messages are sent in announcement mode although even the announcement "corner" should not serve as a chat room for private conversation, nor is it a Hyde Park for DX speeches...

Above all, the DX cluster is no stage for personal showmanship and image cultivation. Many radio amateurs, mainly DXers, have an incredible penchant for showboating. Remember: nobody is interested in what a fantastic operator you are, except yourself; the one and only thing that counts is the message what kind of DX is on, on which frequency it transmits, if necessary: in which mode, possibly followed by a comment on frequency offset, QSL information and the like (please no personal comments like "73, Jack", "nice QSO!", "tnx" etc).

Got me? Please consult the many and very good handbooks on this topic.

Look it up in the WEB... Toolbox2

Information by e-mail/Reflectors

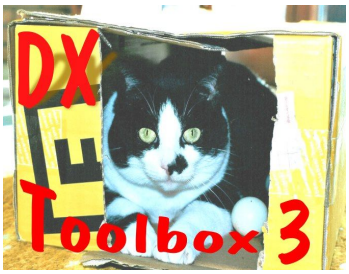
Daily DX:	www.dailydx.com (homepage and subscription)
425DX News:	www.425dxn.org (homepage and subscription)
DARC DX Newsletter (DXNL):	www.dxhf.darc.de/mailman/listinfo/dxnl (subscription)
ARRL DX News:	www.arrl.org/w1aw-bulletins-archive-dx/
The QRZ DX Weekly Newsletter:	www.dxpub.net/qrz-dx.html

Direct Information from the Internet

NG3K's Homepage:	www.ng3k.com
NG3K's Announced DXpeditions:	www.ng3k.com/misc/adxo.html
DH9SB's Weekly DX Calendar:	www.dx-info.de
Ham Radio News:	*dxnews.com* *(incl free e-mail subscription)*
DX World Net:	*dx-world.net*
AC6V's Homepage:	www.ac6v.com
TELNET DXCluster addresses:	*www.ng3k.com/Misc/cluster.html*
PSKReporter:	*pskreporter.info/pskmap.html*

DXCluster User Programs

RXCLUS:	www.hb9bza.net
ARCluster/DXSpider User Program:	www.bcdxc.org/ve7cc/default.htm#prog
DXSpider User Handbook:	www.dxcluster.org/main/usermanual_en.html



The DX-Quickie

QSO-Patterns for the Different Modes

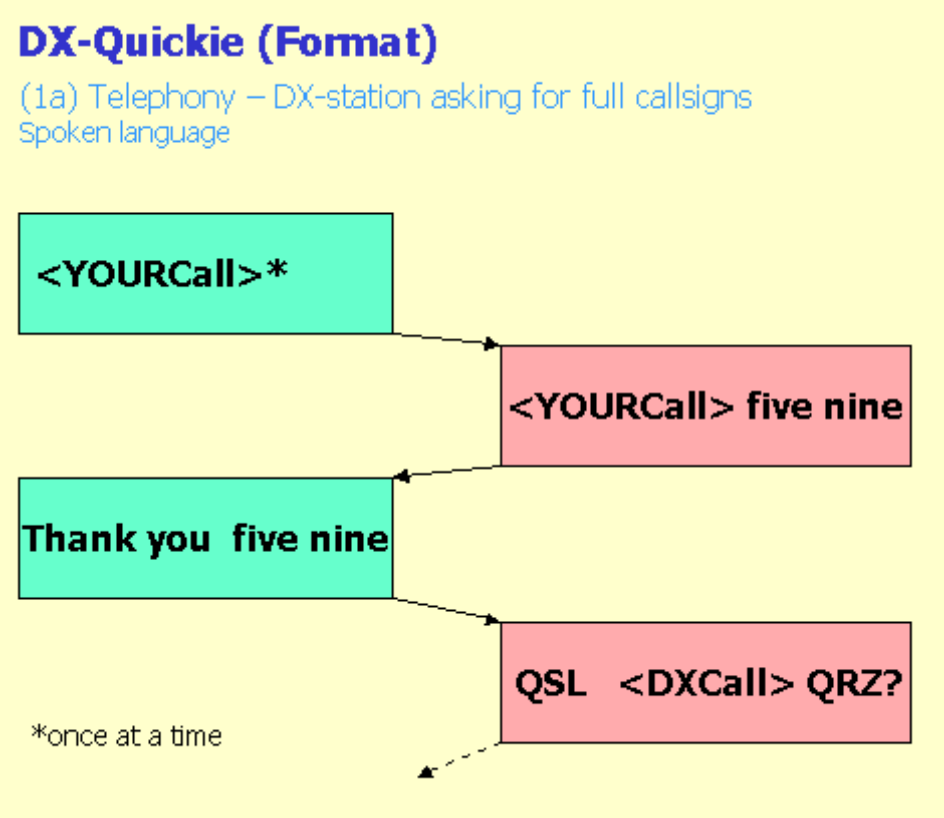
Breaking through the Pile-up

DXers use to distinguish between very rare, rare, semi-rare, and everyday DX. This has nothing to do with distance, but refers to the availability of the DXCC entity concerned. Stations from the US, Japan, Brazil, South Africa, most European countries and many others can easily be heard and contacted every day - they are sort of noname DX. The overwhelming majority of radio amateurs belong to this category. Nothing special - not really "needed", grey mice in the DX circus. A country, however, in which no amateur radio licences are issued (i. e. for political reasons) or a remote island somewhere in Antarctica or in the Pacific, belong to the "very rare" or "rare" category; spots like them will be ranking very high, maybe on top of the Most-Wanted Lists regularly published by DX organisations and magazines. On the basis of annual surveys and sometimes with a high degree of differentiation as to modes, bands, continents, they document what percentage of the world's DXers still need a certain DXCC entity to have a first contact with. The higher the percentage, the more "rare" or "wanted" the DXCC entity is. If an entity like that happens to show up, nearly everybody starts calling, resulting in huge pile-ups of stations on one and the same frequency. Nearly no chance either for the rare DX or for those fiercely calling to decipher anything, let alone having an undisturbed contact. How can this situation be overcome?

