

D23 – FREUNDE DES CCC

„CHAOSWELLE“

DMR im AMATEURFUNK

im BRANDMEISTER NETZ

DM7DS „PLANLOS“

AGENDA

- **basics**
- **brandmeister**
- **CPSprogrammer**
- **DM705 CODEPLUG**

DMR - Digital Mobile Radio

- ETSI EN 300 113-2 (European Telecommunications Standards Institute)
- Tier 2
 - TDMA (Time Division Multiple Access)
 - 12,5 kHz
 - DMO (Direct Mode Operation) - Simplex
 - RMO (Repeater Mode Operation) - Duplex
- mostly 70cm (UHF)
- DMR ID: Mobile Country Code (MCC) ITU E.212
- Repeater IP site connect to Master

NOT HAMRADIO DMR

- Tier 1: dPMR / dmr446 (FDMA!)
- Tier 3: TMO (Trunked Mode Operation - Bündelfunk/TETRA)

Timeslot (TS)

FDMA

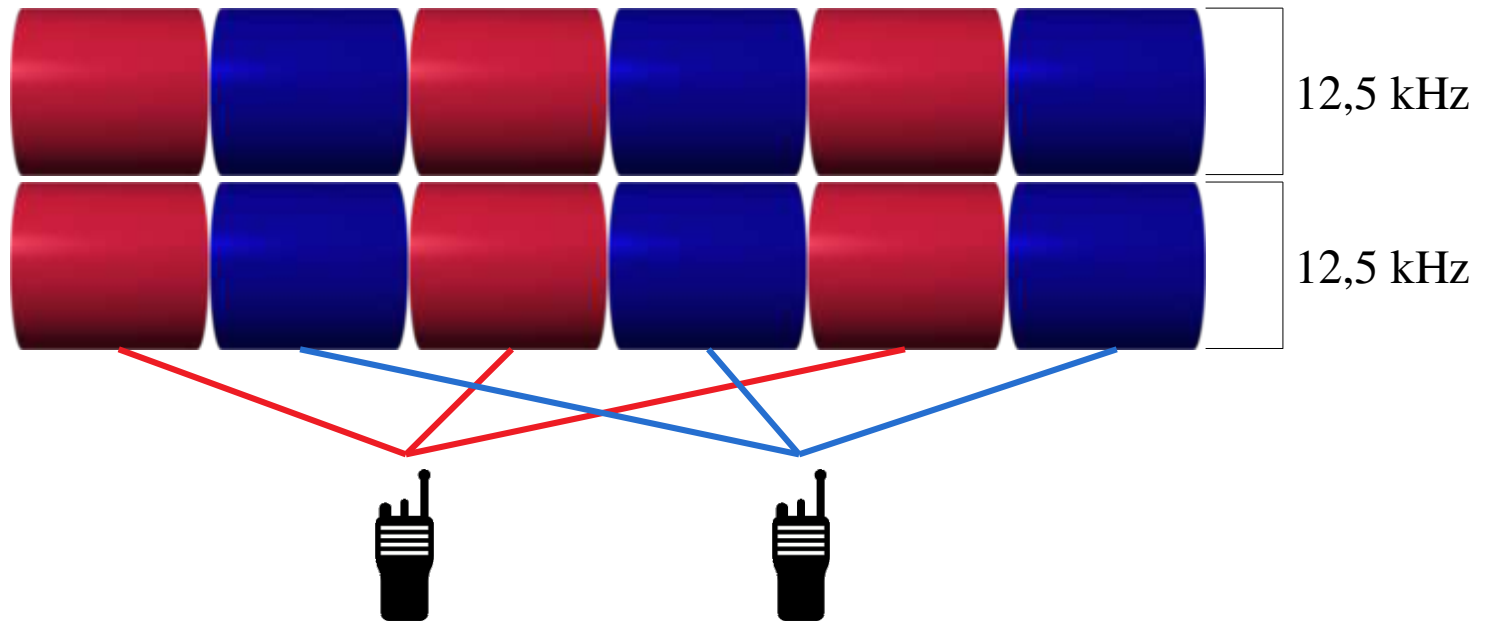


25 kHz

TIMESLOT (TS)

