Getting Started With D-RATS A Quick Start Guide

D-RATS is a free, easy to use, multi-platform program for data communications with D-STAR devices or through the Internet. The software can be run on Windows, MacOS and Linux/UNIX computers. D-RATS provides many functions including:

- Instant messaging style chat
- Addressable messaging with attachments to other online stations, SMTP email addresses, Winlink 2000 addresses
- Send forms (predefined forms included, define custom forms)
- Unattended file transfer (all file types)
- Position reporting with included maps
- Repeater proxy software links radio, Internet clients

Step 1 – Download and Install

Download the program at http://www.d-rats.com for your operating system and install to your computer.

Step 2 – Set Preferences

Prior to using D-RATS there are a number of preferences that must be configured. These can be accessed by selecting File > Preferences:



A list of configurable item groups will appear in the left hand column. The following subsections describe the options contained in each group.

🔞 Config					x
Preferences	Callsign	WA4XXX			
Paths	Name	John Doe			
GPS	Sign-on Message	V Enabled	Online (D-	RATS)	
Appearance	Sign-off Message	Enabled	Going offli	ne (D-RATS)	
Chat	Units	Imperial			•
Sounds	Show time in UTC	Enabled			
Messages	Ping reply	Version and	OS Info		
🗆 Radio	Language	English			•
Transfers		Blink tray on	4	Tracklad	
Network		Incoming I	Messages		
TCP Gateway		Incomin	a Files	Fnabled	
TCP Forwarding		Received	Events	Enabled	
Outgoing Email					
Email Accounts					
Email Access					
				<u>S</u> ave <u>C</u> a	ncel

- **Callsign**: Normally, your FCC callsign is entered. Optionally, a tactical callsign may be used. The callsign will identify the station for chat, messaging and file transfer. When sending to this station the callsign entered above is used to address the station.
- Name: Enter your name or location (ex. EOC, Shelter 1)

For a quick start, leave all other information at its default value.

Step 3 – Set Paths

Under Paths, you may leave these at their default value or define a different folder. The important one is the File Transfer Path. This folder is used in File Transfers as your local location for remote stations to view and download your files. Files uploaded to your station are placed here.

🔞 Config				×
Preferences	File Transfer Path	C:\Program Files\D-RATS\Transfer		Revert
Paths	Map Storage Path	C:\Program Files\D-RATS\maps		Revert
GPS	Form Logo Path	C:\Program Files\D-RATS\logos		Revert
Appearance				
Chat				
Sounds				
Messages				
🗆 Radio				
Transfers				
Network				
TCP Gateway				
TCP Forwarding				
Outgoing Email				
Email Accounts				
Email Access				
	,	Save	<u>C</u> ar	ncel

Step 4 – Define Radios

In this section, you will define the connections D-RATS will use to communicate. If connecting to a D-STAR radio, the GPS settings must be disabled in the menus of the radio. The table below provides the information for most Icom radios needed to define a radio in this section and set he menu selections.

Radio	Rate	Radio settings required for D-RATS to function
IC-80AD	9600	DATATX = AUTO, GPS-TX = OFF, GPS.ATX = OFF
IC-U82	9600	ATX = ATXON, SPD = SPD96
IC-V82	9600	ATX = ATXON, SPD = SPD96
IC-91AD	38400	DV DATA TX = AUTO, GPS TX = DISABLED, GPS AUTO TX = OFF
IC-92AD	38400	DV DATA TX = AUTO, GPS TX = DISABLED, GPS AUTO TX = OFF
IC-2200	9600	ATX = ATXON, SPD = SPD96
IC-2820	9600	DV DATA TX = AUTO, GPS TX = DISABLED, GPS AUTO TX = OFF, UT123 must be installed
ID-800H	9600	DVT = DVTAT, SPD = SPD96
ID-880H	9600	DATATX = AUTO, GPS-TX = OFF, GPS.ATX = OFF
ID-1	19200	DV DATA TX = AUTO, Cannot use PC application

To use D-RATS with a D-STAR radio, it must be defined in the Radio section of the Preferences as below.

🛥 Config							×
Preferences	Enabled 🔻	Port 4	Settings 🖣	Sniff 4 Raw	Text 4	Name	•
Paths	 Image: A start of the start of	net:ref.d-rats.com:9000	9600		 Image: A set of the set of the	RatFlector	
GPS		COM2	9600		~	IC-2820	
Appearance		COM6	19200		~	ID-1	
Chat							
Sounds							
Messages							
🔲 Radio							
Transfers							
Network							
TCP Gateway							
TCP Forwarding							
Outgoing Email							
Incoming Email							
Email Access							
	l	Add	Edit		l	elete	
				<u>S</u> ave		<u>C</u> ancel	

From the Config > Radio screen, click "Add" and select Type as Serial if connection to the radio with a serial cable. This is the normal connection type for a radio. Select the Serial Port that your data cable connects to on the computer. If you are using a USB to Serial adapter or a serial cable with a USB connection, you must locate the COM port number. In Windows, select START, Control Panel, System and Device Manager. Under Ports, you will see the COM Port assigned. The Baud Rate is dependent on the radio settings. The default baud rate is shown in the table above for each radio. You may add a Name to add a unique name to this radio. Click Add to save the configuration.