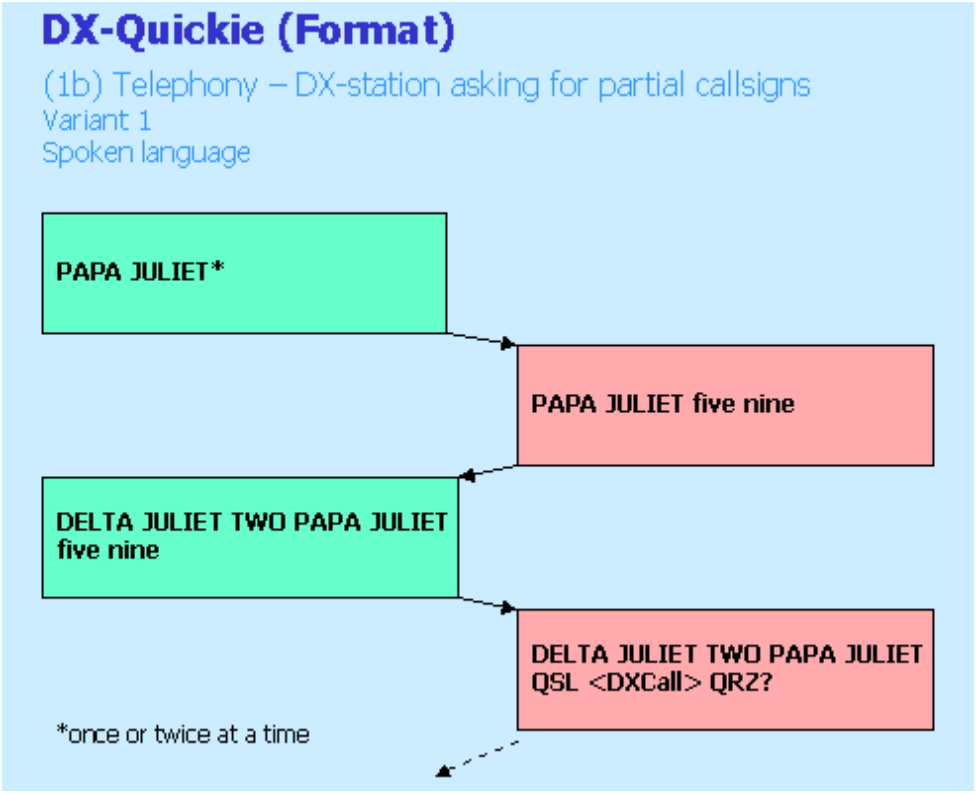
The DX-Quickie - QSO-Patterns for the Different Modes

A routine contact between an everyday station and a DX-station exchanging reports, names, locations (QTH) etc would take about ten minutes - much too long if thousands upon thousands are impatiently queuing for a long-hoped-for contact. The solution is to reduce the length of the QSO to a tolerable minimum, e. g. to reduce it to the exchange of signal reports (RS, RST, or RSQ) and a short confirmation procedure, to be sure to be "in the log". The signal reports exchanged - always a "59" (in telephony) or a "599" (in all other modes) - are anything but "honest" or reflecting true signal strength. Treat them as a pure placeholder without any informal value. Ultra-short DX-QSOs of this category - let's call them "DX-quickies" - differ a little from mode to mode, but with experienced DX-operators they will always take only a minimal fraction of the time of the routine QSO mentioned above.

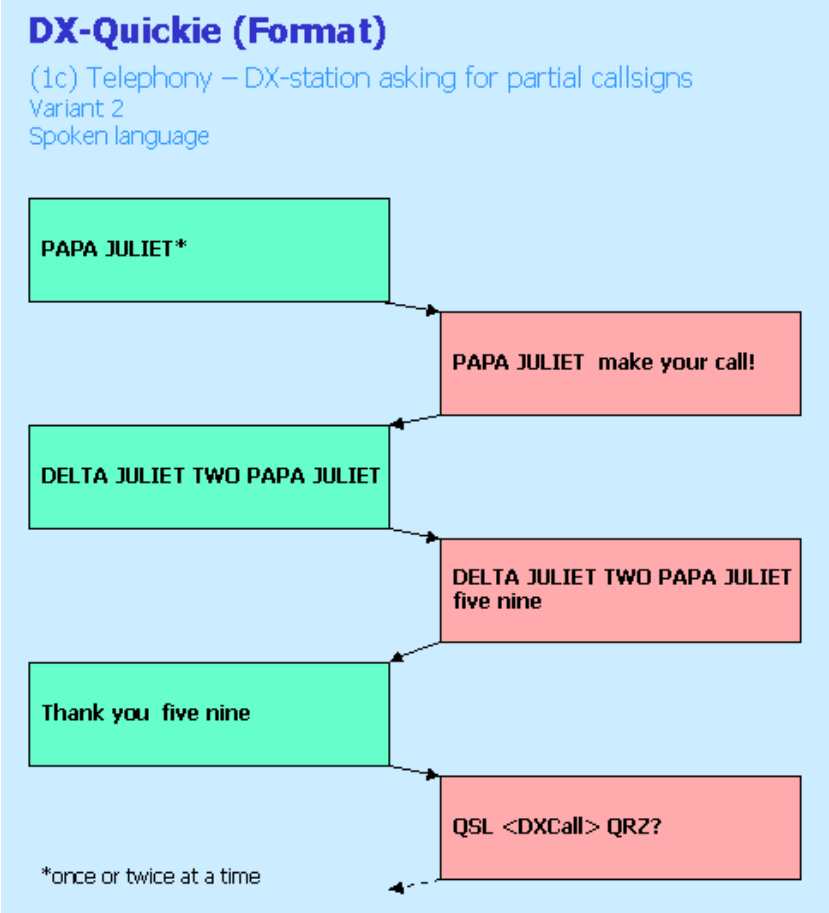
In the boxes below, you'll find the patterns (formats) of typical DX-quickies in the different modes (telephony, telegraphy, RTTY including the Digimodes). The pink rectangles contain the texts which the rare DX (<DXCall>) sends, the green rectangles contain the texts of the station contacting the rare DX (<YOURCall>). You should replace <YOURCall> by your personal callsign.