TDMA

- 2 Timeslots
- 30 ms



TS1 REPEATER MODE



TimeSlot1 Repeater mode

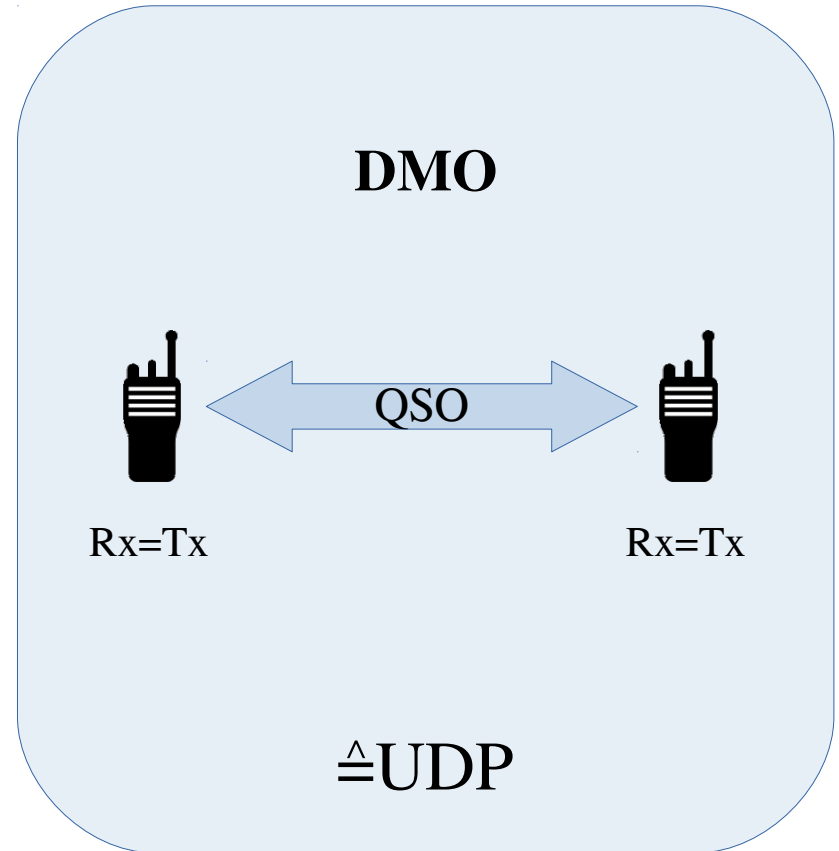
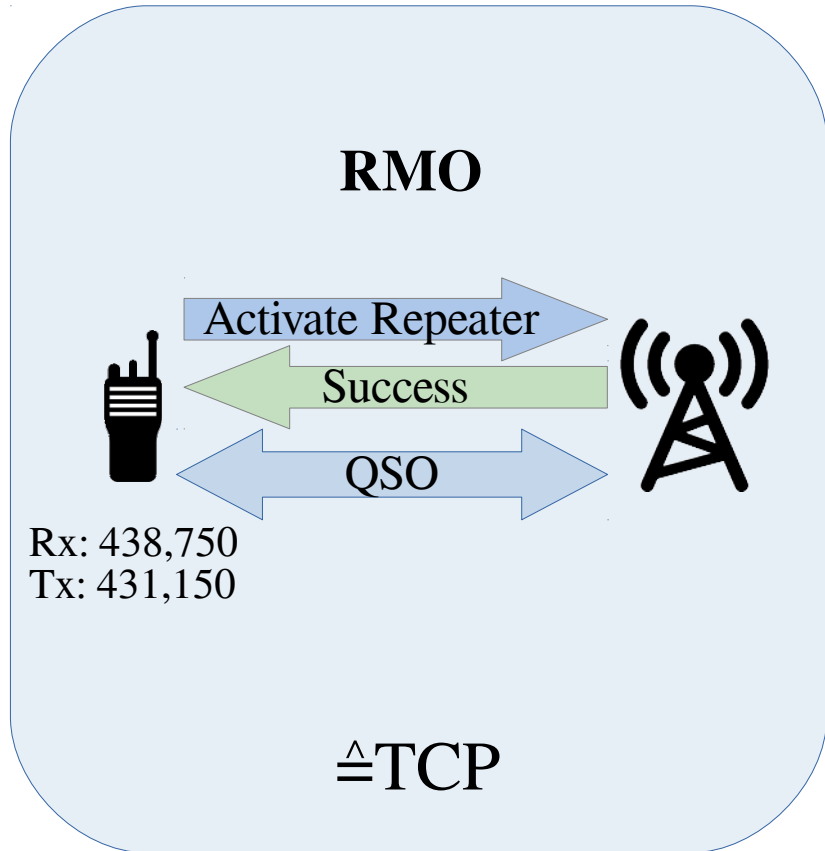
RMO: Tx TS 1 and 2 Simultaneous!



