

# D-STAR G3 FAQ

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# How do I install G3 onto my Icom gateway system?

Instructions for installing Icom G3 may be found here:

[https://dsync.dstarusers.org/info/g32\\_instructions.pdf](https://dsync.dstarusers.org/info/g32_instructions.pdf)

Please visit the *Icom Customer Support Knowledge Base* for information and documentation on the installation of G3: <https://icomamericasupport.zendesk.com/hc/en-us> (Search "G3")

## What TCP and UDP ports do I need to forward through the router in front of my G3 Gateway?

**It is very important to configure your router and any firewall software to pass the following ports along to the gateway box.**

Description	Port No.	Protocol
G2/G3: Data Sync & dplus	20001 - 20005	UDP / TCP
G2/G3: Voice Receive	40000	UDP
G2/G3: Data Receive	40001	TCP
G3: Position Request (PORT_SEARCH - dsipsvd.conf)	12345	UDP
G3: Position Registration (PORT_RENEWAL - dispsvd.conf)	12346	UDP
G2/G3: Web Server Registration Page	443	TCP

**Note:** Port 40002 is also used by the gateway software for OUTBOUND use only and does not need to be forwarded.

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## How do I configure firewalld on CentOS/Alma to allow only the ports that need to be open?

Here is an example of the firewalld commands you would need to send to the gateway:

**It is strongly advised that you study how firewalld works before enabling it on your gateway**

*NOTE: Change 8555 to the port you are using for ssh - it is not recommended to use port 22*

```
firewall-cmd --list-all
firewall-cmd --add-service=http
firewall-cmd --add-service=https
firewall-cmd --add-port=8555/tcp
firewall-cmd --add-port=20001-20005/tcp
firewall-cmd --add-port=20001-20005/udp
firewall-cmd --add-port=12345-12346/udp
firewall-cmd --add-service=http --permanent
firewall-cmd --add-service=https --permanent
firewall-cmd --add-port=8555/tcp --permanent
firewall-cmd --add-port=20001-20005/tcp --permanent
firewall-cmd --add-port=20001-20005/udp --permanent
firewall-cmd --add-port=12345-12346/udp --permanent
firewall-cmd --list-all
```

## How do I configure my Icom RP2C Gateway Controller?

Standard Configuration for a full stack with all modules.

Install the Windows based ID-RP2C software and drivers per Icom documentation. Run the configuration program and connect the USB cable to your

### ■ ID-RP2C (Rear panel)

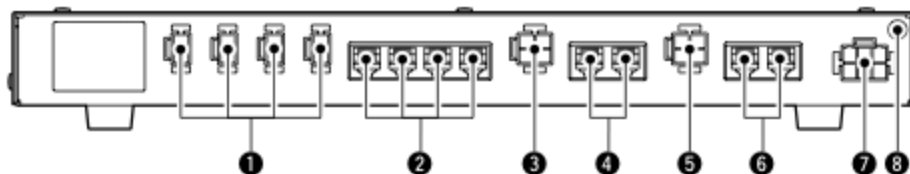


Figure 1 -

RP2C Rear Panel

- Ports are numbered 1 to 4, left to right, when looking at the rear of the RP2C Controller (see Figure 1, #2)
- Port 1 - 'A' - 23cm Data
- Port 2 - 'B' - 70cm Voice

- Port 3 - 'C' - 2m Voice
- Port 4 - 'A' - 23cm Voice
- Config = "D:V:V:V"
- Check corresponding boxes for installed modules