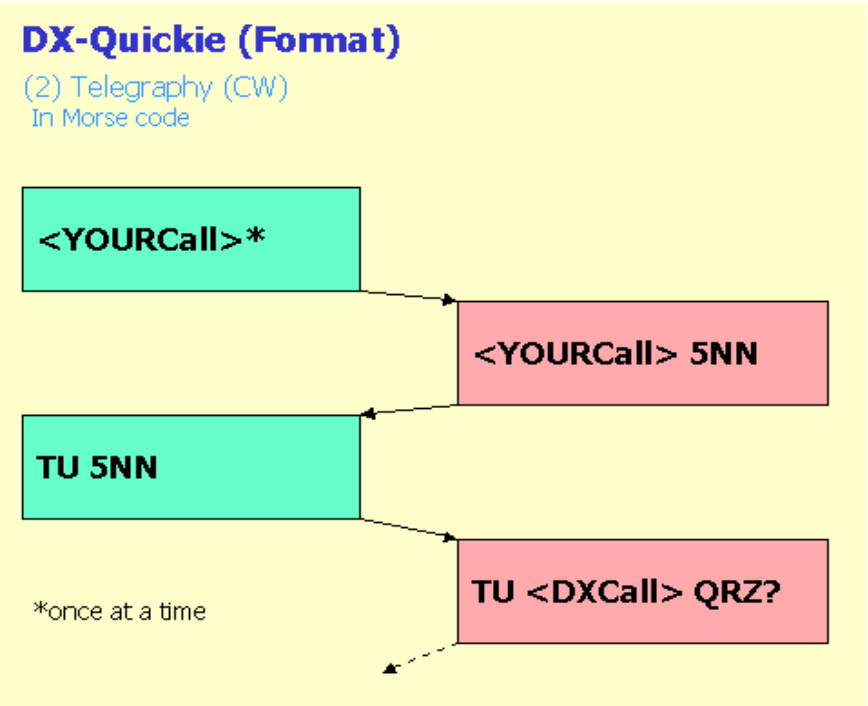
If a DX-station asks for or accepts to be called with partial callsigns (preferably the last two letters of the suffix), you should make use of the following formats (assumed <YOURCall> = "DJ2PJ"):



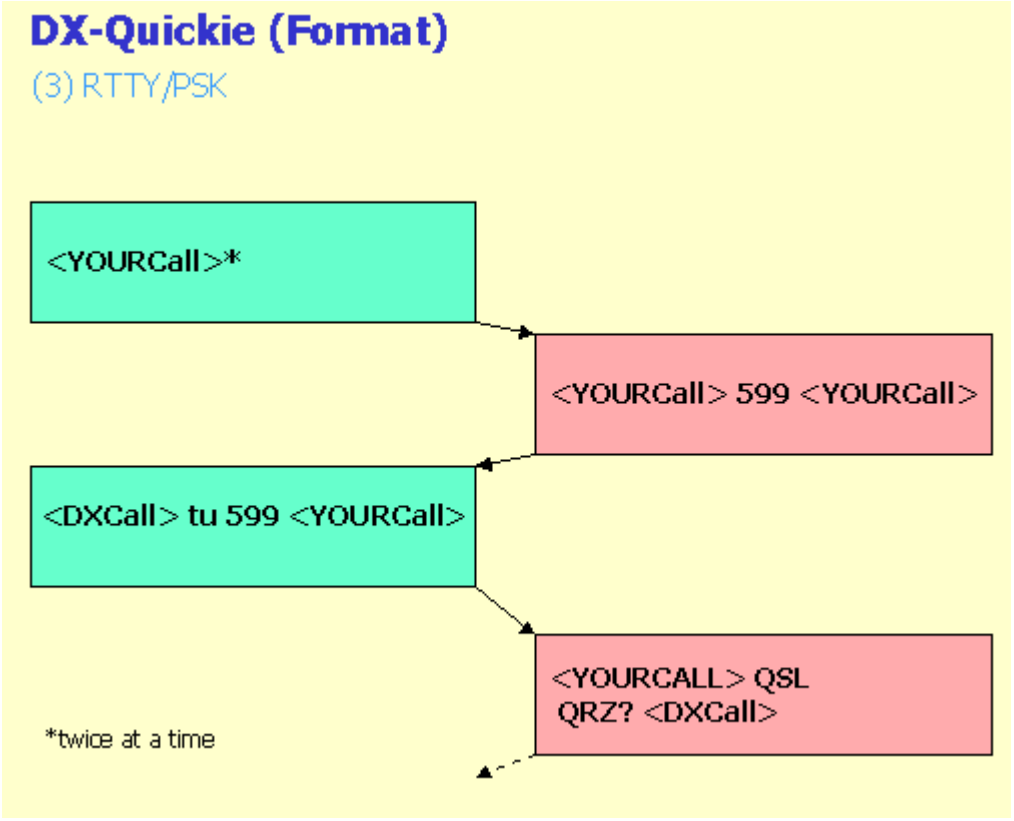
In case the DX does not follow the above pattern and verifies the full callsign before giving a report, the following alternative format is used:



The following two patterns - for telegraphy (CW) and RTTY/PSK - are self-explaining. I recommend you to adopt the texts in the green rectangles as macros for your CW-keyer and/or for the computer programmes in use. Please note that in CW "599" is always (!) keyed in an abbreviated form as "5NN", or even "ENN"!



In RTTY, it is advisable to insert a <CR> (carriage return) at the beginning of each transmission to improve synchronisation of the signal. Please note that - in contrary to RTTY - PSK (and other digital modes) are case-sensitive (divide between lower and upper case letters).



Breaking through the Pile-Up

Operating with one of the quickie-formats shown above is a perfect method to considerably reduce the length of a contact and thus opening up a lot more hams the chance to working the rare DX. On the other hand, it does in no way solve the problem of too many stations calling on the same frequency at the same time and making all or most signals, including the DX-signal, unreadable for everybody.

The magic formula for a way out of this dilemma is called "working split": The DX-station is operating on one frequency, the callers on another frequency or, preferably, on a multitude of frequencies within a certain frequency range, in both cases keeping an offset (QSX) of at least one or more kilohertz from the DX-station's frequency. The idea is that the DX-station's frequency remains free of callers, so that the DX can be heard "in the clear". The rare DX will announce how many kHz offset (up or down, higher or lower) from its working frequency (QRG) it will listen for calls. Typical announcements are (in brackets: how you should react):

in SSB (telephony):

"listening 5 to 10 up" (= call him on any frequency between 5 and 10 kHz higher than his operating frequency)

"listening 250 to 270" (= call him on any frequency between x250 and x270 kHz, where "x" stands for the band frequency, e. g. "14" for the 20-metre band; in such a case: 14250 and 14270 kHz)

in CW (telegraphy):

*"*2 up" (= call him exactly 2 kHz higher than his QRG or: call him at least (!) 2 kHz higher than his QRG)

"2/5 up" (= call him between 2 to 5 kHz higher than his QRG or: call him 2 or 5 kHz higher than his QRG alternatively (!))