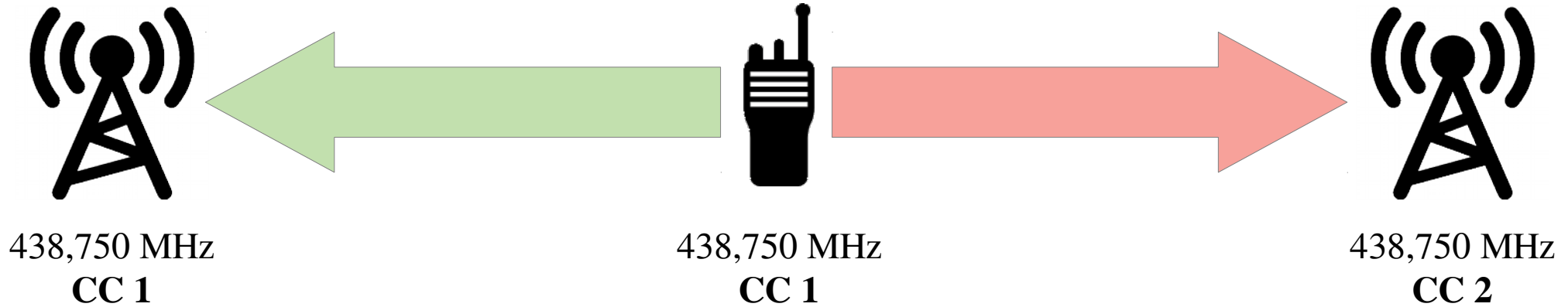
T51 REPEATER MODE



RMO / DMO



COLORCODE (CC)



