

CCS
Call Connection Service
Basics and Hints
7 February 2013

The info in this document has been collected from German publications by DG1HT and DJ0ABR as well as my own observations.

I hope it will help english speaking hams to quickly become familiar with this exciting development.

Basics:

Up to now one had two options to make a connection.

1. a point to point connection between two stations or
2. a point to multipoint connection to several stations.

Direct connections are made using "Callsign Routing" which is reasonably well documented in the ICOM user manuals.

To speak with several stations "reflectors" were developed.

However these are not the target of this publication.

We want to address a point to point connection allowing one amateur to speak to another anywhere in the world. To accomplish this task we need "Callsign Routing" so that the CCS system automatically finds the right path.

Callsign Routing Systems:

There are a number of predecessors ever since D-Star exists.

- e.g. 1. ICOM call sign routing (the oldest system)
2. IrcDDB (as in 1. above but with a different database)
3. D-Plus (works like Echo-Link on FM Repeaters)
4. StarNET another extension of 1. above.

all these systems have their advantages and disadvantages.

For example the ICOM system works well but is very difficult to use and thus few hams utilize it.

StarNET attempted to simplify the use, but that was achieved only partially.

So we had 4 systems just to allow two hams to talk with each other and that with a difficult user interface.

This was the trigger for DG1HT (the developer of the DCS reflector system) to create a new, simple and easy to use system that can replace the older cumbersome ones and make it easy for newcomers to D-Star to operate.

What can CCS do?

1. It allows fully automatic routing between two amateurs
2. simple command - actually only the use of PTT and talk
3. Visibility - the user at all times knows the status of both ends of the communication
4. Everyone hears everyone else participating in the contact
5. Includes the benefits of ICOM call sign routing, IrcDDB, D-Plus and StarNET and can replace all of them. The user does not need to remember special commands and functions.
6. It has worldwide functionality

How to use CCS:

Its actually easier than making a phone call.

1. You specify who you want to talk to
2. You press the PTT key and speak

For the ham who gets called its even easier:

1. He/She just presses the PTT key and answers.

Everything else is done automatically as the CCS administers the path in both directions and the cumbersome use of the ICOM R>CS key is no longer needed to create the return path.

Actions to take using your transceiver:

Enter the call of the station you wish to contact in URCALL

Then if you are in the coverage area of a CCS equipped D-Star repeater and have its frequency correctly entered all you need to do is press the PTT key and you will be connected to the selected station.

Actions to take when using a PC with the DV-RPTR Control Center:

The Control Center shows a listing of all stations connectable via CCS which can be filtered by prefix (country).

You pick the station you want and click on it. The connection will instantly be made and you can press PTT and speak. (You want to listen first to make sure the other station is not already in a QSO).

The called station only has to answer. Thus a worldwide contact becomes as simple as a local one.

What happens when CCS and Reflectors (DCS) are used at the same time?

In the past the use of the old call using routing and reflectors often lead to chaos by creating double paths.

CCS however organizes this situation perfectly and adds a few more comfortable possibilities.

For example: Ham A is connected to a reflector and in a QSO.
Then another ham (B) is calling him via CCS. In this case the CCS system automatically connects HAM B to HAM A and the currently running QSO on the reflector. Thus everyone can hear everyone else.
The advantage is that it does not matter how one connects into a QSO, one can hear everyone. This allows for clean and QRM free conversations.

Requirements:

To make CCS calls all participating stations or repeaters must have implemented the CCS protocol.
At present the status is:

1. DV-RPTR Control Center used as a Dongle, Hotspot or Repeater includes the full CCS functionality
2. CCS client for ICOM repeaters
2. G4KLX CCS capability for Gateway and Repeater

Hints:

To register and get a four digit call number assigned to your call sign (takes 30 seconds only) go to the web site reflector.net and on the left select CCS SYSTEM - User Register and click on it.
Then you can register and the system displays your personal number.
This is also the place to find another stations CCS number by entering their call sign.

To end a CCS QSO and disconnect with DTMF use PTT and 4

It is common practice now for CCS capable stations to use the four digit suffix field to store and display their CCS number (and no longer the type of radio you are using or your name)
This also makes it easy for someone else to find you and call you without having to look you up in the database.

PLEASE SEND ME YOUR HINTS AND UPDATES AND I WILL INCORPORATE THEM IN FUTURE REVISIONS.
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