"35" (= call him on exactly x035 kHz, where "x" stands for the band frequency, e. g. "28" for the 10-metre band; in this case: 28035 kHz) - rarely used

"1 dwn" (= call him exactly 1 kHz lower than his QRG or: call him at least (!) 1 kHz lower than his QRG) - down-offsets are rarely used

in RTTY (radio teletype):

"3 up" (= call him exactly 3 kHz higher than his QRG or: call him at least (!) 3 kHz higher than his QRG)

"up up up spread out" (= call him at least 1 kHz higher but better use a [much] higher offset [up to 10 and more kHz, depending on the extent of the pile-up])

In other modes, split operation is rarely necessary. In PSK, the pattern mostly follows that of RTTY, although the split is not that wide, and offset frequencies are usually expressed in Hz and not in kHz.

If a DX-station announces split operation without telling how much offset is wanted ("up" or “dwn”), try to find out its listening habits. Start with at least 1 kHz up and adjust your offset appropriately (*see the remarks on pile-up strategies below).*

Let me make a few remarks now on your transceiver. For efficient split-frequency operation your transceiver has to provide at least four facilities: two VFOs (A and B), a SPLIT-button that activates the sub VFO for transmitting (listening with main VFO A, transmitting with sub VFO B), an "A/B-reverse"-button that exchanges the frequencies of VFO A and VFO B (to be able to listen on the frequency you have chosen for transmitting), and - not that necessary, but very wishful - an A=B-button which transfers the frequency of VFO A to VFO B (to have identical frequencies on both VFOs). This may sound a bit complicated, but you will easily understand the functionality of the two VFOs and the different push buttons as soon as you try them out yourself. I recommend some “dry practice” before plunging into a real pile-up.

Imagine, while searching for CW-DX on 20 metres, you come across a huge pile-up of fiercely calling stations. The pile has its peak at about 14023 kHz, but reaches from about 14021 to 14026. You don't know whom they are calling. Here is sort of a recipe (there are many others…) for how to proceed:

- Try to find the DX by slowly tuning below 14021 kHz ("Aha! There he is, on exactly 14020! His callsign ZK3XX, Tokelau Island in the Pacific. Nice DX, but very weak, nearly unreadable. Oh, well, the yagi is pointing into a south-westerly direction. Completely wrong that; it should be 1° from this QTH, that's near-exactly to the north!")
- OK, turn your antenna to 1° ("Much better signal now, peaking S5 to 6, no problem to read! ZK3XX says: '2 up!'")
- Press the A=B-button to have both VFOs on 14020 ("Done!")
- Adjust VFO B to 14022 ("VFO B on 14022 now")
- Press the SPLIT-button to be able to transmit on 14022. Carefully control if SPLIT is really on! ("SPLIT is on!")
- Press the A/B-reverse-button to have VFO A on 14022. By carefully tuning around this frequency, try to find the station working ZK3XX. Make a note of the frequency. Always press the A/B-reverse-button as soon as it is ZK3XX's turn to transmit ("OK!")
- Follow this procedure enough times to find out where ZK3XX is listening and working the other station(s). Does he really work stations on just exactly 14022 (2 up from 14020, as he said)? If not, what is his operating method? Is he slowly "drifting" up in reception every or every two, three, four... QSOs? What is his highest offset from 14020? Is he then moving down again? Until which frequency? Find the operation pattern! ("OK! He worked OK2PAY on 14022, then S59A on the same QRG. Next was a JA on a frequency slightly higher, then another JA on 14023. He moves higher in frequency every 2 to 5 QSOs. The pile-up is following him. If it gets too tough, he moves slightly higher: 0.5 kHz or a bit more... Highest frequency while on the way up seems to be a little more than 14025, lowest frequency on the way down seems to be little less than 14022. That's the spectrum where I should call him. Good idea to call him 1 kHz higher than he is working stations at the moment?")
- OK, fine! As soon as ZK3XX listens, give him a call: just your callsign - nothing else, not more than just one (!) time (see the DX-Quickie pattern for CW above!) ("Sh..., ZK3XX answers HA5FM, then QRZ again...")
- OK, call again: same frequency, same sort of call. Regularly check where he is picking flowers: with the A/B-reverse-button. Adjust your transmitting frequency appropriately. Call him, again and again. ("Yippee, that's ME now! I finally got him!")
- Fine, but don't forget to give him something to chow ("tu 5NN"; see the pattern above!) ("He said 'tu', everything's fine now!")
- That was perfect! Congratulations!

Please, do not expect to be as successful that soon as in our example. In extreme pile-ups with hundreds or even thousands calling, it can take hours, sometimes days, before it's your turn to work the rare DX. Don't be too sure that the same strategy will help you in all situations. Observe the DX-station's mode of operation very, very carefully, and try to be the right key in the lock; try another key if one fails. Do not get angry or frustated at any point; never really give up. Be self-confident enough to take a long break if anger and frustration begin to gnaw. Why not work the DXpedition one or two days later with a new shot of adrenaline, why not contact them even one day before they leave the rare spot when the pile-ups have calmed down?

We haven't talked yet about one of the worst symptoms of working pile-ups: deliberate jamming (QRM) on the DX frequency. Amateur radio, radio amateurs are a part of society; they, too, reflect our community as it is today. Aggressive persons, people with noticeable mental deficits, neurotics maybe, belong to everyday life: disagreeable neighbours, spiteful colleagues and other awkward customers. It would border on the miraculous if they would not show up in amateur radio as well. And there they are, in the pile-ups and on traditional DX frequencies: people who do not really want to work the DX but have decided to spoil all others' pleasure, for whatever reason or even for no reason. Their anonymity - they will very rarely reveal their callsign - seems to make them unassailable. Really unassailable? Maybe, but there is a remedy though: simply ignoring them, not showing any reaction whatever they come out with. Believe a psychologist: Nothing hits and hurts these people more than plain ignoration! Never try to educate them - they need therapy (which you cannot provide…), not education.

Astonishingly, the reverse of the medal of working split is almost never discussed or maybe even perceived: Whenever a rare DX station initialises a split operation, neither the DX itself nor the sometimes thousands of callers do not give a tinker's cuss about the fact that without any warning all on-going QSOs in a large spectrum above (or sometimes below) the DX station's frequency are brutally massacred. There is no doubt that this not only is inconsiderate behaviour but an incredible violation of what we all place value on, the much-heralded Ham Spirit. Amazingly enough, you'll not find this grievance even ventilated in one of the many DX codes of conduct... Just another example for Jellineks "normative Kraft des Faktischen" (normative power of the factual)?

Last-not-least: two simple rules - very important and yet easy to follow. (No BUTs, please!)

NEVER, really NEVER...

...transmit on the DX-station's frequency when in SPLIT mode

- absolutely no reaction to people deliberately or undeliberately jamming

- no answers to questions, not the slightest remark or question yourself

- regularly check if SPLIT is set

NEVER, really NEVER...