CONTACTS

**Private
Call ID**

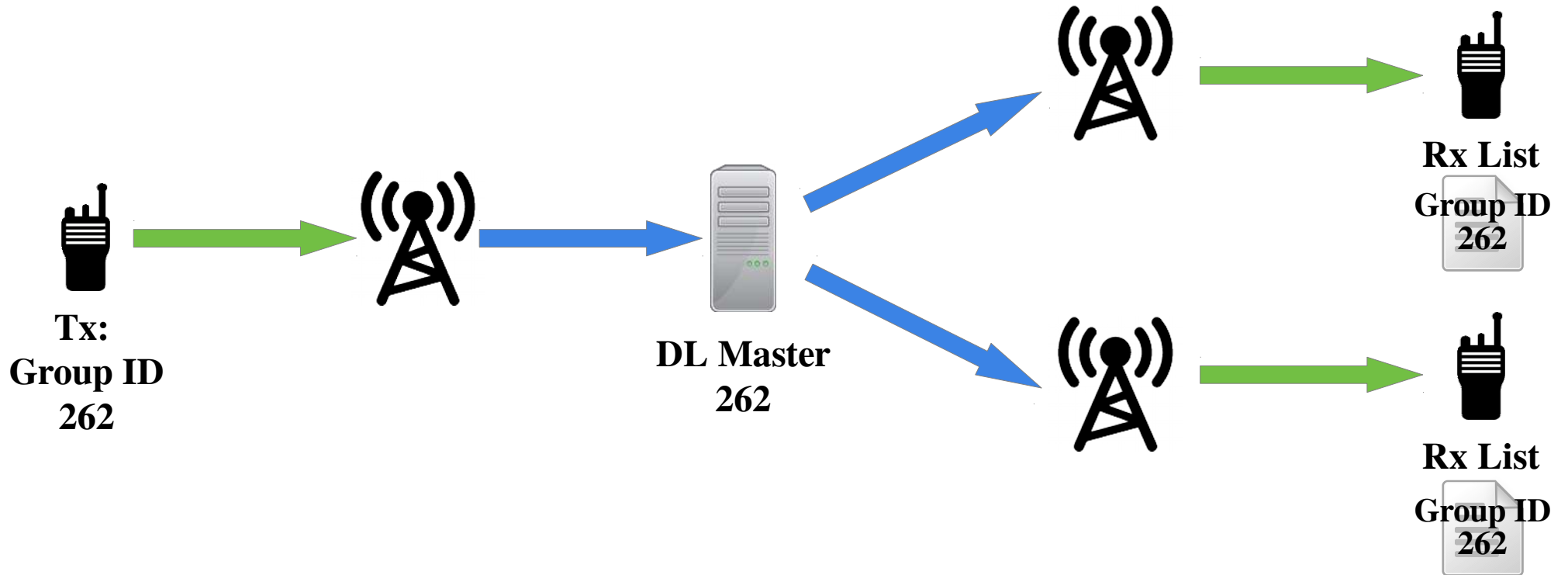
**Group
Call ID (TG)**

Rx List

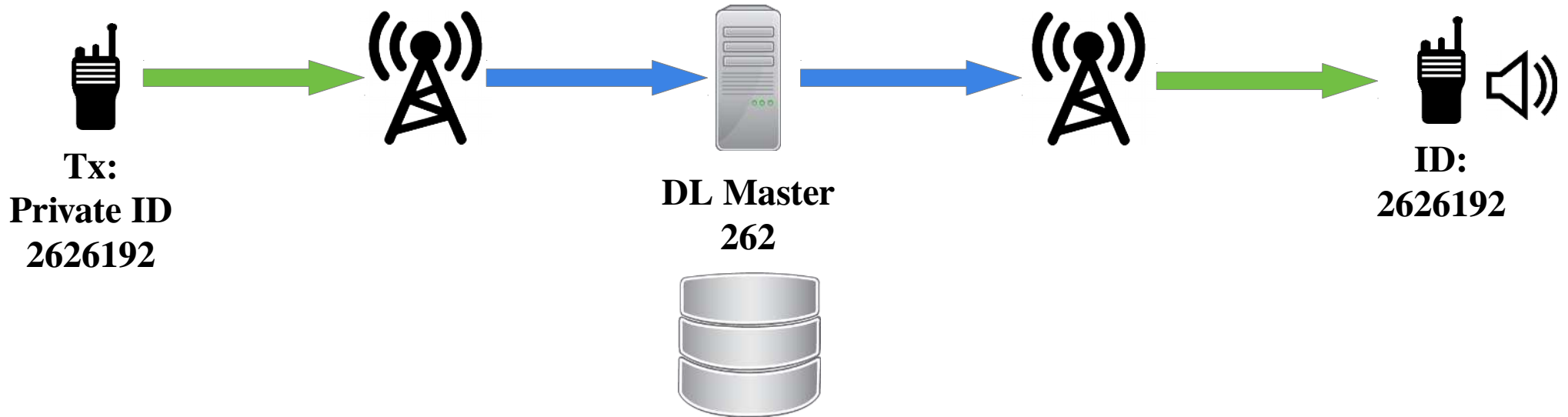
Tx TG



TALKGROUP (TG)



PRIVATE CALL



PRIVATE CALL



CHANNEL

QRG

Timeslot

Colorcode

**Tx
Talkgroup**

**Rx
list**

ZONE



Zone 1



Zone 2



Zone 3

...