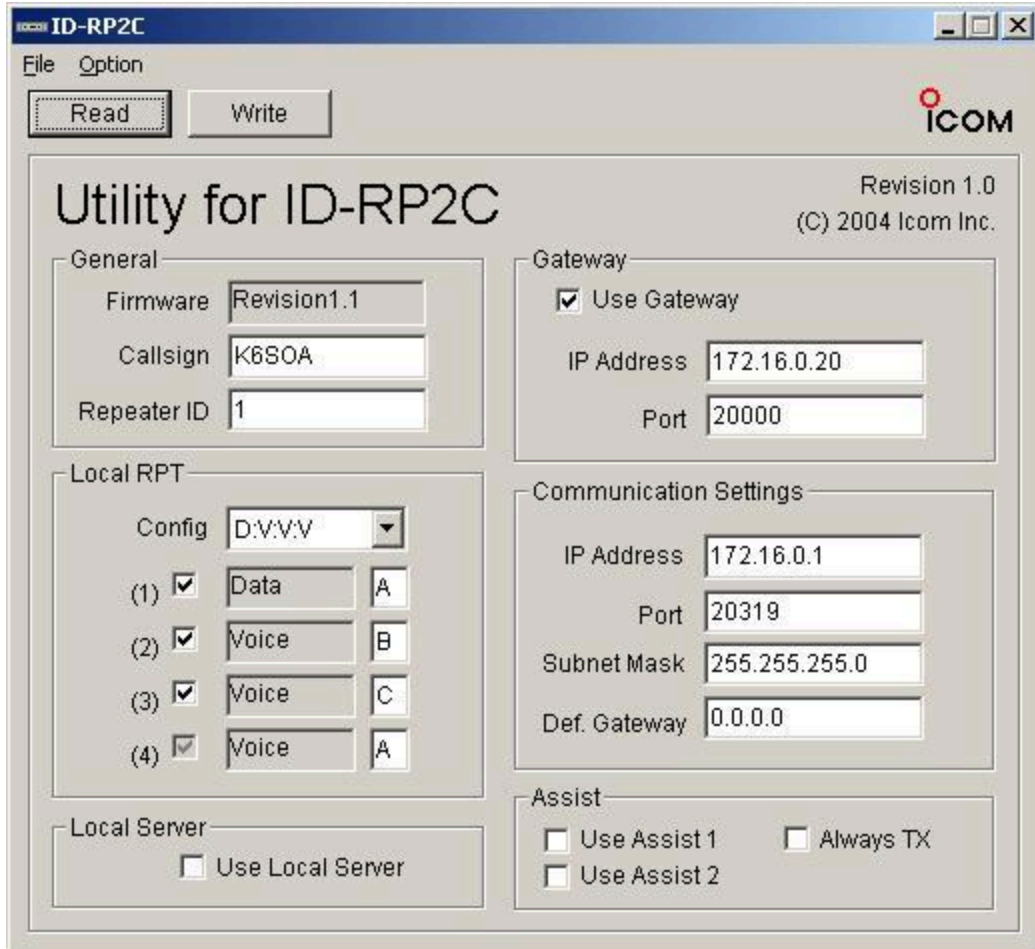


Figure 2 - ID-RP2C Configuration Program

## How do I test port forwarding through my router?

The *IPPortTestClient.bin* application was written by Robin, AA4RC. It tests to make sure your gateway has the necessary ports open to run all of the D-STAR gateway applications. It is run as part of the g3\_installer based installation but can be run manually. You will need to stop all services that might be using the D-STAR ports first.

Usage:

Make sure you shut down ALL gateway daemons that might be using the ports you are testing first.

```
systemctl stop dstar_gw
systemctl stop dplus
systemctl stop dsm
systemctl stop httpd
```

```
/dstar/tools/IPPortTestClient.bin
```

Example Run:

```
[root@k6vo tools]# ./IPPortTestClient.bin
Connected to server 208.67.255.195:19999 from my IP 22.13.11.13:58414
Testing server to client UDP connection on port (12345) ...SUCCESS
Testing server to client UDP connection on port (12346) ...SUCCESS
Testing server to client UDP connection on port (20001) ...SUCCESS
Testing server to client UDP connection on port (20002) ...SUCCESS
Testing server to client UDP connection on port (20003) ...SUCCESS
Testing server to client UDP connection on port (20004) ...SUCCESS
Testing server to client UDP connection on port (20005) ...SUCCESS
Testing server to client UDP connection on port (40000) ...SUCCESS
Testing server to client TCP connection on port (40001) ...SUCCESS
Testing server to client TCP connection on port (20001) ...SUCCESS
Testing server to client TCP connection on port (20002) ...SUCCESS
Testing server to client TCP connection on port (20003) ...SUCCESS
Testing server to client TCP connection on port (20004) ...SUCCESS
Testing server to client TCP connection on port (20005) ...SUCCESS
Testing client to server TCP connection on port (20005) ...SUCCESS
Test complete with server 208.67.255.195:19999
```