...call the DX-station when it's not your turn (simplex and SPLIT)

- when the DX-station is calling or working another station, not you

- when the DX-station is wanting another continent, prefix number, not yours

In addition to what I told you: **BEFORE** you join your first pile-up, **PLEASE** read the following:

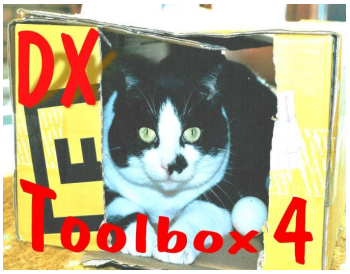
DX Code of Conduct

ON4WW's "Let's make DXing enjoyable again. Please!"

K7UA's "The New DXer's Handbook"

The "DX University"

DL4TT's "Dawg X-ray Club"



Keeping A Record

Paper Logs - Electronic Logkeeping

Getting into the Charts

Strictly speaking, this toolbox is useful for everybody, not for DXers and contesters in particular. In most countries, radio amateurs are (still) obliged by their telecommunication authorities to keep record of their transmissions. But even if this would not be the case, keeping a station log belongs to the most important activities of a radio operator. The station log is or should be a true and exact portrait of the communicative activities and thus of the performance of a radio station, documenting the callsigns of all stations worked, exact dates and times (in UTC), frequencies (or bands), modes, signal reports, locations, operator names, QSL information etc, dependent on the operator's special interests. My log sheets in the eightees even had columns for daily ionospheric data and personal remarks on propagation, condition anomalities and disturbances. A log acts as the very basis for filling in QSL cards or printing QSL labels, for checking incoming QSLs. The log is undispensable when applying for awards and diplomas. DXers and contesters in particular would be completely lost without logkeeping.

With the entry of PCs into amateur radio, a strong tendency developed towards making use of electronic logging which seems to little by little replace the traditional paper logsheet or log book. In view of the unrivaled advantages of electronic logging, which reaches from simple EXCEL-logsheets (which are little more than paper logs on a computer screen) to highly complex computer programmes with literally hundreds of special features, this is not very difficult to grasp. One of the problems seems to be, which logging program to choose, complicated by the fact that most computer programmes for one mode or a variety of modes contain their own - simple but fully sufficient - logging facilities. AC6V's fantastic website lists more than 75 different logging programmes, both shareware (you can test them for a while but you have to pay for full functionality) and freeware (you get them free of charge). Get yourself the information you need for making your choice.

The decision for a specific logging programme can only be a very personal one based on personal preferences. Some programmes are simply "overloaded" with features you will never use. Don't be too much impressed by cram-full computer screens; make your decision for a certain programme by means of a list of features you (not the programmer!) place importance on. Here is a list of features I consider to be absolutely essential (or at least more than wishful); you are invited to complement this list from your point of view:

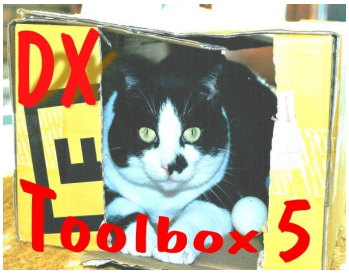
- Support of your transceiver (via CAT interface)
- User-definable and configurable log entry
- Ability to sort the log by callsign, frequency, mode, date, and other parameters
- Simple, preferably automatic backup of the log file(s)
- Tracing the contacts for awards you are collecting for (DXCC, WAZ, IOTA...)
- Ability of entering QSOs online and (!) offline
- Ability of editing the QSO database (e. g. DXCC-database)

- Printing the log
- Ability of producing the statistics you want/need
- Full ADIF compatibility (very important if you want to export your QSO database or import another database)
- Access to a DX cluster and the Internet (QRZ.COM…)

Append other features you personally think you should insist on (e. g. ability of printing labels, grayline and other displays, propagation forecasts, configurability of fonts, fore- and background colours etc etc). Be aware, however, that special programmes for single features are mostly more comfortable and efficient than simple modules in a very comprehensive programme. Do not seek for the proverbial egg-laying wool-milk sow!

If you do not trust electronic logging at all (hard-disk crashes certainly have a much higher probability than fire in your house), if you feel confused or distracted by so much computerisation or crammed computer screens, if you simply have no inclination to type in the thousands upon thousands of QSOs of your personal pre-computer era, if you feel that making QSOs is more important than searching for bugs in a logging programme or the integrated DXCC-database (I admit this is a very nasty remark...) - why not stick to paper-logging? Isn't it a good compromise to using your PC to make your own log design? I have a simple, but nice-looking logsheet for you for download. In this (editable) WORD-file replace "Call" by your callsign. Change whatever you like to change. Print a couple of sheets whenever you need them. Life can be that easy...

Look it up in the WEB...	**Toolbox4**
Electronic (PC) Logging:	
List of programmes:	www.ac6v.com/logging.htm
Paper Logging:	
DJ2PJ's universal logsheet (doc-file):	*click here for download*