Type Serial A D-STAR radio connected to a serial por Parameters erial Port COM15
A D-STAR radio connected to a serial por Parameters erial Port COM15
erial Port COM15
aud Rate 38400
aud Rate 38400

On the Config > Radio screen, ensure that the box is checked for the radio you have defined and wish to use.

To connect to the Internet (without a D-STAR radio), you will define and use a Repeater Proxy also known as a Ratflector. These are used to connect D-RATS Internet users together and may also connect to a D-STAR radio to link RF users as well. The Ratflector you use is determined by the D-RATS Administrators in your area. A default Ratflector is usually defined in D-RATS, but you may configure one just as you configure a radio.

From the Config > Radio screen, click Add and select Network. Under Host, add the address of the Ratflector you intend to use. "ref.d-rats.com" is a public ratflector available for general use by Internet users and generally has activity anytime. Port 9000 is the default port used by most all ratflectors.

Name	RA	Т	
Type	Ne	twork	
A net	work	link to a ratflector insta Parameters	nce
Host Add	lress	ref.d-rats.com	
Port		9000	*
Passwo	rd		
	100		

Click Add to save your configuration. On the Config > Radio screen, ensure that the box is checked for the radio you have defined and wish to use.

Step 5 – Transfers

This section defines the parameters used for communicating between D-RATS stations. Under Block Size, the larger the value, the more efficient the transfer is on a good connection. On a bad connection, setting this to be smaller reduces the amount of data that must be re-sent in the event of a bit of corruption. Normally, the default value of 512 is good. Normally the default values for the other settings are good for most situations. Make sure the "Remote file transfers" box is checked.

🔞 Config				×
 Config Preferences Paths GPS Appearance Chat Sounds Messages Radio Transfers Network 	Block size Pipeline blocks Remote file transfers Warmup Length Warmup timeout Force transmission delay Allow file deletes from Remote admin password	512 4 Enabled 8 3 0		X A Revert Revert A Revert A Revert A Revert
TCP Gateway TCP Forwarding Outgoing Email Email Accounts Email Access		[<u>S</u> ave <u>C</u>	ancel

Step 6– Messages

This section defines how messages are handled in D-RATS. The settings below are suggested. For the "My Winlink SSID" setting, any valid SSID may be used.

1	Config							x	J
6	Preferences	Automatically forward messages	Enabled						1
	Paths	Queue flush interval	30				÷ 50	econds	;
	GPS	Station TTL	3600				÷ 50	econds	;
	Appearance	Include original in reply	Enabled						
	Chat	Allow POP3 Gateway	Enabled						
	Sounds	Allow WL2K Gateway	Enabled						
	Messages	WL2K Connection	Network		1			-	
6	∃ Radio	WL2K Network Server	server.winlink.or	rg 🔻	Port	8772		-	
	Transfers	WL2K RMS Station		on po	rt			-	
6	∃ Network	My Winlink SSID	9					-	
	TCP Gateway	POP3 Server	Enabled on p	port 91	10			* *	
	TCP Forwarding	SMTP Server	Enabled on p	port 90)25			*	
	Outgoing Email								
	Email Accounts								
	Email Access								
_									_
				<u>S</u> av	e		<u>C</u> anc	el	

NOW LET'S USE D-RATS

Upon opening D-RATS, you will see four tabs across the top of the screen (Messages, Chat, Files and Event Log). Whenever there is activity in any of the modes, the program border will flash and the tab with activity will turn blue.

Let's start with Chat. Select the Chat tab. You may expand the screen size by grabbing a corner with your mouse and dragging to the desired size. If you selected the public Ratflector (ref.d-rats.com) under Radios, a list of online stations will appear on the righ side of the screen under Stations. If none appear, with you mouse inside the t area, right-click and select Ping all Stations. You should see a list as stations reply to your ping. You can chat with the online stations by typing your message in the area near the bottom of the screen as shown below.

	Stations onli	ne
	show in this	area
19		
D-RATS: WB4QDX		
<u>File View H</u> elp		
Messages Chat Files	Event Log	Stations (2)
Add Filter Remove Filter Join	Channel Open Private Chat	WB4QDX (9m)
D-RATS v0.3.3		
Copyright 2010 Dan Smi	th (KK7DS)	
[2013-01-16 15:40:56	GWN-ARES: Now Online: Onli	ine (D-RATS)
(Port Gwinnett ARE	S)	
Main #sewxnet #NM		
Gwinnett ARES		Send My Status
I Quick Messages		Online
⊞ QSTs	\mathbf{i}	Online (D-RATS)
		WB4QDX
	Type your message in	
	this area, then press	
	Enter	

٦

Next, let's send a message to another station. Click on the Messages tab at the top. The Messages tab looks like many email clients with a familiar Inbox, Outbox, etc., and New, Forward, Reply, etc.