**If dstar\_gw or dplus are still running, you will see the following:**

```
/dstar/tools/IPPortTestClient.bin
Connected to server 208.67.255.195:19999 from my IP 22.13.11.13:45259
Testing server to client UDP connection on port (20001) ...FAILED (local UDP port BUSY)
Test complete with server 208.67.255.195:19999
```

**Don't forget to start your gateway applications back up!**

```
systemctl start dstar_gw
systemctl start dsm
systemctl start dplus
systemctl start httpd
```

## How do I update *DStarMonitor* to the latest version?

*DstarMonitor* Reports gateway usage to [dstarusers.org](http://dstarusers.org) and sends D-PRS position reports to JFindU and [dstarusers.org](http://dstarusers.org). This application is initially installed by the `g3_installer`.

To update *DStarMonitor*:

```
cd /tmp
curl -O https://dsync.dstarusers.org/dsm\_installer\_g3
(or wget -q https://dsync.dstarusers.org/dsm\_installer\_g3)
chmod 755 dsm_installer_g3
./dsm_installer_g3
```

Note: If your gateway is on a network other than 10.0.0.0/8, (e.g. 192.168.1.1) you must specify your router IP address like this:

```
./dsm_installer_g3 -g 192.168.1.1
```

## How do I update *dplus* to the latest version?

*dplus* was written by Robin, AA4RC. It is installed by the `g3_installer` script and it adds the following features:

- Support for DV Dongle, DV Access Point, and Hot Spot users
- Echo test facility
- Gateway/reflector linking
- Voice mail, store and playback
- Ability to play pre-recorded AMBE DV audio files on specified module
- User invoked system ID message.
- Simulcast to all modules
- Extensive logging (`/var/log/dplus.log`)

`dplus` [revision](#) history

To update `dplus`, run the following script from the command line, as root:

```
/dstar/tools/dplus-check.sh
```

## How can I list all of the users on my gateway and their status, from the command line?

*dstarusersls* shows the current status of your gateway users. This utility was written by Robin, AA4RC, and is installed through the *g3\_installer* script.

Usage: `/dstar/tools/dstarusersls`

Local users requesting registration:

[ CALL ] [ DATE TIME ] [ EMAIL ] [ NAME ]

Local users registered with no terminals added:

[ CALL ] [ DATE TIME ] [ EMAIL ] [ NAME ]

Local users registered with terminals added:

[ CALL ] [ DATE TIME ] [ EMAIL ] [ NAME ]

## How can I check the registration status of a D-STAR user?

Use the following link to validate a user registration:

<https://regist.dstargateway.org/regcheck>

## How do I change a registered user's password?

*dstartpasswd* changes the password of a user or administrator. This utility is installed by the *g3\_installer* script.

Usage: `/dstar/tools/dstartpasswd CALLSIGN password`  
e.g. `/dstar/tools/dstartpasswd AA4RC IneedApass`

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# My G3 server suffered a hard disk crash, how can I restore the gateway and user database?

Follow the instructions for installing G3 from scratch. Once you have installed the operating system, and BEFORE you run the g3\_installer, copy your "tgz" (compressed tar archive) backup file to the /tmp directory and name it:

**GWCALL-ABC-backup.tgz**

Then run the g3\_installer, following the installation instructions. When prompted for the "keyword", enter **ABC**

You should see confirmation that the users were loaded back into your newly created G3 installation.

Note: If you no longer have the "G3.zip" file with the Icom G3 software, contact Icom Support and they can provide that for you.

# My gateway has been offline, how can I clear the synchronized data from my gateway and obtain a full reload of the current database tables ?

**NOTE: This utility is NOT used to solve synchronization problems.**

The purpose of this utility is to **remove all of the entries in the synchronized database tables (sync\_gip, sync\_mng, sync\_gip)**. It is to be used only if your gateway has been offline for a period of time. **This utility will not solve synchronization problems.**

Your gateway must be capable of synchronizing with the trust server in order to reload the data. The "unsync\_user\_mng" table that contains user registration data will **not** be affected.