Joy and Sorrow

Search Logs

Its Majesty, the QSL

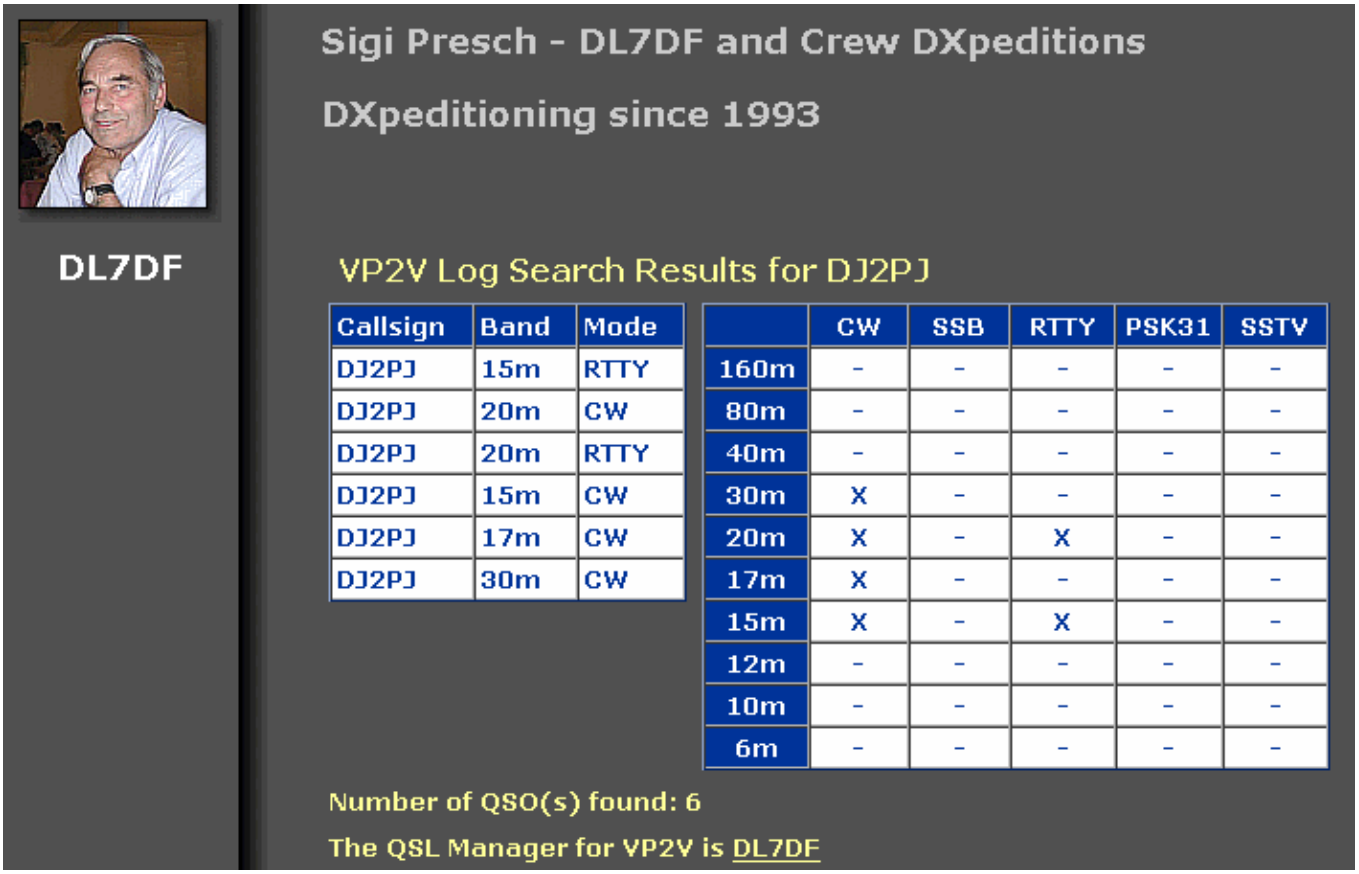
Search Logs

"Everything seemed to be alright. He came back to my call - it was my callsign, no doubt - we exchanged a 5 by 9, he finally said 'ok, thank you, QRZ?'. I was absolutely sure about the contact; I didn't even consider another QSO with him on the same band, in the same mode. And now this: the DX returned my QSL with a 'Sorry, not in the log!'-remark. How can a thing like this happen? Did the DX simply forget to log me? Computer mistake?"

Not very probable but certainly possible. Even a rare DX, with an experienced operator at the microphone, morse key, or keyboard, besieged by hundreds of stations at the same time and for many, many hours of operation, is not immune to making mistakes.

Instead, one should consider other, more probable reasons on the caller's side: insufficient CW-knowledge (if the QSO was in telegraphy), insufficient command of the foreign language or the spelling alphabet (if the QSO was in telephony), mistaken or misspelt callsigns, QRM, QSB in critical phases of the contact (in all modes), but also a wrong date or time on the QSL. To be on the safe side, wily operators would work the DX again - confronting the DX with one or more duplicate contacts and thus steeling them another 15 seconds which they could have used to work others. Some DXpeditions therefore decide not to send QSLs to stations producing "dupes" in their logs. Be warned! The method of working a station again on the same band and in the same mode does not seem to be a clever decision.

In many cases there is a much better way out of the dilemma. Most DXpeditions, some residents of rare DX countries, and DX organisations have placed so-called search logs on their websites. You look them up, enter your callsign, and you'll be informed on which band and in which mode you have already worked them (*see the screen shot from DL7DF's homepage on the next page).* In case your callsign is not found on a certain band and in a certain mode, you work the station again without the risk of being disqualified. The snag, however, is: the log has to be updated regularly and without any delays. A log file uploaded *after* the DXpedition has left the rare spot can be a nice feature but does not help in this respect. Look for the log-search corner on the websites of major DXpeditions, or consult the links given below in the Look-it-up-in-the-WEB box.



DL7DF

Sigi Presch - DL7DF and Crew DXpeditions

DXpeditioning since 1993

VP2V Log Search Results for DJ2PJ

Callsign	Band	Mode
DJ2PJ	15m	RTTY
DJ2PJ	20m	CW
DJ2PJ	20m	RTTY
DJ2PJ	15m	CW
DJ2PJ	17m	CW
DJ2PJ	30m	CW

	CW	SSB	RTTY	PSK31	SSTV
160m	-	-	-	-	-
80m	-	-	-	-	-
40m	-	-	-	-	-
30m	X	-	-	-	-
20m	X	-	X	-	-
17m	X	-	-	-	-
15m	X	-	X	-	-
12m	-	-	-	-	-
10m	-	-	-	-	-
6m	-	-	-	-	-

Number of QSO(s) found: 6

The QSL Manager for VP2V is DL7DF

There even are possibilities to upload your own log as a search log for others – and for yourself… A prominent example is CLUBLOG by Michael Wells, G7VJR. If you upload your log at their website "you will receive

- personal DXCC reports and league tables
- detailed analysis of your log, using researched DXCC information
- zone charts for your log, again based on detailed research
- a personal timeline of your activity (DXCCs per year, band and mode info)
- your own log search tool, e. g. to link from your web page or QRZ profile
- a filtered DX Cluster which only tells you about DX you still 'need'
- a say in the Club Log most wanted report: your log is part of the trend data
- access to propagation and activity predictions, using everyone's logs
- QSL suggestions to help you send out just the cards you need
- OQRS (Online QSL Requests) to make direct and bureau QSLing faster and easier
- satisfaction from taking part in and improving a free DXing resource"

It seems that this comes very close to something DXers were always dreaming about, doesn' it? However, a bunch of problems remain: Do you agree with making your log open for the public? To make use of all promised features, is an oldtimer really crazy about keyboarding the thousands of radio contacts he has made since the very beginning of his radio-amateur career (in my case: sixty years ago)? I myself was**!** After all, I did not regret investing weeks and days of typing. I never had a better documentation of my own DX life.