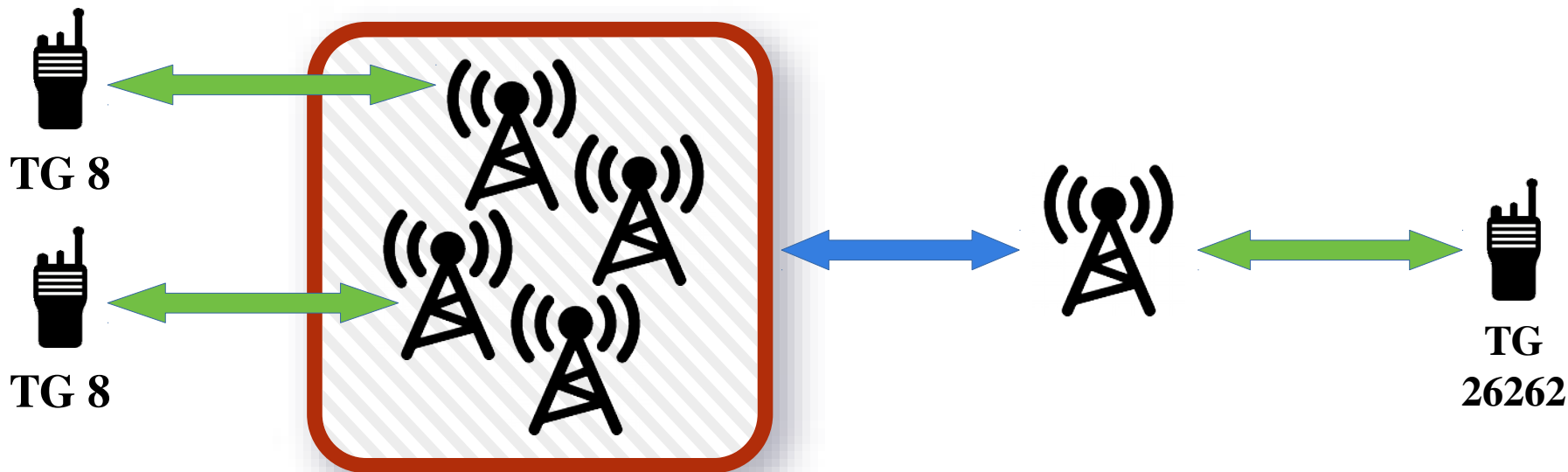
Zone n

BRANDMEISTER: TALKGROUPS

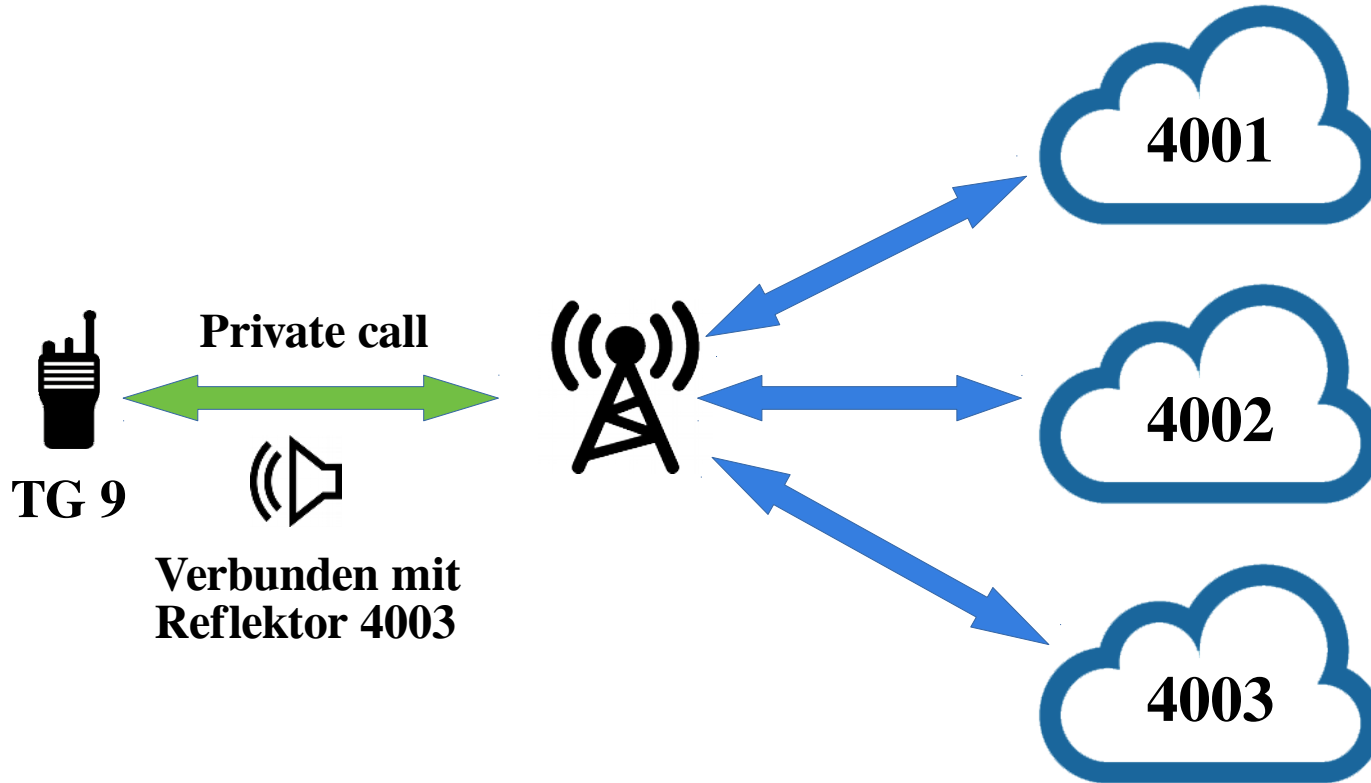
- TS 1
 - 91 WW
 - 92 EU
 - 920 DACH
 - 262 DL
 - 26223 Chaoswelle
 - 263333 Twitter Runde
 - 262[00|33|66|99]Tactical
 - ...
- TS 2
 - 8 Regional (cluster)
 - 9 lokal, Reflektor
 - Bundesländer
 - 2620-2629
 - 262997 Parrot
 - Gateways