In order to receive a complete resynchronization of data, your gateway "synchro\_time" must be set to the "EPOCH" (1970-01-01 00:00:00). Use the Trust Server [query tool](#) to determine the last synchronization date. You may request that this date be reset by the Trust Server Team.

## Installation

```
cd /tmp
curl -O https://dsync.dstarusers.org/resyncG3
```

```
chmod 755 resyncG3
./resyncG3
```

## Is there a way to preload the current synchronized database tables onto my gateway?

Yes, there's a utility that can be used for this. It's not meant as a routine database synchronization method, but can be used if you're having internet issues or otherwise can't sync for a limited period of time. It provides a one-time database update:

```
curl -O https://dsync.dstarusers.org/load_g3_tables
bash load_g3_tables
```

## How do I restore a `unsync_user_mng*.csv` backup file into my gateways database?

If you have manually installed your gateway or if the `g3_installer` did not load your user database correctly during installation, there is a utility that will import the user data for you.

First copy your latest backup file in the format `unsync_user_mng.YYYYMMDD_HHMMSS.csv`

Next, download the restore utility

```
cd /tmp
curl -O https://dsync.dstarusers.org/G3/import_mng
chmod 755 import_mng
```

To import the user database backup into an already empty user database table, run the utility without any options:

```
./import_mng
```

To force the utility to **OVERWRITE** the current database table, execute the script with the `-f` (force) option:

```
./import_mng -f
```

## My gateway runs *https* and I would like to automatically redirect all web traffic to *https*

If you've already installed the dstargateway.org certificate and your gateway has an entry in DNS as "CALL.dstargateway.org", you can create this redirect to force users to the https port:

- login, sudo to root

```
cd /etc/httpd/conf.d
```

```
vi web.conf
```

- insert the following configuration directives:

```
<VirtualHost *:80>
  ServerName CALL.dstargateway.org
  ServerAdmin your-email-address@email-server.domain
  DocumentRoot /var/www/html
  RewriteEngine on
  RewriteCond %{SERVER_NAME} =CALL.dstargateway.org
  RewriteRule ^ https://%{SERVER_NAME}%{REQUEST_URI} [END,NE,R=permanent]
</VirtualHost>
```

- restart your web server

```
systemctl restart httpd
```

- Note: if your gateway has a different hostname, you can enter that instead of using the dstargateway.org domain.

## My Registration web page is missing after running O/S updates, how can I restore it ?

- The lcom installation overwrites a file that's "owned" by the Tomcat package. When Tomcat is updated during routine operating system updates, this file is overwritten and must be restored. Run the following commands under the "root" login (or su - root) to restore the file:

```
cd /opt/products/dstar
tar -xvf dstar_cgi.tar D-STAR/WEB-INF/web.xml
systemctl restart tomcat
```

# How do I renew the *gwcall.dstargateway.org* web server certificate on my gateway?

Please note that new security standards restrict the issuance of digital certificates to increasingly shorter life spans. Public TLS/SSL certificate lifespans are being reduced to 47 days by 2029 to enhance security, making automation essential. The transition, approved by the [CA/B Forum](#), begins March 15, 2026, lowering maximum validity from 398 days to 200 days. Further reductions follow, to 100 days by March 2027 and 47 days by March 2029.

To install the latest \*.[dstargateway.org](#) “wildcard” certificate, use the following commands in a shell window on your gateway server

```
sudo -i
cd /tmp
curl -O http://opendstar.org/.admins/.certs/dsgw-cert-install-G3.sh
/bin/bash dsgw-cert-install-G3.sh
```

It would be wise to implement a Let’s Encrypt certificate along with a crontjob that automatically renews the certificate periodically.

More info: <https://letsencrypt.org/docs/client-options/>

## What are some other useful G3 links?

- [Groups dot IO dstar-admins page](#)
- [DSync Gateway Status Page](#)
- [Dstarinfo.com](#)
- [DStarUsers Website](#)
- [ICOM America D-STAR Forums](#)
- [CentOS - Community ENTERprise Operating System](#)
- [DV Dongle Web Site](#)
- [Pete, AE5PL's D-PRS Interface Information D-PRS White Paper](#)