Messages Chat	Files Event Log	Stations (2)
lew Forward	Renty Delete Mark Read Mark Unread Send/Receive	WB4QDX (8m)
 Drafts Inbox Outbox Saved Messages Sent Trash 	Sender 4 Recipient 4 Subject 4 Type 4 Date -	My Status Online Online (D-RATS)

To send a regular message to another station, click New and either Memo or Email. Type in the Destination callsign . Remember, this can either be the actual callsign or a tactical callsign. To ensure the correct destination, ping all stations as in Chat and use the station name exactly as it appears. If the desired station is not online, you must still use the exact destination callsign, but the message will not leave your Outbox until the stations is online.

Type a subject and your desired message and click Send. After a short delay, you message will begin to send as seen on the staus line at the very bottom of the main screen.

🖗 Email Message				×
Save Send	Send via	Print		
Routing Informat	ion		Email Message	
Source Callsign	WB4QDX			
Destination Callsign	KF4PWI-1			
Subject Message	from EOC			
Attachments				
🗄 Path				

To send a form such as an ICS-213, select New and the desired form from the list. A standard ICS-213 form is included with D-RATS. Fill in the information and select Send. Only the contents of the form will be transmitted for efficiency and the form will be populated on the receiving end.

The receiving station can click Print to view the form as it actually appears for delivery to the recipient.

Save Send	Send via Pr	nt	
∃ Routing Informat	ICS-2	.3 Form	
Source Callsign	WB4QDX		
Destination Callsign			
Incident	t Name		
Tin	ne	16 2	27
Date		Jan 💌 16	2013 💌 🗉
Т	D		
ICS Po	sition		
Sen	der		
ICS Po	sition		
Subj	ject		
	Mes	age	

To open messages or forms received, click on Inbox and click on the desired message to open.

Our final Quick Start function is File Transfer. Click on Files to begin. The left hal of the screen shows any files on your local computer in the folder you defined in the initial configuration for file transfers. Files that are transferred to your station from a distant station will be stored there as well. *A station must be online to send or receive files.*

To upload a file to a distant station, first connect to that station. If there callsign/name shows on the right side of the screen under Stations, you may select them in the Staion drop down box and click Connect. The station will show connected on the status line at the bottom of the screen when connected. If there are files in the remote station's folder, you will see a list of files on the right half of the screen. Select the file you wish to upload to the distant station, by highlighting it on the left side and click Upload. The file transfer will begin and progress will be shown on the status line at the bottom.

🖗 D-RATS: WB4QDX									
<u>File View H</u> elp									
M	essages Chat Files Even	nt Log							Stations (3)
			Local			₽	8	عو	GWN-ARES (4m)
Re	fresh Delete Upload		Local	Connect	Disconnect	Download	Delete	210	N3TSZ-W (4m)
	Filename	Size 4	Date 4	Station: En	ter remote cal	lsign	▼ Gwinne	ett ARES 💌	WB4QDX (7m)
	Apollo tone.wav	4.4 KB	20:48:21 2010-04-24						
	ARES_Test_fldig3.txt	2.9 KB	07:31:58 2010-06-02						
	ARES_Test_fldigi1.txt	401 B	07:33:33 2010-06-02						
8	ARES_Test_fldigi1.txt.wrap	461 B	07:29:38 2010-06-02						
	ARES_Test_fldigi2.txt	1.9 KB	12:54:43 2010-06-12						
	ARES_Test_fldigi5.csv	7.2 KB	12:52:12 2010-06-12						
	D-RATS diagram 7.JPG	35.6 KB	19:51:05 2011-09-29						
	D-RATS with analog radios.pdf	46.0 KB	19:52:34 2011-09-29						
	D-RATS_and_packet_radio_0.3.3.pdf	93.5 KB	19:55:12 2011-09-29						
	examples.desktop	167 B	21:27:30 2010-03-16						
	Georgia Airport Codes.txt	11.0 KB	20:45:52 2010-08-30						
8	GW ARES check in txt	32 B	20:54:06 2011-01-31						
	IC91_20100510_WB4QDX.icf	109.8 KB	07:17:36 2010-05-13						
	NameFile.txt	1.2 KB	20:40:22 2010-04-24						
	skywarn.xml	2.8 KB	22:10:51 2012-12-26						
	Test File.txt	1.1 KB	21:28:00 2010-03-28						
	Trek chirp 11.wav	4.3 KB	20:45:09 2010-08-30						
									My Status
									Online 🔹
									Online (D-RATS)
									WB4QDX

To download a file from a distant station, again make sure you are connected to that station. Click on the file on the right side of the screen hightlightin the file and click Download. Again, the file tansfer progress will be show at the bottom of the screen, Be sure to Disconnect from the distant station when you are are finished tansfering files.

The Event Log tab provides a convenient log of all activities and provides a date and timestamp for each activity.

These are the basic functions of D-RATS. There are other functions and features that can be used. For a complete description of these features and their functions, you may view D-RATS Documentation at the website at <u>http://www.d-rats.com/documentation/</u>.