Jede TG kann vom Benutzer an jedem Repeater dynamisch über jeden TS abonniert werden

BRANDMEISTER: CLUSTER



BRANDMEISTER: REFLEKTOREN



- 4000 Disconnect
- 4001-4999 Reflektor
- 5000 Status

Brandmeister: APRS SelfCare

SelfCare-Einstellungen

Benutzer Dashboard > SelfCare

 2626192 (DM7DS)

Brand Hytera / Kenwood

Language English

APRS Interval Off - use CPS settings (Hytera Only)

Nur bei Hytera: Wenn Du diese Option auswählst, wird der Network Managed Mode aktiviert, und werden die CPS-Einstellungen im Funkgerät überschrieben. Wenn Du die CPS-Einstellungen verwenden möchtest, wähle OFF aus und programmiere Dein Funkgerät neu, falls notwendig.

APRS Callsign DM7DS-7

APRS Icon



In Call GPS

On

APRS Text

DM7DS Dirk

BRANDMEISTER: APRS CODEPLUG

- Conventional -> General -> Network
 - Control Center ID: 262999 (RRS & GPS Radio ID)
- Conventional -> General -> Accessories
 - GPS: On
 - GPS Data Compression: Off
 - GPS Trigger: personal preferences (time/distance)
- Channel settings:
 - IP Multisite Connect: On
 - GPS Revert Channel: Selected
- MSG to APRS
 - Body: CALL-ssid (all UPPERCASE!) message
 - To: private ID 262999