Filling in a DX-QSL and Other Essentials

Is there a difference between a QSL for a DX-contact and a QSL for a ragchew contact? Radio Erevan would answer: "No, not in principle!" But there are a few things with DX-QSLs you should particularly take notice of:

- Your callsign and the official name of your DXCC-country (or "entity") should be printed (not handwritten!) on your card in a prominent position
- If your QSL has a printed front and back, do not forget to have your callsign repeated on the back of the card (where your QSO data are standing)
- For the date, use the DD-MM-YY format (D=day, M=month, Y=year). Please avoid the MM-DD-YY or YY-MM-DD formats... You can use the usual three-letter abbreviations for month (JAN, FEB, etc)
- For the time, use the hhmm or hh:mm format; all times must be in UT(C) (Greenwich time) (h=hours 00-23, m=minutes 00-59) If you have to "manually" convert your local time to UTC, please note that in some cases the local date has to be converted, too!
- Clearly state whether you are using band or frequency ("worked on 10" is ambivalent: 10 metres or 10 MHz?; clearly divide between 1.8 and 18 MHz)
- When filling in the mode, clearly state that it has been a two-way contact
- Do not forget to check if the DX-station makes use of a QSL-manager (via...)
- After having completed the QSL, check all data carefully! If using electronic logging with or without printed labels (see below), be confident and/or trust the Almighty...
- Finally verify the QSL by your signature or initials

Some programmes for electronic logging provide utilities for printing QSL labels which contain the above-mentioned QSO data in a versatile, user-defined format. Even printing the data on the card itself is possible. Labels can be very helpful and time-saving. If your logging software does not offer a printing facility like that - no problem: there are special label-printing programmes with a very high comfort as to label design and filtering out the station(s) you want to send a QSL to. The famous BV7 program by DF3CB is one of them. Labeling QSLs instead of filling them in manually is nearly a must for stations with high QSO-rates, especially for DXpeditions.

"Via the Bureau" or Direct QSL?

Nearly all national radio associations offer their members the inestimable service of one or more QSL bureaus which can be used for sending QSLs to a foreign country or to a regional radio club and receiving them from there. In Germany and other countries, you hand over your outgoing QSLs to the local club's QSL-manager who sends them to the national bureau, and he will provide you with the incoming cards he is receiving from there.

As QSL bureaus everywhere in the world work together and form sort of a network, this seems to be a perfect system. However, as all bureaus, mainly for cost reasons, collect cards that have to be sent to a certain other national QSL bureau until a certain number of cards have been accumulated, this tends to be a time-consuming procedure. It very likely will take (much) more than a year, sometimes several years, before a "badly needed" DX-QSL will show up. What is more, many (DX-)stations only send cards in reply to your card which causes another delay, and there are stations which cannot (no bureau available) or do not want to use the bureau at all. In

most of these cases, it would be senseless to send them a card "via the bureau". So exchanging cards with the help of bureaus is not considered one and the only alternative.

A very straightforward alternative is sending the QSLs direct by (air) mail. This can probably not apply to all of your cards, as, even for moderately acitive hams, this would cost a fortune and could not be afforded by everyone for a long time. That's why you have to take your own, individual decision which cards to send via the bureau and which ones direct, probably depending on which QSL you really would like to have without delay for DXCC, WAZ or another award and which you can easily wait for a year or more.

According to my experience as a DXpeditionist and a QSL-manager, people make a lot of mistakes when sending direct cards. To avoid them, here is a check list for handling direct QSLs on the sender's side:

- Check if the DX-addressee uses a QSL-manager. Only choose a reliable source (*see below)*! That's where to send your QSL
- Copy&paste or write the address on an envelope (there is provision for that on every QRZ.COM page…)
- Prepare another envelope with your own address (SAE = self-addressed envelope). Stick an air-mail label on it if necessary
- Enclose your SAE, your (carefully checked) QSL(s), and sufficient return postage (in US-Dollars or IRCs). Donations are mostly welcome...
- Post your letter with sufficient postage
- Make a note as to which address and when you have sent your letter (I use a separate list for this purpose)

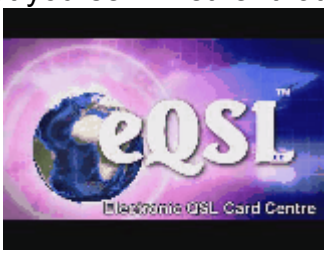
Please note that a one US-Dollar note ("Greenstamp") does not cover postage for an air-mail letter in most countries. One IRC should be alright for an air-mail letter if IRCs are accepted at all in the country concerned. In a few countries receiving US-Dollars is strictly forbidden. Sending money or its equivalent in "simple" letters always involves the risk of being stolen; mail theft has become an international problem these days, even in so-called civilised countries. If you want to be on a relatively safe side, make use of registered mail which is cheaper than sending the letter twice or even more times. If in doubt or if you do not get a card in return within a certain space of time, ask active DXers what experience they have made with the DX-station in question or with mail to the country concerned. By the way: Even getting a direct DX-QSL can take time; be patient!

Reliable sources of DX addresses

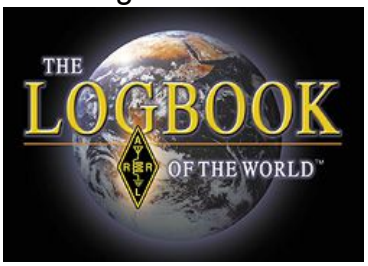
A very important issue - if you want to be sure to receive the rare QSL and spare a lot of money! Experienced DXers use at least three sources: the universal weapon QRZ.COM, which is a must for every serious DXer, and the databases of IK3QAR and OZ7C. And if you want to be *very* sure you better use all the three of them! QRZ.COM *(URL below)* is the most important facility as it not only delivers a valid postal address of the station itself or its QSL manager, but also a plenty of additional information, pictures, etc. It goes without saying that you should have your own QRZ.COM page. The basic page is free of charge, and the page-editing QRZ.COM offers is easy to handle.

Other Systems

Since a couple of years you can also make use of an "Electronic QSL Card Centre" (eQSL.cc). Have a look on their website (*URL below*) to find out yourself whether that system suits your purposes or not. It would in no way suit mine, for many reasons, including some emotional ones which have to do with the foundations and ethics of our hobby. I feel, that with my strict rejection of electronic QSLing I'm not belonging to a minority, measured against the constant requests during QSOs with hams all over the world *not* to make use of eQSLs. For me, it belongs to the great new absurdities of amateur radio to download an unattractive, uniformed, ink- and time-consuming DX-QSL from a third-party server where I have to upload part of my privacy, my radio logs, producing further uniformed, sloppily designed QSLs with my callsign. Shooting a sixteenpointer and homebrew a plastic trophy - no, thank you! Fact is, that eQSLs are not valid for most, if not the more serious awards. Believe me, there is and there will be no substitute for genuine, individually designed and personally signed paper cards, even if the system of exchanging QSLs can sometimes be a very troublesome and annoying business.