Brandmeister: Selfcare

AirSecurity / TOTP Off

Hotspot Security On

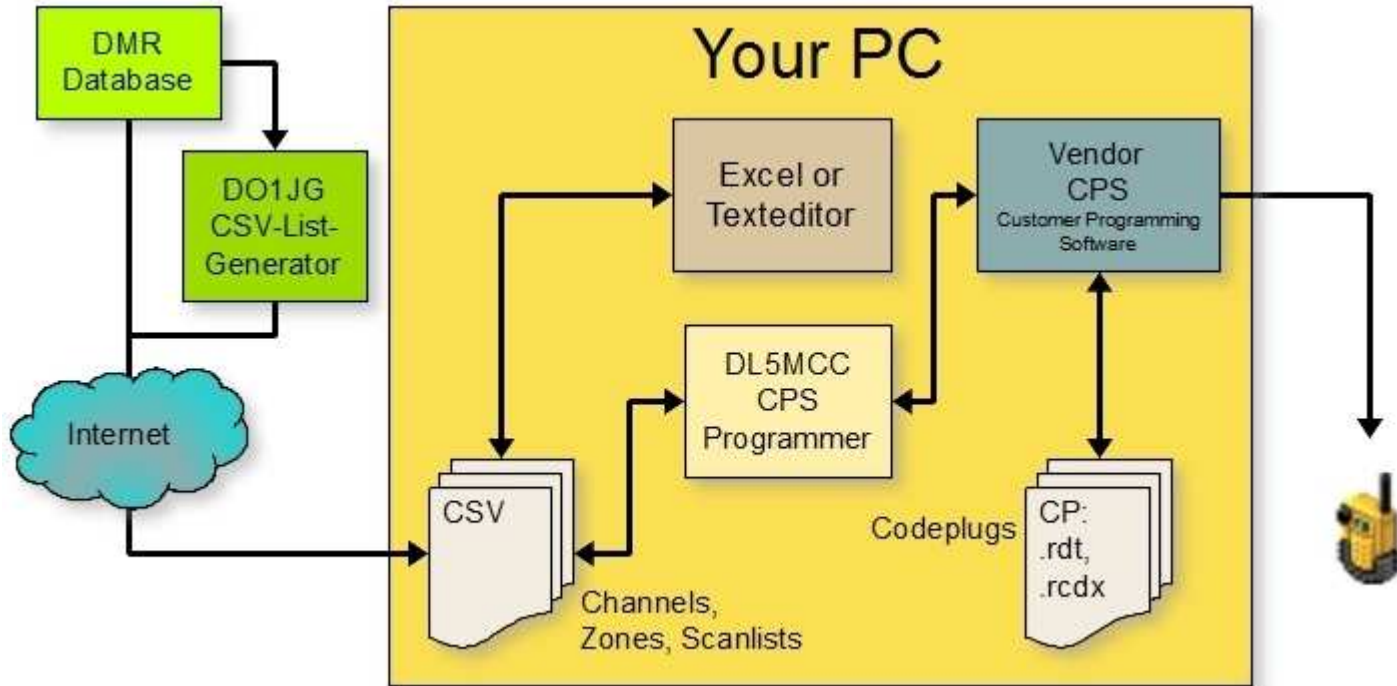
Password

Enter new Hotspot Password

Brandmeister: SMS SERVICES

- 262993
 - Help
 - Echo
 - Wx
 - Metar
 - GPS
- 262994
 - Repeater Status: rpt
 - POCSAG: Call Message

CPS PROGRAMMER

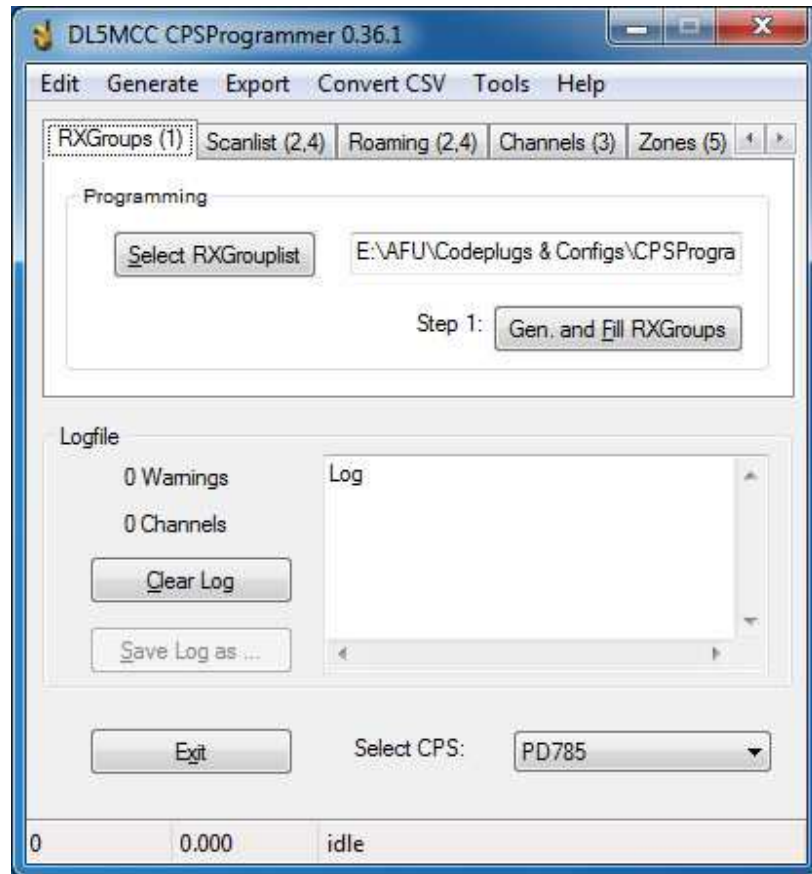


CPS PROGRAMMER

Currently supported CPS Software

- CSI CS700, CS701, Kirisun DR7100, CS750, CS751, CS800, CS801
- Tytera MD380, MD390, MD2017, MD9600
- Retevis RT3, RT82, RT90
- Hytera PD365, PD685(G), PD785, MD655(G), MD785(G), X1p, AR685

CPSPROGRAMMER



CPSPROGRAMMER

DMR CSV List-Generator

General Settings

Start frequency (MHz) Step (kHz)

Stop frequency (MHz) Shift (MHz)

Mixed Mode only

scanlistFM

CTCSS

Control

CC

PWR

Mode:

Time Slot 1

Callexension 1

TXContact 1

RXGroup 1

Scanlist 1

Time Slot 2

Callexension 2

TXContact 2

RXGroup 2

Scanlist 2

name (call) + + + + +

N:= ch name

DMRDS CODEPLUG

DMR

- VFO like
- 12,5 kHz Kanalabstand
- 1750 Hz
- TS1 & TS2 je QRG
- APRS
- BETA: Cluster
- Shift -7,6 MHz
 - Gruppen: DMR Repeater 2 – 17
 - Frequenzen: 438,0000 MHz – 439,5875 MHz
- Shift -9,4 MHz
 - Gruppen: DMR Repeater 18 – 21
 - Frequenzen: 439,6000 MHz – 439,9875 MHz
- Shift +9,4 MHz
 - Gruppen: DMR Repeater 22 – 25
 - Frequenzen: 430,2000 MHz – 430,58750 MHz
- Shift +5 MHz
 - Gruppen: DMR Repeater 26 – 35
 - Frequenzen: 430,0000 MHz – 430,9875 MHz
- Shift +1,6 MHz
 - Gruppen: DMR Repeater 36 – 38
 - Frequenzen: 430,0000 MHz – 430,28750 MHz

DMRDS CODEPLUG

FM

- VFO like
- 12,5 kHz Kanalabstand
- 1750Hz
- Shift -7,6 MHz
 - Gruppen: FM Repeater 1 – 7
 - Frequenzen: 438,300MHz – 439,5875MHz
- Shift – 9,4 MHz
 - Gruppen FM Repeater 8 – 9
 - Frequenzen: 439,600MHz – 439,9875MHz



<https://dmr.dm7ds.de>

Refresh List		Enable inactive			
All active Repeater					
Call	Zn	Ch	Net	Dist (Direct.)	QRG / Shift / CC
DB0LE	17	13	BM	16 km (WNW)	439.5750/-7.6/1
DB0ABL	21	1	BM	23 km (SSW)	439.9000/-9.4/1
DB0HRC	9	5	BM	27 km (W)	438.7250/-7.6/1
DB0HAL	7	3	BM	54 km (NW)	438.5125/-7.6/1
DB0ZEA	8	9	DMR-plus	85 km (NNW)	438.6500/-7.6/1
DB0ERZ	16	11	BM	86 km (S)	439.4625/-7.6/1

Latitude: Longitude: Autorefresh

Zone: **Z17** 439.5 -7.6

Channel: 17**C13** 9,5750 TS1 // 17**C13** 9,5750 TS2

Credits

- Chaoswelle u.A. DO3BOX, DK8HC
- DL5MCC Klaus
- PD0ZRY Rudy
- DK5RAS Ralph
- Brandmeister DL (bm262)

LINKS

DMR NETZE

- <https://brandmeister.network>
- <http://www.dmrplus.de/>

CODEPLUG

- <http://dl5mcc.de/cpsprogrammer/>
- <https://dm7ds.de>

BRANDMEISTER

- <http://wiki.bm262.de/doku.php?id=benutzerhandbuch>

MISC

- <https://register.ham-digital.org/>
- <http://www.etsi.org/technologies-clusters/technologies/digital-mobile-radio>