If you are mainly chasing ARRL awards like the famous *DXCC* and you do not want to wait for a "real" QSL from a certain DX-station to update your DXCC-standings for example, the Logbook of the World (LoTW) system of the American Radio Relay League could be of interest. This system "is a repository of log records submitted by users from around the world. When both participants in a QSO submit matching QSO records to LoTW, the result is a QSL that can be used for ARRL award credit". The QSO records must be digitally signed using a digital certificate obtained from the ARRL, and you need special software to take part. The procedure is not as unbureaucratic as it would be wishful, but a fascilitation compared to waiting for the DX-QSLs. The main disadvantage seems to be that the system is ARRL-owned (proprietary) and apt to monopolise the DX-scene as a whole, the consequence of which is the maximisation of profits on the part of ARRL. No doubt, the DX world produces a conspicuous and increasing cash flow. Aside from that, it encourages the elimination of paper QSLs which are one of the



oldest and most important foundations of amateur radio. It doesn't go without notice, that this is an extremely painful subject and a threat for amateur radio as a whole!

Another system nowadays offered by most Dxpeditions and Search Logs is OQRS (Online QSL Request Service) which can be used either for bureau or for direct QSLs. When having worked a rare DX station you simply enter their or a search-log website, look for an OQRS facility and fill in your respective log data there in the form provided. Decide if you want a bureau card or a QSL directly sent to you by mail. Of course, payment is obligatory if you request a direct card, and donations are also welcome. In many if not all cases, you can pay your debt by PayPal (mostly by not even having an account there). It is absolutely undesirable that you send them a paper QSL; they simply do not want all the many thousands of cards. Even this system encourages the elimination of paper QSLs if “only” on the side of the DXer.

Example of the OQRS form for J87GU at the Club Log website. You fill in your callsign and receive the QSOs you have made with the DXpedition. Then you decide if you want bureau or direct cards.

Finally an example for a very nice QSL service offered for members of GDXF (German DX Foundation). GDXF financially supports DXpeditions only if they agree with sending their QSLs for GDXF-members directly to a special QSL manager of the association. The GDXF manager sends them to members who - via GDXF website - have requested the cards by sending or typing in their log extract for the respective station, and who have made an advance payment covering the postage.

Look it up in the WEB... Toolbox5

Search Logs and OQRS	
VA3RJ log search (>9.600 logs):	www.qsl.net/va3rj/search.html
DX.QSL.NET log search:	dx.qsl.net/logs/index.html
Club Log	www.clublog.org/about.php
Label Printing and QSL Management	
BV7 by DF3CB:	www.df3cb.com
QSL Information, DX Addresses	
QRZ.COM:	www.qrz.com
IK3QAR Search Engine:	www.ik3qar.it/manager
OZ7C Search Engine:	www.ddxg.dk/oz7c/
Miscellaneous	
Postal Rates:	www.ac6v.com/callbooks.htm#SERV
eQSL.cc System:	www.eqsl.cc
Logbook of the World System (ARRL):	www.arrl.org/lotw
German DX Foundation QSL Service:	www.gdxf.de/qslservice/index_en.php

Appendix

Spelling (Phonetic) Alphabet (FONE)

A	Alfa	**J**	Juliet**	**S**	Sierra
B	Bravo	**K**	Kilo	**T**	Tango
C	Charlie	**L**	Lima	**U**	Uniform
D	Delta	**M**	Mike	**V**	Victor
E	Echo	**N**	November*	**W**	Whisky
F	Foxtrott	**O**	Oscar	**X**	X-ray
G	Golf	**P**	Papa	**Y**	Yankee
H	Hotel*	**Q**	Quebec*	**Z**	Zulu
I	India	**R**	Romeo		

Stress always on the first syllable, except for those marked with an asterisk (*): Hotél, Novémber, Quebéc. ** Juliét is a possible alternative

Reporting Table: The RST System: for CW, FONE (only R and S), RTTY and the Digimodes (if the RSQ System is not used)

	Readability	Signal Strength	Tone
1	Unreadable	Faint signals,barely perceptible	Extremely rough hissing note
2	Barely readable, some words distinguishable	Very weak signals	Very rough ac note
3	Readable with considerable difficulty	Weak signals	Rough low pitched ac note, slightly musical
4	Readable with practically no difficulty	Fair signals	Rough ac note, moderately musical
5	Fully readable	Fairly good signals	Musically modulated note
6	-	Good signals	Modulated note, trace of whistle
7	-	Moderately strong signals	Near dc note, smooth ripple
8	-	Strong signals	Good dc note, trace of ripple
9	-	Extremely strong signals	Pure dc note

Example: RST 589

Adapted from: Radio Communication Handbook by RSGB

Reporting Table: The RSQ System (Digimodes, mainly PSK, also: RTTY)

	Readability	%	Signal Strength	Quality
1	Undecipherable	**0**	Barely perceptible trace	Splatter over much of the spectrum
2	Occasional words distinguishable	**20**	-	-
3	Considerable difficulty, many missed characters	**40**	Weak trace	Multiple visible sidebar pairs
4	Practically no difficulty, occasional missed characters	**80**	-	-
5	Perfectly readable	**95+**	Moderate trace	One easily visible trace
6	-		-	-
7	-		Strong trace	One barely visible trace
8	-		-	-
9	-		Very strong trace	Clean signal – no visible unwanted sidebar pairs

Readability: The table has a corresponding range of percent readable text.
Signal Strength: Most HF digital mode programs provide a broad-band waterfall or spectrum receive display. As a result, it is common practice for operators to monitor and even decode multiple signals when working a narrow band digital station. Under these conditions, a visible measure of signal trace relative to noise is more meaningful than an S meter reading that averages the strength of all signals in the pass band.
Quality: The presence of additional unwanted trace modulation observed on the waterfall or spectrum indicates possible spurious emissions and provides a basis for assessing the quality of digital mode signals. The traditional RST Tone report being designed to evaluate CW signals for the presence of audible hum, key clicks, chirping etc is simply not relevant to digital modes.

Example: RSQ 439

Adapted from: **www.rsq-info.net/RSQ-Reporting-Table.html**

Further information: **www.rsq-info.net/**

Last revision: April 2017